



South Coast Air Quality Management District



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

A G E N D A

HYBRID GOVERNING BOARD MEETING MARCH 7, 2025

A meeting of the South Coast Air Quality Management District Board will be held at 9:00 a.m. on Friday, March 7, 2025 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

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.

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
- Swearing in of Newly-Appointed Board Members Janet Nguyen and Brenda Olmos
- Opening Comments: Vanessa Delgado, Chair
Other Board Members
Wayne Nastri, Executive Officer

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 17)

Note: Consent and Board Calendar items held for discussion will be moved to Item No. 18.

Item 1 – Action Item/No Fiscal Impact

1. Approve Minutes of February 7, 2025 **Thomas/3268**

Items 2 through 4 – Budget/Fiscal Impact

2. Adopt Resolution Recognizing Funds for FY 2024-25 Carl Moyer Program, Issue Program Announcements, and Execute and Modify Agreements for Carl Moyer, and Surplus Off-Road Opt-in for NOx Programs **Katzenstein/2219**

These actions are to: 1) adopt a Resolution recognizing up to \$47,159,728 in Carl Moyer Program grant funds from CARB into the Carl Moyer Program SB 1107 Fund (32) and authorize the Executive Officer to accept the terms and conditions for FY 2024-25 award; 2) issue two Program Announcements for “Year 27” of the Carl Moyer Program and the SOON Provision to solicit applications; 3) authorize the Executive Officer to execute or amend agreements for eligible zero and low-emitting on- and off-road vehicles and equipment, including marine vessels, locomotives, and supporting infrastructure projects; and 4) modify three no-cost agreements to extend their milestone dates for the zero-emission infrastructure projects from a prior year Carl Moyer solicitation. (Reviewed: Technology Committee, February 21, 2025; Recommended for Approval)

3. Authorize Purchase of Hardware Maintenance and Support Services for Servers and Storage Devices **Moskowitz/3329**

Servers and storage devices are used by enterprise-level software applications that currently support the Clean Air Support System, a set of computer applications used in South Coast AQMD core activities. Maintenance support for these systems will expire on April 30, 2025. This action is to obtain approval for

the sole source purchase of hardware and software maintenance and support services for servers and storage devices from Hewlett Packard Enterprise Company for one year, in an amount not to exceed \$190,000. Funds for these purchases are included in Information Management's FY 2024-25 Budget. (Reviewed: Administrative Committee, February 14, 2025; Recommended for Approval)

4. Authorize Purchase of Server Software, Database, and Microsoft Support Software Under Microsoft Enterprise Agreement

Moskowitz/3329

South Coast AQMD maintains a data center that includes 32 servers used to run various critical applications and services. These servers run a suite of software, including operating system, database, and support software. This action is to authorize the purchase of Microsoft software and support for a period of three years in the amount not to exceed \$380,000. Funds for the first year are included in the current fiscal year budget, with provisions for subsequent years to be included in future budget requests. (Reviewed: Administrative Committee, February 14, 2025; Recommended for Approval)

Items 5 through 11 – Information Only/Receive and File

5. Legislative, Public Affairs and Media Report

Tanaka/3327

This report highlights the January 2025 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)

6. Hearing Board Report

Ali

This reports the actions taken by the Hearing Board during the period of January 1 through January 31, 2025. (No Committee Review)

7. 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, 2025 through January 31, 2025. An Index of South Coast AQMD Rules is attached with the penalty report. (Reviewed: Stationary Source Committee, February 21, 2025)

8. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects **Krause/2706**
This report provides a listing of environmental documents prepared by other public agencies seeking review by South Coast AQMD between January 1, 2025 and January 31, 2025, and proposed projects for which South Coast AQMD is acting as lead agency pursuant to CEQA. (No Committee Review)
9. Rule and Control Measure Forecast **Rees/2856**
This report highlights South Coast AQMD rulemaking activities and public hearings scheduled for 2025. (No Committee Review)
10. FY 2024-25 Contract Activity **Jain/2804**
This report lists the number of contracts let during the first six months of FY 2024-25, the respective dollar amounts, award type, and the authorized contract signatory for South Coast AQMD. (No Committee Review)
11. 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 14, 2025)

Items 12 through 17 – Reports for Committees, MSRC, and CARB

Note: The MSRC February 20, 2025 meeting was cancelled. The next regular meeting of the MSRC is scheduled for March 20, 2025.

12. Administrative Committee (Receive & File) Chair: Delgado **Nastri/3131**
13. Legislative Committee Chair: Cacciotti **Tanaka/3327**
Receive and file; and take the following action as recommended:
- | <u>Agenda Item</u> | <u>Recommended Action</u> |
|---|----------------------------------|
| 2025 South Coast AQMD Sponsored State Legislative Proposal for Emergency Response | Approve |
14. Mobile Source Committee (Receive & File) Chair: Kracov **Rees/2856**
15. Stationary Source Committee (Receive & File) Chair: McCallon **Aspell/2491**
16. Technology Committee (Receive & File) Chair: Rodriguez **Katzenstein/2219**
17. California Air Resources Board Monthly Report (Receive & File) Board Rep.: Kracov **Thomas/3268**
18. Items Deferred from Consent and Board Calendar

STAFF PRESENTATION/BOARD DISCUSSION/RECEIVE & FILE

19. Permitting Enhancement Program Status Update (Presentation in Lieu of Board Letter)

Aspell/2491

Staff will present a status update on the Workplan to implement the Permitting Enhancement Program. In August 2023, as part of the Chair's priorities, staff presented a comprehensive Workplan to overcome current and future permit processing challenges which included several short-term and long-term actions. Staff will present their progress on the actions and upcoming efforts. (No Committee Review)

PUBLIC HEARINGS

20. Approve and Adopt Technology Advancement Office Clean Fuels Program 2024 Annual Report and 2025 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 2024 and 2025 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 21, 2025; Recommended for Approval)

21. Approve Annual RECLAIM Audit Report for 2023 Compliance Year

Aspell/2491

The Annual RECLAIM Audit Report for 2023 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 30th 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 2023 Compliance Year is also included in the report. This action is to adopt the Resolution: 1) Approving the Annual RECLAIM Audit Report for the 2023 Compliance Year; 2) Approving 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) Directing 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. (Reviewed: Stationary Source Committee, February 21, 2025)

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. NHTSA, EPA, et al., United States Court of Appeals, D.C. Circuit, Case No. 20-1173 (consolidated with Competitive Enterprise Institute, et al. v. NHTSA, No. 20-1145);
- 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;
- 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);
- Western States Trucking Association, Inc. v. EPA, et al., United States Court of Appeals, United States Court of Appeals, D.C. Circuit, Case No. 23-1143 (amicus brief);
- Rinnai America Corp. et al. v. South Coast Air Quality Management District, U.S. District Court for the Central District of California, Case No. 2:24-cv-10482; and
- Eng v. EPA, et al., United States Court of Appeals for Ninth Circuit, Case No. 25-138.

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 (four cases).

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.

PUBLIC EMPLOYEE PERFORMANCE EVALUATION

It Is also necessary to recess to closed session pursuant to Government Code section 54957 to evaluate the performance of public employees:

Title: Executive Officer and General Counsel

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, on or before 5:00 p.m. on the Tuesday prior to the Board meeting.

ACRONYMS

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

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 1

MINUTES: Governing Board Monthly Meeting

SYNOPSIS: Attached are the Minutes of the February 7, 2025
Board Meeting.

RECOMMENDED ACTION:

Approve the February 7, 2025 Board Meeting Minutes.

Faye Thomas
Clerk of the Boards

FT

FRIDAY, FEBRUARY 7, 2025

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

Board Member Veronica Padilla-Campos
Speaker of the Assembly Appointee

Councilmember Nithya Raman
City of Los Angeles

Mayor Pro Tem Carlos Rodriguez
Cities of Orange County

Supervisor Donald P. Wagner
County of Orange

Absent: Supervisor V. Manual Perez
County of Riverside

Vacant: Cities of Los Angeles County – Western Region

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

CALL TO ORDER: Chair Delgado called the meeting to order at 9:03 a.m.

- Pledge of Allegiance: Led by Mayor Pro Tem McCallon
- Roll Call

Board Member Padilla-Campos, Councilmember Raman, and Mayor Pro Tem Rodriguez were not present for roll call. Mayor Pro Tem Rodriguez joined the meeting at 9:05 a.m., Councilmember Raman at 9:21 a.m., and Board Member Padilla-Campos at 9:38 a.m.

- Opening Comments

Executive Officer Wayne Nastri reported on the South Coast AQMD's ongoing monitoring, compliance, and communication efforts in response to the Palisades and Eaton wildfires and announced the addition of Agenda Item No. 5 for additional funding for air filtration units; upcoming revisions to PARs 1111 & 1121 to address concerns will be discussed at a Working Group Meeting on February 13, 2024 and February Stationary Source Committee meeting; opening of the application period for the 2025 Governing Board Summer Internship Program; and that the April Governing Board Retreat will be rescheduled. The April 4 Board Meeting will still be held in Palm Desert. For additional details, please refer to the [Webcast](#) beginning at 6:59.

Board Member Kracov commented on the challenges he and his family have faced after losing their home in the recent wildfires and thanked everyone for their support and kindness. He commended the Stationary Source Committee for their continued leadership on PAR 1111 and PAR 1121 and requested that staff briefly comment on the methyl bromide issue in West Long Beach.

Executive Officer Nastri explained that CARB has been monitoring methyl bromide within one of our communities and provided a brief overview of the use of methyl bromide as a fumigant and suggested a more detailed follow-up discussion. For additional details, please refer to the [Webcast](#) beginning at 15:45.

Vice Chair Cacciotti shared photos of debris or other particles that accumulated on a new air filter that was installed at his home, which is located within a 9-mile radius of the Altadena fire; a site visit that he attended with staff at the Eaton Canyon fire site; and members of the San Gabriel Valley Council of Governments Homelessness Committee.

Mayor Lock Dawson announced that GreenPower Motor Co, an electric bus manufacturer, is moving their headquarters to the City Riverside and is the fourth manufacturing facility to become part of Riverside's high-tech ecosystem.

Supervisor Mitchell inquired about the perimeter coverage of the mobile air monitors around the fire areas. She emphasized the need to be clear about how far out the mobile monitors are sampling and communicating information and remedies to the public. For additional details, please refer to the [Webcast](#) beginning at 22:12.

Executive Officer Nastri provided additional information about the mobile monitoring efforts for Palisades and Eaton wildfires. For additional details, please refer to the [Webcast](#) beginning at 22:42.

Chair Delgado introduced Councilmember Brenda Olmos from the City of Paramount, who was seated in the audience, as the newest member appointed to the Board.

Councilmember Olmos introduced herself and commented on the February 6, 2025 Los Angeles City Selection Committee meeting where she was elected to serve on the Board to represent the Cities of Los Angeles County – Western Region. For additional details, please refer to the [Webcast](#) beginning at 24:48.

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. For additional details, please refer to the [Webcast](#) beginning at 25:30.

Chris Chavez, Coalition for Clean Air
Marven Norman, Center for Community Action and Environmental Justice
(CCA EJ) and San Bernardino resident

Key topics raised by the above speakers included:

- Expressed support for PAR 1111 and PAR 1121;
- PARs 1111 & 1121 will achieve considerable NOx emission reductions;
- Highlighted the need to prioritize public health and emission reductions;
- Concerned that the opposition will continue to object and move the goal posts instead of working collaboratively with staff;
- Information and data requested by commenters are available on the South Coast AQMD website; and
- Urged the Board to move forward on adopting these rules.

Theral Golden, West Long Beach Neighborhood Association, commented on the Joint Workshop hosted by CARB on January 30, 2025 in West Long Beach to provide the community with information about methyl bromide. He questioned the accuracy of some of the information that was presented at the workshop and expressed disappointment with the proposed plans to address this issue.

Farris Rosen, Altadena resident, expressed concerns regarding the environmental and health impacts of the Eaton fire on the residents of Altadena and surrounding cities and requested data and information on air sampling.

Nick, a member of the public

Andrea, a member of the public

Debra Kamm, Office of Administrative Hearings Special Education Advisory Committee,

Dave, a member of the public

Randy Mosten, a member of the public

Key topics raised by the above speakers include:

- Oppose PAR 1111 and PAR 1121 and expressed concerns regarding–
 - Electricity demand and grid unreliability
 - Dependency on a single source of energy
 - Economic impact on consumers, schools, small businesses, and low-income residents
 - Low public awareness
 - Rules being pushed through without vetting
 - Lack of consumer choice
- Requested comprehensive cost data and scientific evidence of the relationship between NOx emission reductions and ozone concentrations

Executive Officer Nastri clarified that PARs 1111 and 1121 are for residential furnaces and do not apply to schools. Supervisor Mitchell commented on the harm from the spread of misinformation and pointed out that the title of the proposed rules reflects its applicability to residential furnaces.

Harvey Eder, Public Solar Power Coalition, pointed out that solar energy was presented in the 1979 and 1982 AQMPs, and commented on equity issues, and heating and cooling systems in Europe. For additional details, please refer to the [Webcast](#) beginning at 54:46.

There being no further requests to speak, the public comment period was closed for Non-Agenda Items.

Written Comments Submitted Supporting PAR 1111 and PAR 1121

Chris Chavez, Coalition for Clean Air

Fernando Gaytan, Earthjustice

Gracyna Mohabir, California Environmental Voters

John M. Erickson, Mayor – City of West Hollywood

Jorge Rivera – Healing and Justice Center

Written Comments Submitted Opposing PAR 1111 and PAR 1121

Barbara Papa	Resolution 3240, City of Upland
Betty Bean	Kathy Hein
Bill Cooper	Lynn Johnson
Bill Haugh	Maria Hernandez
Blair Stewart, Mayo, City of Brea	Mark Attaway
Brian Tisdale, Mayor City of Lake Elsinore	Mary Beckman-Kennedy, Yorba Linda resident
Candace Cooke	Matthew Huddleston, Los Angeles County resident
Charity Farrell, Yorba Linda resident	Norman and Carolyn Elsasser
Christopher and Dale Ward, Ranchos Palos Verdes resident	Phillip Dupper, Mayor – City of Loma Linda
Cindy Delangis	Richard Baskerville
Corrinne Griffiths, Yorba Linda resident	Robert and Elizabeth Davidson
David Hellman, Highland resident	Ruth Plummer, Upland resident
Dawn Smith, Aliso Viejo resident	Scott Voights, Mayor City of Lake Forest
Debra Kamm, Irvine resident	Shelly Hasselbrink, Mayor City of Los Alamitos
Eunice Ulloa, Mayor – City of Chino	Scott Moody
Georgianne Bryant, Placentia resident	Shannon Mancuso, Upland resident
Isidro Perez	Susan Goubert, Yorba Linda resident
J. Anthony Vittal, La Verne resident	T S
Jim Bothwell	Zaid Chaudhry
Joan Lebman	
Joane Genis, Chino Hills resident	
Jocelyn Rubio-Melendrez, Orange County resident	
Katherine Johansen, Tustin resident	

Mayor Pro Tem McCallon commented on the numerous public comments submitted in response to staffs' enhanced outreach efforts. He assured the public that staff is working on changes to PAR 1111 and PAR 1121 to address public feedback and will present those changes at the February 13 Working Group Meeting and at the February 21 Stationary Source Committee meeting. For additional details, please refer to the [Webcast](#) beginning at 58:35.



CONSENT AND BOARD CALENDAR

Items 1 – Action Item/No Fiscal Impact

1. Approve Minutes of January 10, 2025 Board Meeting

Items 2 through 7 – Budget/Fiscal Impact

2. Issue Program Announcement for Lower Emission School Bus Program
3. Execute Contract to Develop and Demonstrate Zero-Emission Transport Refrigeration Unit with Electric-Powered Trailer for Heavy-Duty Vehicles

4. Amend Contracts for Joint Electric Truck Scaling Initiative Pilot Project; and Establish Special Revenue Fund and Recognize Revenue for Ports Charging Infrastructure Projects
5. Modify Existing Contracts for AB 617 Residential Air Filtration Program
6. Authorize Purchase of Telecommunication Services
7. Approve Contract Modification as Approved by MSRC

Items 8 through 14 – Information Only/Receive and File

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

Items 15 through 20 – Reports for Committees, MSRC, and CARB

Note: Note: The January Mobile Source Committee meeting was cancelled. The next regular meeting of the Mobile Source Committee is scheduled for February 21, 2025.

15. Administrative Committee
16. Legislative Committee
17. Stationary Source Committee
18. Technology Committee
19. Mobile Source Review Air Pollution Sources Board Monthly Report
20. California Air Resources Board Monthly Report
21. Items Deferred from Consent and Board Calendar

There were no items deferred.

Disclosures

Mayor Pro Tem McCallon reported that he had no financial interest in Agenda Item No. 4 but is required to identify for the record that he is Chair of the MSRC, which is involved in this item.

Supervisor Hagman reported that he had no financial interest in Agenda Item No. 4 but is required to identify for the record that he is a member of the MSRC, which is involved in this item.

Councilmember Raman reported that she had no financial interest in Agenda Item No. 4 but is required to identify for the record that she is a Councilmember for the City of Los Angeles, which is involved in this item.

General Counsel Gilchrist reported that Board Member Kracov had no financial interest in Agenda Item No. 4 but is required to identify for the record that he is a Board Member for CARB, which is involved in this item.

The public comment period was opened for Agenda Item Nos. 1 through 20. The following individuals addressed the Board. For additional details, please refer to the [Webcast](#) beginning at 39:25.

Agenda Item No. 4

Ranji George, a member of the public, expressed concern that funding being allocated is biased toward battery electric vehicles and recommended that the Board set aside more funds for hydrogen technologies. He urged the Board to address electric battery disposal and recycling.

Harvey Eder, Public Solar Power Coalition, commented on the harnessing of energy from the sun for charging and technical issues he experienced accessing committee meetings.

There being no further requests to speak, the public comment period was closed for Agenda Item Nos. 1 through 20.

Written Comments Submitted Regarding Agenda Item No. 2

- Adrian Martinez, Los Angeles County Electric Truck and Bus Coalition



Board Action (Items 1 – 20)

MOVED BY CACCIOTTI AND SECONDED BY LOCK DAWSON TO APPROVE AGENDA ITEM NOS. 1 THROUGH 20 AS RECOMMENDED AND RECEIVE AND FILE THE REPORTS FOR THE BOARD COMMITTEES AND MSRC.

THE MOTION PASSED BY THE FOLLOWING VOTE:

AYES: Cacciotti, Delgado, Lock Dawson, Hagman, McCallon, Mitchell, Padilla-Campos, Perez, Raman, Rodriguez, and Wagner

NOES: None

ABSENT: Kracov*

*Board Member was temporarily out of the room at the time of the vote.



PUBLIC HEARING

22. Update on Facility-Based Mobile Source Measure Development for Marine Ports

Ian MacMillan, Assistant Deputy Executive Officer/Planning, Rule Development and Implementation, gave the staff presentation on Agenda Item No. 22. For additional details, please refer to the [Webcast](#) beginning at 1:06:20.

Supervisor Wagner questioned the shift to a regulatory approach that would require the ports to develop an infrastructure plan instead of working on an MOU agreement. He requested that staff provide an explanation for the shift in approach and expressed concerns with government overreach and regulatory burdens. For additional details, please refer to the [Webcast](#) beginning at 1:18:45.

Executive Officer Nastri commented on the multiple attempts made in the past to negotiate an MOU with the Ports that were unsuccessful because the parties did not come to an agreement. For additional details, please refer to the [Webcast](#) beginning at 1:22:11.

Councilmember Raman inquired about the likelihood that the U.S. EPA CPRG funds for investments in infrastructure will be distributed to the Ports. Executive Officer Nastri stated that potential legal actions regarding the President's Executive Orders and grant awards will be addressed in today's closed session. For additional details, please refer to the [Webcast](#) beginning at 1:26:00.

Councilmember Raman explained that the change in approach is an opportunity for the Ports to step up and provide a plan for moving towards our shared goal of achieving cleaner air for the residents of the South Coast region. For additional details, please refer to the [Webcast](#) beginning at 1:27:04.

In response to Councilmember Raman's inquiry about the use of the rulemaking process to require that the Ports develop a plan, Executive Officer Nastri responded that a plan approach is not uncommon and that South Coast AQMD has other rules that require plans as well as the implementation of those plans.

Board Member Padilla-Campos commented on the need to move on from the MOU approach as there have been multiple unsuccessful attempts. She asked whether there would be any incentives to ensure that the infrastructure is used once built. For additional details, please refer to the [Webcast](#) beginning at 1:29:08.

Executive Officer Nastri explained how staff has been working in partnership with the ports to advocate for more funding and this effort began with a trip to Washington DC with the ports, environmental representatives, and labor. The result for South Coast AQMD and the ports is nearly a billion dollars of funding that is focused on goods movement. Staff will continue to work with the ports to advocate for funding to help this region reduce emissions. For additional details, please refer to the [Webcast](#) beginning at 1:30:31.

Board Member Padilla-Campos expressed concern that the community will continue to suffer because it will take years to build the infrastructure and during that time, there will be no emission reductions or cargo caps imposed. For additional details, please refer to the [Webcast](#) beginning at 1:32:53.

Executive Officer Nastri explained that we are starting with infrastructure and it is important to build confidence and success with infrastructure as it is the first step. Staff will continue to work with the ports on their own stated goals of zero emissions. For additional details, please refer to the [Webcast](#) beginning at 1:33:45.

Vice Chair Cacciotti offered a historical perspective spanning almost a decade of efforts by staff to collaborate with the Ports on an MOU approach. He emphasized the need to make progress and expressed support for the infrastructure proposal and highlighted the Board's ongoing willingness to collaborate with the Ports. For additional details, please refer to the [Webcast](#) beginning at 1:35:06.

Supervisor Mitchell asked whether the South Coast AQMD can facilitate long-term planning to help reduce the turnaround time for utilities to install fueling/charging infrastructure. For additional details, please refer to the [Webcast](#) beginning at 1:36:50.

Mr. MacMillan commented that the infrastructure plan would help to facilitate long-term planning. At last year's Board Retreat, different technologies that can help with short-term energy needs, while longer-term more permanent infrastructure solutions are completed, were discussed. For additional details, please refer to the [Webcast](#) beginning at 1:38:11.

Chair Delgado commented on the possibility of deploying experimental technologies in the short term, stating that the "temporary" technologies presented at the Board Retreat last year were interesting and could help with deployment of new technologies. For additional details, please refer to the [Webcast](#) beginning at 1:39:57.

Board Member Kracov acknowledged the progress at the Ports but emphasized that action is needed now to achieve air quality attainment goals, after spending almost 10 years trying to pursue an MOU. He commented on the collaborative efforts over the years by the Board and staff to strike a balance that is fair and reasonable and highlighted the court decision regarding South Coast AQMD's legal authority to adopt indirect source rules. He called on stakeholders to exert leadership to get this done. 1:40:29.

The public comment period was opened for Agenda Item No. 22. The following individuals addressed the Board. For additional details, please refer to the [Webcast](#) beginning at 1:50:20.

Artie Mandell, Port of Los Angeles
Angie Gilbride, Maersk
Ashley Winkels, APM Terminals
Heather Tomley, Port of Long Beach
Thomas Jelenić, Pacific Merchant Shipping Association
Meghan Weinman, SSA Marine
Sarah Wiltfong, Supply Chain Federation

Alec Mesropian, Bizfed LA
Monica Garcia Diaz, Wilmington Chamber of Commerce

Key topics raised by the above speakers include:

- Commented on the success of the Ports' Clean Air Action Plan, significant investments and progress in achieving emission reductions at the ports;
- Urged South Coast AQMD to prioritize working with the Ports, cities, and key partners on an enforceable port infrastructure agreement and forgo Port ISR;
- Rulemaking will have a negative effect on the region's economy and disrupt delivery of essential commerce; and
- Concerned that a Port ISR would impose cargo caps.

Dori Chandler, Coalition for Clean Air
Chris Chavez, Coalition for Clean Air
Fernando Gaytan, Earthjustice
Whitney Amaya, East Yard Communities for Environmental Justice (EYCEJ)
Cristhian Tapia-Delgado, Pacific Environment
Andrea Vidaurre, People's Collective for Environmental Justice
Yassi Kavezade, Sierra Club
Fernando Marquez Duarte, People's Collective for Environmental Justice
Marven Norman, CCAEJ
Theral Golden, West Long Beach Neighborhood Association
Sylvia Betancourt, Long Beach Alliance for Children with Asthma
Jennifer Cardenas, a member of the public
Jan Victor Andasan, EYCEJ

Key topics raised by the above speakers include:

- Expressed support for a strong Port ISR that sets clear emission reduction targets, zero-emission infrastructure planning, transparent reporting and accountability;
- Ports remain the largest source of pollution in the region;
- Ports' Clean Air Action Plan does not have new goals and progress in achieving emission reductions has stalled;
- Commented on the historical perspective of the attempts to negotiate an MOU for the Ports and Railyards; and
- Expressed concerns with the negative impact that port-related activities have on the Inland Empire.

There being no further requests to speak, the public comment period was closed for Agenda Item No. 22.

Written Comments Submitted

- One letter signed by the following organizations: Fernando Gaytan, Earthjustice; Gracyna Mohabir, California Environmental Voters; Marven E. Norman, CCAEJ; Dori Chandler, Coalition for Clean Air; Paola Vargas, EYCEJ; Alison Hahm, Natural Resources Defense Council; Cristhian Tapia-Delgado, Pacific Environment; Andrea Viduarre, People's Collective for Environmental Justice; and Theral Golden, West Long Beach Neighborhood Association

(This was a presentation only; no action was required from the Board.)



CLOSED SESSION

The Board recessed to closed session at 11:50 a.m. pursuant to Government Code sections:

CONFERENCE WITH LEGAL COUNSEL – INITIATING LITIGATION

- 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation in two cases.

Following closed session, General Counsel Gilchrist, announced that there were no reportable actions taken in closed session.

ADJOURNMENT

There being no further business, the meeting was adjourned by General Counsel Gilchrist at 12:25 p.m.

The foregoing is a true statement of the proceedings held by the South Coast Air Quality Management District Board on February 7, 2025.

Respectfully Submitted,

Faye Thomas
Clerk of the Boards

Date Minutes Approved: _____

Vanessa Delgado, Chair

ACRONYMS

- AQMP = Air Quality Management Plan
- CARB = California Air Resources Board
- CEQA = California Environmental Quality Act
- FY = Fiscal Year
- ISR = Indirect Source Rule
- MSRC = Mobile Source Air Pollution Reduction Review Committee
- PAR = Proposed Amended Rule

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 2

PROPOSAL: Adopt Resolution Recognizing Funds for FY 2024-25 Carl Moyer Program, Issue Program Announcements, and Execute and Modify Agreements for Carl Moyer, and Surplus Off-Road Opt-in for NOx Programs

SYNOPSIS: These actions are to: 1) adopt a Resolution recognizing up to \$47,159,728 in Carl Moyer Program grant funds from CARB into the Carl Moyer Program SB 1107 Fund (32) and authorize the Executive Officer to accept the terms and conditions for FY 2024-25 award; 2) issue two Program Announcements for “Year 27” of the Carl Moyer Program and the SOON Provision to solicit applications; 3) authorize the Executive Officer to execute or amend agreements for eligible zero and low-emitting on- and off-road vehicles and equipment, including marine vessels, locomotives, and supporting infrastructure projects; and 4) modify three no-cost agreements to extend their milestone dates for the zero-emission infrastructure projects from a prior year Carl Moyer solicitation.

COMMITTEE: Technology, February 21, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

1. Adopt the attached Resolution recognizing upon receipt up to \$47,159,728 in FY 2024-25 Carl Moyer Program funds from CARB into the Carl Moyer Program SB 1107 Fund (32) and authorize the Executive Officer to accept terms and conditions of the Carl Moyer grant award;
2. Issue, and if necessary, re-issue Program Announcements #PA2025-03 and #PA 2025-04 to solicit, projects for the FY 2024-25 “Year 27” Carl Moyer Memorial Air Quality Standards Attainment Program and Surplus Off-Road Opt-in for NOx Program;
3. Authorize the Executive Officer to execute or amend agreements for eligible projects from the Carl Moyer Program SB 1107 Fund (32) and the Carl Moyer AB 923 Fund (80) for up to \$48.4 million comprised of \$41,262.762 of Carl Moyer SB 1107 Fund (32) and \$7,073,959 of Carl Moyer AB 923 match Fund (80) and any unencumbered Carl Moyer funds from the previous years until the funds are exhausted; and

4. Modify and extend agreement milestone dates for fast track zero-emission infrastructure projects under prior PA #2024-02, by Greenlane, Prologis Mobility LLC, Inc., and CR&R Environmental Services.

Wayne Nasti
Executive Officer

AK:MW:TL:AY

Background

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) and the Surplus Off-Road Opt-in for NOx (SOON) Programs provide incentive funding for the incremental costs of purchasing cleaner-than-required engines and equipment. The Carl Moyer Program also allows funding for infrastructure projects that enable the deployment of advanced, cleaner technologies, which are needed to support the States' and South Coast AQMD's air quality goals. This is the 27th year for the Carl Moyer Program and the 20th year of the SOON Program.

Last year South Coast AQMD sponsored legislative change to the Carl Moyer program added two years to complete the projects and liquidate project funds. In addition, CARB increased the administrative fund to 12.5 percent of total allocation from 6.25 percent.

Separately, in February of 2024, South Coast AQMD closed a Carl Moyer Zero Emission Infrastructure solicitation wherein three heavy duty vehicle charging projects were awarded as fast-track projects. Fast track projects were defined in the Program Announcement PA2024-02 as shovel-ready projects that could be completed by December 31, 2024, and the Board Chair, or by the Chair's designation the Executive Officer, was authorized to execute the agreements with those selected applicants. Due to project delays, Greenlane, Prologis Mobility LLC, and CR&R Environmental Services projects needed additional time to commission the sites.

Proposal

This action is to adopt the attached Resolution recognizing, upon receipt, approximately \$47.2 million from CARB into the Carl Moyer Program SB 1107 Fund (32) and authorize the Executive Officer to accept the terms and conditions of the Carl Moyer grant award. Additionally, staff is recommending to issue and, if necessary, re-issue, Program Announcements (PA) #PA2025-03 and #PA2025-04 for the Carl Moyer Program and SOON Program, respectively. The Carl Moyer Program PA will solicit applications from equipment owners for the retrofit, repower or replacement of older, in-use on-road vehicles, off-road equipment, locomotives, marine vessels and other

heavy-duty vehicles and equipment with cleaner technologies. The Carl Moyer Program PA will also solicit applications for supporting zero-emission infrastructure projects.

The SOON Program is designed to achieve additional NO_x emission reductions above those that would be obtained from CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation. The SOON Program PA will solicit projects that involve the retrofit, repower or replacement of off-road vehicles with cleaner technologies. As in previous years, South Coast AQMD will only fund diesel-to-diesel applications when alternative fuel engines/vehicles are not commercially available or certified by CARB, except for emergency vehicles.

The 2024 Carl Moyer Program Guidelines approved by CARB on October 24, 2024 and any subsequent updates or changes, will be utilized for the evaluation of projects submitted under the "Year 27" Carl Moyer and SOON PAs. Applicants will be able to submit their applications for both the Carl Moyer and SOON Programs online. Proposals for all categories will be due by 1 pm on Tuesday, July 1, 2025. The Carl Moyer (#PA2025-03) and SOON Program (#PA2025-04) PAs are attached (Carl Moyer Program Announcement #PA2025-03 and SOON Program Announcement #PA2025-04).

In a separate action, staff is recommending to modify agreements with Greenlane, Prologis Mobility LLC, and CR&R Environmental Services to extend milestone dates by 6-18 months. These projects were awarded under PA#2024-02 solicitation as fast-track projects, which were expected to be completed within 10 months. The non-fast track projects awarded under the same solicitation have a proposed completion timeline of at least 36 months.

The Carl Moyer Program Guidelines require that at least 50 percent of the program funds be expended on projects that will reduce emissions in disproportionately impacted areas, which are tracked on a cumulative basis for all air districts. At least half of the funding allocated under SB 1107 and collected under AB 923 will be awarded to projects in disproportionately impacted areas. The Carl Moyer Guidelines also require that at least 50 percent of all funding available for the Carl Moyer and the SOON Programs, including rollover funds from previous years and any returned funds from projects that fall through, be allocated to projects that will reduce emissions in disproportionately impacted areas. Due to the recent wildfires, applications involving fire recovery equipment will be prioritized.

Outreach

In accordance with South Coast AQMD's Procurement Policy and Procedure, a public notice advertising the PAs and inviting applicants will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Air Basin.

Additionally, potential applicants may be notified by South Coast AQMD's electronic listing of certified minority vendors. Notice of the PAs will be emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on South Coast AQMD's website (<http://www.aqmd.gov>) where it can be viewed by making menu selection "Grants & Bids." South Coast AQMD will post pre-recorded presentations and host meetings to provide program information and application assistance for applicants interested in the Carl Moyer Program. Also, to the extent possible, staff will conduct additional in-person outreach to potential applicants through community outreach and engagement.

Benefits to South Coast AQMD

The 2022 AQMP calls for adopting zero-emission and low-NOx technologies and providing incentive funding to reduce mobile source emissions to meet the 2015 8-hour ozone standards by 2037. South Coast AQMD supports numerous activities to advance new technologies and meet regional air quality goals. Successful implementation of the Carl Moyer Program and the SOON Program are direct results of these technology advancement activities. Also, the vehicles and equipment funded under these PAs will operate for many years, providing long-term NOx and PM emissions reductions.

Resource Impacts

CARB has allocated up to \$47,159,728 to the South Coast AQMD for implementation of the FY 2024-25 "Year 27" Carl Moyer Program. Of this amount, up to \$41,264,762 is designated for project funding and up to \$5,894,966 for administrative and outreach efforts. These funds will be recognized into the Carl Moyer Program SB 1107 Fund (32). In addition, \$7,073,959 will be provided from AB 923 (Fund 80), as required local match from South Coast AQMD. There are sufficient funds in AB 923 (Fund 80) to cover the match amount.

Attachments

1. Resolution
2. Carl Moyer Program Announcement #PA2025-03
3. SOON Program Announcement #PA2025-04

RESOLUTION NO. 25-

**A Resolution of the South Coast Air Quality Management District Board
Recognizing Funds and Accepting the Terms and Conditions of the
FY 2024-25 Carl Moyer Grant Award**

WHEREAS, under Health & Safety Code §40400 et seq., the South Coast Air Quality Management District (South Coast AQMD) is the local agency with the primary responsibility for the development, implementation, monitoring and enforcement of air pollution control strategies, clean fuels programs and motor vehicle use reduction measures; and

WHEREAS, the South Coast AQMD is authorized by Health & Safety Code §§40402, 40440, and 40448.5 as well as the Carl Moyer Memorial Air Quality Standards Attainment Program (§44275, et seq.) to implement programs to reduce transportation emissions, including programs to encourage the use of alternative fuels and zero and low emission vehicles; to develop and implement other strategies and measures to reduce air contaminants and achieve the state and federal air quality standards; and

WHEREAS, the Governing Board has adopted several programs to reduce emissions from on-road and off-road vehicles, as well as emissions from other equipment, including infrastructure from the Carl Moyer Program, the Proposition 1B-Goods Movement Program, and projects included in the approved Community Emissions Reduction Programs; and

WHEREAS, the Governing Board directs staff to prioritize funding on equipment involved in wildfire recovery; and

WHEREAS, the South Coast AQMD is designated as an extreme non-attainment area for ozone and as such is required to utilize all feasible means to meet national ambient air quality standards.

THEREFORE, BE IT RESOLVED that the Governing Board, in regular session assembled on March 7, 2025 does hereby authorize the Executive Officer to accept the terms and conditions of the FY 2024-25 (Year 27) Carl Moyer Program grant award and recognizes up to \$47,159,728 million from CARB to administer and implement the Year 27 Carl Moyer Program.

BE IT FURTHER RESOLVED that the Executive Officer is authorized and directed to take all steps necessary to carry out this Resolution.

Date

Faye Thomas, Clerk of the Board



**2025
CARL MOYER MEMORIAL
AIR QUALITY STANDARDS ATTAINMENT PROGRAM
PROGRAM ANNOUNCEMENT
“Year 27”
SOUTH COAST AQMD PROGRAM ANNOUNCEMENT
PA2025-03**

The South Coast Air Quality Management District (South Coast AQMD) is pleased to announce the availability of funds for the Carl Moyer Memorial Air Quality Standards Attainment Program (hereafter “CMP”). The CMP has played a significant role in incentivizing equipment owners to purchase cleaner-than-required engines, vehicles and equipment. This year marks South Coast AQMD’s 27th year of CMP implementation.

The CMP is intended to obtain “surplus” emission reductions of Nitrogen Oxides (NOx), Particulate Matter (PM10) and Reactive Organic Gases (ROG) from heavy-duty vehicles and other equipment operating in California as early and as cost-effectively as possible. The CMP provides financial incentives to equipment owners to repower, retrofit or replace in-use heavy-duty vehicles and equipment with cleaner-than-required engine and equipment technologies that will achieve emission reductions that are real, surplus, quantifiable and enforceable. Due to the recent wildfires, South Coast AQMD will prioritize applications involving fire recovery equipment.

SECTION I – PURPOSE

The purpose of this Program Announcement (PA) is to solicit project applications for the 2025 CMP. The budget for this PA will be approximately \$43.4 million from the CMP Funds and AB 923 Match Funds. The South Coast AQMD expects to receive additional funds for this year’s CMP, which may include, but not limited to, funds in support of AB 617-Community Air Protection Program and the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program.

All applications will be evaluated based on the criteria set forth in this PA, the 2024 CMP Guidelines, and any subsequent updates and modifications/advisories to the Guidelines. This PA was prepared based on the latest version of the 2024 CMP Guidelines approved by the California Air Resources Board (CARB) on October 24, 2024, and all associated updates, which are available at: <https://ww2.arb.ca.gov/guidelines-carl-moyer>.

This PA generally identifies the equipment categories, project options and eligibility criteria to qualify for grant funding under this year’s CMP. Any tax obligation associated with an award is the responsibility of the Applicant.

In the preparation of this PA, the words “Applicant” and “Recipient” are used interchangeably. South Coast AQMD staff will evaluate all qualified applications and make recommendations to the Governing Board for final selection of project(s) to be funded. All eligible projects will be

ranked based on the cost-effectiveness of NO_x, PM₁₀ and ROG emissions reduced. Please note that depending upon the number of applications received in response to this PA, South Coast AQMD may prioritize the selection of projects to reduce emissions in and around disadvantaged communities (DAC) and low-income communities located within the South Coast AQMD jurisdiction. While South Coast AQMD encourages all eligible applications, this means that some projects may not be selected based on their domicile address, regardless of their cost-effectiveness.

At least 50 percent of South Coast AQMD's CMP funds will be targeted for projects that meet the criteria of disadvantaged or low-income community projects. Other non-CMP funding sources may have DAC and/or low-income status requirements that may limit South Coast AQMD's ability to award such funding to projects that do not meet applicable geographic or income requirements. The Office of Environmental Health Hazard Assessment (OEHHA) in the California Environmental Protection Agency (CalEPA) has developed the California Communities Environmental Health Screening Tool: CalEnviroScreen Version 4.0 (CalEnviroScreen 4.0). The CalEnviroScreen 4.0 tool will be used by South Coast AQMD to identify projects that qualify as a DAC, which is defined as scoring in the top 25th percentile and will strive to maximize the benefits to these communities. All applications will be assessed with the CalEnviroScreen tool to identify and verify if the project will benefit a DAC within the 25th percentile. This tool is available at: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>

South Coast AQMD's CMP is administered locally through its Technology Advancement Office. The South Coast AQMD reserves the right to allocate its CMP funds among the program categories or to specific projects in accordance with South Coast AQMD priorities. Applicants may only be offered partial funding due to cost-effectiveness or funding category limitations (i.e., caps), and not all applications that meet the cost-effectiveness criteria may be funded.

SECTION II – LEGAL UPDATES AND DEFINITIONS

CONFLICT OF INTEREST

Applicants must address any potential conflicts of interest with other clients affected by actions performed by the firm on behalf of the South Coast AQMD. Although the applicant will not be automatically disqualified by reason of work performed for such firms, the South Coast AQMD reserves the right to consider the nature and extent of such work in evaluating the application. Conflicts of interest will be screened on a case-by-case basis by the South Coast AQMD General Counsel's Office. Conflict of interest provisions of the state law, including the Political Reform Act, may apply to work performed pursuant to this agreement. An example of a conflict of interest may occur when a consultant applying on behalf of an applicant for funding under the CMP is also contracted with South Coast AQMD.

COMPLIANCE WITH APPLICABLE LAWS

Applicants must comply with all federal, state, and local laws, ordinances, codes and regulations. If the application is eligible for funding, all vehicles and/or equipment to be purchased, or installed must be compliant with all applicable federal, state, and local air quality rules and regulations, and will maintain compliance for the full Agreement term.

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 South Coast AQMD in writing if they have been found by a court or federal or state agency to have violated labor laws. As part of their annual report, 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 South Coast AQMD details about those violations in the certification. If the Recipient has previously provided that information to the South Coast AQMD, 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. South Coast AQMD 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 contract funds, as determined by South Coast AQMD. The Recipient will also ensure that these requirements are included in all subcontracts.

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 is included in all South Coast AQMD agreements.

ECONOMIC SANCTIONS (RUSSIA/UKRAINE)

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (EO) regarding sanctions in response to Russian aggression in Ukraine. Applicants who are considered eligible for CMP funds under this PA and received executed agreements from South Coast AQMD, are obligated to comply with existing economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine.

DEFINITIONS

Alternative Fuel

Alternative fuels include compressed natural gas (CNG), liquefied natural gas (LNG), hydrogen (H₂), propane (LPG) and electric technologies. Experimental technologies and fuels will be referred to CARB for evaluation and possible eligibility in the Program.

Equipment Replacement

Equipment replacement means the replacement of an older vehicle or piece of equipment that still has a remaining useful life with a newer, cleaner vehicle or piece of equipment. For Equipment Replacement project types, applicant must have owned and operated the old (i.e., existing) equipment in California for the previous two years from date of application. For locomotive projects, the applicant must have owned and operated the old equipment in California for minimum of one year.

Engine Repower

Engine repower means the replacement of an in-use engine with another, cleaner engine within an existing vehicle or equipment.

Retrofit

An emission control system is employed exclusively with an in-use engine, vehicle or piece of equipment. CARB guidance requires the applicant to select the highest-level technology certified for that engine that provides the most emission reductions. For many projects, this includes a diesel emission control device that reduces both PM and NOx emissions. In order to be eligible for CMP funding, the retrofit device must be verified for the specific engine family found on the equipment and achieve the highest-level emission reductions when compared to other verified retrofit devices. If a specific device reduces both NOx and PM, but the PM reduction from a retrofit is required by a regulation, only the NOx reduction may be eligible for funding.

South Coast AQMD Jurisdiction

The South Coast AQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. Within Riverside County, the South Coast AQMD also has jurisdiction over the Salton Sea Air Basin and a portion of the Mojave Desert Air Basin. This area of 10,743 square miles is home to approximately 17 million people—about half the population of the state of California. It is the second most populated urban area in the United States and one of the smoggiest. Visit <http://www.aqmd.gov/nav/about/jurisdiction> for more information.

SECTION III -- FUNDING CATEGORIES

Project equipment must be domiciled within the South Coast AQMD jurisdiction and operate a minimum of 75 percent of the time within the boundaries of the South Coast AQMD jurisdiction, except for on-road replacement projects, which are required to operate at least 51 percent of the time in the South Coast AQMD jurisdiction. Below are the specific project categories identified for funding under this PA:

Project Category*	Examples
On-Road Heavy-Duty Vehicles	<ul style="list-style-type: none"> • Transit Buses • Heavy Duty Trucks and Buses • Drayage Trucks • Solid Waste Vehicles • Public Agency/Utility Vehicles • Emergency Vehicle Replacement (fire apparatus) • Airport Shuttles

Project Category*	Examples
Off-Road Equipment	<ul style="list-style-type: none"> • Construction Equipment • Cargo Handling Equipment • Industrial Equipment • Agricultural Mobile Equipment (loaders, tractors, water pulls, etc.) • Large Spark Ignition Equipment • Portable Engines • Utility Terrain Vehicles (UTVs) • Marine Engine Repower • Marine Replacement • Ship-Side Shore Power • Locomotives • Transportation Refrigeration Units (TRUs)
Infrastructure (to fuel or power a zero-emission, heavy-duty vehicle or equipment)	<ul style="list-style-type: none"> • Battery Electric Charging Station • Hydrogen Fueling Station • Stationary Agricultural Pump Electrification • Shore Power

*To be eligible for funding, all projects must comply with all applicable federal, state, and local air quality rules and regulations.

ON-ROAD VEHICLES

Below are the key requirements for on-road, heavy-duty vehicle projects:

- Please note that Class 4, Class 5, and Class 8 battery electric goods movement vehicle projects may not be prioritized from this solicitation due to potential overlap with the [INVEST CLEAN](#) program.
- A project’s new engine(s) may not be diesel-fueled (except Emergency Apparatus).
- Eligible engine model years are 2019 and older. Engine model years 2009 and older subject to the Truck and Bus Regulation are no longer eligible as their compliance life has passed.
- Projects must include commercially available technologies that are certified or verified by CARB.

For purposes of the CMP, the following on-road vehicle classifications are used:

Vehicle Classification	GVWR
Light Heavy-Duty (LHD)	14,001 to 19,500 pounds
Medium Heavy-Duty (MHD)	19,501 to 33,000 pounds
Heavy Heavy-Duty (HHD)	Over 33,000 pounds

The proposed vehicle must be in the same weight class as the existing vehicle (LHD, MHD or HHD). The engine must be certified to the applicable heavy-duty intended service class as shown on the engine certification Executive Order. However, the following cases may be allowed: 1) MHD engines may be installed in HHD vehicles with GVWR up to 36,300 lbs. (10 percent higher than 33,000 lbs. GVWR) with written warranty verification by engine and chassis manufacturer, or 2) HHD engines may be installed in MHD vehicles if necessary for vocational

purposes but only if the GVWR are within 10 percent of the HHD intended service class (i.e., GVWR of 29,701 lbs. or greater).

Executive Orders for on-road vehicles may be downloaded at:

<http://www.arb.ca.gov/msprog/onroad/cert/cert.php>.

Project emission reductions and therefore funding will be based on the lower of two 12-month periods of California usage during the previous thirty months. Fleet averages cannot be used.

Replacement of On-Road Vehicles

This project type involves the replacement of an older, in-use vehicle with a newer, cleaner vehicle. The replacement engine must be certified by CARB at or below the optional low NOx standard of 0.02 g/bhp-hr (or cleaner) and PM emission standard of 0.01 g/bhp-hr. In alignment with South Coast AQMD's 2016 AQMP, all on-road projects under the CMP must select the optional low-NOx, hybrid or zero-emission technologies. Diesel engines are not allowed in replacement vehicles except for Emergency Vehicles.

South Coast AQMD requires that all on-road projects be operated within South Coast AQMD jurisdiction for at least 75 percent of the time.

Applicants must clearly demonstrate their compliance status with the applicable CARB regulation (i.e., Statewide Truck & Bus Regulation, Fleet Rule for Public Agencies & Utilities, Transit Bus Regulation, TRU Airborne Toxic Control Measure (ATCM), etc.) at the time of application submittal and remain in compliance through final selection and agreement execution (if selected).

Please note that if you are an owner of a small fleet (20 or fewer vehicles greater than 8,501 lbs. GVWR), you may be eligible for funding through the On-Road Voucher Incentive Program (VIP). Please refer to the South Coast AQMD's VIP web page to explore funding opportunities for replacement at: www.aqmd.gov/vip.

In addition, the following on-road projects will be considered on a case-by-case basis:

- On-road vehicles with a GVWR between 8,501 and 14,000 pounds,
- Retrofits that reduce NOx by at least 15 percent; for engines that are certified above 0.01 g/bhp-hr PM, the retrofit must also reduce PM emissions by 85 percent.

Award amounts are dependent upon the project emission reductions calculated based upon the annual mileage, engine model year, and cost effectiveness limit of the project (See Section VI). Award amount is capped to the lower of two caps: (1) small fleets (20 or fewer vehicles greater than 8,501 lbs. GVWR) eligible up to 80 percent of the vehicle cost and large fleets eligible up to 50 percent of the vehicle cost (2) based upon the project type (see on Page 7).

Funding Caps for vehicles subject to Truck and Bus Regulations*			
Replacement Type/Weight Class	HHD	MHD	LHD
ZEV	\$410,000**	\$180,000**	\$170,000**
Optional low NOx standard (0.02)	\$160,000**	\$120,000**	\$70,000**

*for other project types, please refer to [Carl Moyer Guidelines Chapter 4: On-Road Heavy-Duty Vehicles](#) Section B

** Small fleets with 20 or fewer vehicles are eligible up to 80 percent and large fleets eligible up to 50 percent of the replacement vehicle cost

On-Road Emergency Vehicle Replacement

Authorized emergency vehicles, as described in California Vehicle Code 165, including but not limited to fire apparatus, pumpers, ladder trucks, water tenders, and prisoner transport buses, are exempt from CARB regulations and therefore eligible for CMP funding. Eligible emergency vehicle projects are those in which an older, more polluting emergency vehicle is replaced with a new or used replacement vehicle with an engine meeting the current model year California emission standards. The old, replaced vehicle must be destroyed. Vehicles subject to the Clean Truck Check Heavy-Duty Inspection and Maintenance (HD/IM) Program must submit proof of compliance.

A fire truck reuse option is also available on a case-by-case basis. The fire truck reuse option allows fire departments to give away the existing old vehicle and destroy another older vehicle in its place.

On-Road Vehicle Conversion

Conversions involve the replacement or modification of the original engine or vehicle to include either a cleaner engine or other system that provides motive power and change of the fuel type used. Hybrid conversion systems using internal combustion engines must be certified according to “California Certification and Installation Procedures for Medium-and Heavy-Duty Vehicle Hybrid Conversion Systems.” The baseline engine model year for hybrid conversions must be 2010 or newer. The conversion system manufacturer must provide written confirmation that the funded vehicle would not exceed the certified allowable limit. All-electric conversion systems must receive an exemption Executive Order per Vehicle Code section 27156.

INFRASTRUCTURE

Infrastructure projects that enable the deployment of advanced and cleaner technologies to support the State’s air quality goals are also eligible for CMP funding. Depending upon the number of applications received, the South Coast AQMD may have to limit the available CMP funding that will be allocated to infrastructure projects. Specifically, projects in this category involve the installation of fueling or energy infrastructure that will be used to fuel or power zero-emission heavy-duty vehicles or equipment. Infrastructure proposals designed to exclusively fuel or charge light-duty vehicles are not eligible for CMP funding.

Infrastructure projects will be selected on a competitive basis taking into consideration the project location, total requested funding, the percentage of renewable source, public accessibility, expected usage for the life of the project, fleet commitments to utilize the infrastructure, equipment throughput relative to cost, project implementation timeliness, cost-share, and other factors. Light-duty infrastructure can be considered but are deemed low-priority due to the shortage of heavy-duty charging and H₂ re-fueling stations in the South Coast Air Basin. Each scoring criterion will be weighted as shown in the table below. The priority for project selection may change based on technology development/commercialization and requirements of any additional funds that may become available. Please note that applications for heavy-duty vehicle charging stations may not be prioritized in this solicitation due to potential overlap with the INVEST CLEAN Program. Infrastructure projects are not subject to a cost-effectiveness limit but are subject to maximum limits prescribed by CARB.

Infrastructure Project Scoring Criteria

Criteria #	Criteria	Percentage
1	Project Location (if in an AB617 community)	8%
2	Renewable Sources	8%
3	Expected Throughput Usage per District Cost	20%
4	Project Co-Funding	10%
5	Infrastructure Usage and Equipment Availability	30%
6	Project Readiness and Benefits to South Coast Air Basin	21%
7	Application Completeness at Submittal	3%
	Total	100%

Applicants must provide cost information that specifies the amount of funding requested and the basis for that request by attaching vendor quotes to the application. The vendor quotes must be dated within 90 days of the application submittal date. Applicants need to inform vendors of the time frame of the award process so that they can estimate prices based on the future/projected order/purchase date.

Eligible costs include planning and engineering, permitting, equipment necessary for the functional operation of the infrastructure, and installation. Operational costs are not eligible and should not be included in the vendor quotes.

Applicants shall include a description of the installation vendor selection process. Applicants must demonstrate that they either own the land on which the project will be located, or control it through a long-term lease, easement or other legal arrangement, for the duration of the project life. Infrastructure projects may also require a case-by-case review by CARB.

Eligible infrastructure projects include, but are not limited to:

- **Battery charging stations:** New, conversion of existing, and expansion to existing battery charging stations for medium and heavy-duty vehicles and equipment.
- **Hydrogen Fueling Station:** New, conversion of existing, or expansion of existing hydrogen fueling station for medium and heavy-duty vehicles and equipment.
- **Stationary Agricultural Station:** Electrification of pump funded by air district with FARMER Program Guidelines.
- **Shore Power:** Shore-side electrification for projects not subject to CARB's shore power regulation. Only a port authority, terminal operator, or marine vessel owner is eligible for this type of infrastructure project.
- **Other Types:** TRU infrastructure, truck stop electrification, off grid on-site power generation systems, micro-grid, mobile refuelers, and portable infrastructure.

A vehicle or equipment project is not required to be submitted as a condition of eligibility for infrastructure funding, however, priority will be given to such projects. The applicant must provide proof (i.e., letter of commitment from the fleet operator, purchase orders, etc.) that a sufficient number of supported vehicles/equipment be acquired and/or committed to utilize the infrastructure when the project is complete. For infrastructure expansion projects, documentation of increased throughput at the station is required to ensure the expansion is proportional with projected fueling demand.

Work must be performed by contractors and/or electricians that meet all required licensing, certification, and statutory requirements for the eligible project type. Contractors performing installation of electric vehicle charging infrastructure must have an Electric Vehicle Infrastructure Training Program certification (EVITP). For more information please visit: <https://evitp.org/>

All projects funded need to be registered with the Department of Industrial Relations (DIR) and must comply with DIR requirements on labor practices which covers a broad prevailing wage. The CMP also specifies that applicants awarded an agreement must comply with applicable provisions of Labor Code Sections 1720-1861.

OFF-ROAD COMPRESSION-IGNITION EQUIPMENT

This category includes off-road, mobile compression ignition equipment. Off-road heavy-duty equipment/engines include, but are not limited to, construction equipment, agricultural equipment, marine engines, ship-side shore power and locomotive equipment. Portable equipment is not eligible for CMP funding. The following off-road equipment projects may be eligible for funding:

- **Repower:** The replacement of an existing engine with a newer emission-certified engine, or zero-emission system, instead of rebuilding the existing engine to its original specifications.
- **Retrofit:** The installation of a CARB-verified emission control system on an existing engine. Examples include, but are not limited to, particulate filters and diesel oxidation catalysts.

- **Equipment Replacement:** The purchase of new or used equipment with an engine certified to the current emission standard (Tier 4 Final) or zero-emission technology to replace an older, fully functional piece of equipment that is to be scrapped.

For off-road replacement and repower projects, the CMP Guidelines specify that the horsepower rating of the new (or replacement) engine must not be greater than 135 percent of the original manufacturer rated horsepower of the old (or existing) engine. If the new engine is greater than 135 percent, then the eligible funding amount will be based on the cost of an engine or equipment with a horsepower rating that is no higher than 135 percent of the existing engine horsepower rating. The applicant must pay the additional costs associated with the higher horsepower engine and obtain a price quote for an engine or equipment that is within the 135 percent range for the funding determination. In addition, verifiable records on the existing engine must be provided with the application to accurately identify the engine manufacturer year and horsepower (e.g., photographs of engine labels, statement from engine manufacturers, etc.).

Diesel Construction Equipment

According to CARB's In-Use Off-Road Diesel Vehicle Regulation (Off-Road Regulation), the construction fleets are categorized as follows:

Fleet Size	Horsepower Range
Small	Less than or equal to 2,500 HP
Medium	Between 2,500 HP and 5,000 HP
Large	Greater than 5,000 HP

On November 17, 2022, amendments to the Off-Road Regulation were adopted by CARB and significantly limit the eligibility of off-road equipment for CMP funding. The potential funding for Tier 4 Final or Zero-Emission replacements and repowers will be available for the existing Tiers until the following dates:

Potential Funding	Large Fleets	Medium Fleets	Small Fleets
Tier 0	Not allowed	Not allowed	12/31/2025
Tier 1	Not allowed	12/31/2025	12/31/2027
Tier 2	12/31/2025	12/31/2027	12/31/2029

Tier 3 and Tier 4 Interim equipment may be replaced or repowered without restriction to Tier 4 Final or Zero Emission technologies when feasible. They must also demonstrate eligibility with the most current Off-Road Regulation & CMP Guidelines.

Fleets are also eligible to apply for funding through the Surplus Off-Road Opt-In for NOx (SOON) Program for new diesel engines, however additional demonstration of fleet compliance to the Off-Road Regulation is required. More information can be found at the Year 27 SOON Program Announcement. Please visit www.aqmd.gov/soon.

Applicants must submit information regarding fleet size and compliance status. **This must include the Diesel Off-Road On-line Reporting System (DOORS) ID of the fleet, the DOORS Compliance Snapshot, the DOORS equipment list, and the DOORS Equipment**

Identification Number (EIN) of the funded equipment. All documentation submitted must be signed and dated by the applicant and include language certifying that the fleet list provided is accurate and complete.

Cargo Handling Equipment

Cargo handling equipment (CHE) is any motorized vehicle used to transport cargo delivered by ship, train, or truck, or used for scheduled routine maintenance activities at a port or intermodal rail yard. Equipment that handles cargo containers includes yard trucks, top handlers, side handlers, reach stackers, forklifts, and rubber-tired gantry (RTG) cranes.

Applicants must be in compliance with the CHE Regulations and equipment utilizing regulatory extensions are not eligible for funding. Cargo handling equipment located at other locations such as distribution warehouses must be in compliance with the Off-Road Regulation (see above).

Agricultural Equipment

Diesel agricultural equipment is not subject to the Off-Road Regulation. However, a statement of how the equipment will be used and what percentage of the time the equipment will be used for agricultural purposes is required in order to be eligible for the CMP funding. Agricultural equipment must be operated over 50 percent of the time in agricultural operations. Agricultural operations include, but are not limited to, activities such as the raising and harvesting of crops from soil, the raising of fowl or animals, logging, and forestry operations. A majority of the off-road vehicles used in facilities such as wineries, dairies, logging operations, farms, ranches, and wholesale are considered “agricultural operations”.

Large Spark-Ignition Equipment

LSI engines or alternative fuel-powered LSI internal combustion engines are designed for powering, but not limited to powering, forklift trucks, sweepers, generators, and industrial equipment. In order to be eligible for CMP funding, LSI fleets must have met the final compliance requirements provided in the LSI Fleet Regulation and ZE Forklift Regulation to be eligible for funding. If you have a large fleet of four or more forklift units or four or more units consisting of sweepers/scrubbers, ground support equipment (GSE), and industrial tow tractors you must meet final LSI Regulation average emissions to be eligible for funding.

Forklifts Subject to the ZE Forklift Regulation

Eligibility for a project subject to the ZE Forklift Regulation is based on the following model year phase-out schedule below

Compliance Date	Class IV LSI Forklifts with a Rated Capacity of 12,000 Pounds or less	Class IV LSI Forklifts with a Rated Capacity Greater than 12,000 Pounds	Class IV LSI Forklifts with a Rated Capacity of 12,000 Pounds or Less for Small Fleets and Crop Preparation Services	Class IV LSI Forklifts with a Rated Capacity of Greater than 12,000 Pounds for Small Fleets and Crop Preparation Services	Class V LSI Forklifts
1/1/2028	2018 MY and older ¹				
1/1/2029			2016 MY and older ²		
1/1/2030					2017 MY and older ³
1/1/2031	2019-2021 MY				
1/1/2032			2017 – 2019 MY		
1/1/2033	2022 and 2023 MY				2018-2020 MY
1/1/2034			2020 and 2021 MY		
1/1/2035	2024 and 2025 MY	2025 MY and older			2021 and 2022 MY
1/1/2036			2022 and 2023 MY		
1/1/2037					
1/1/2038			2024 and 2025 MY	2025 MY and older	2023-2028 MY ⁴

¹A phase-out percentage cap may be applied pursuant to Health and Safety Code Section 3006(e), Phase-Out Percentage Caps.

²A phase-out percentage cap of 25 percent may be applied pursuant to Health and Safety Code Section 3006(e), Phase-Out Percentage Caps.

³A phase-out percentage cap of 50 or 25 percent may be applied pursuant to Health and Safety Code Section 3006(e), Phase-Out Percentage Caps.

⁴Includes 2026 through 2028 MY Class V LSI Forklifts in Rental Agency Revenue Fleets.

Portable Engines

Portable Engines subject to the Airborne Toxic Control Measure for Diesel Particulate Matter from portable engines rated at 50 horsepower and greater (Portable Engine ATCM) are eligible for funding if they are registered with CARB or permitted with South Coast AQMD.

In order to be eligible for funding, diesel engines regulated under the Portable Engine ATCM must be permitted in South Coast AQMD jurisdiction or registered in the Portable Equipment Registration Program. Applicants are required to show current registration with or submit a statement of compliance with the Portable Engine ATCM.

Eligibility for a project is based upon the tier phase out schedule and the fleet average table below.

Engine Certification	Engines Rated: 50 - 750 bhp Large Fleet	50 - 750 bhp Small Fleet	> 750 bhp
Tier 1	1/1/2020	1/1/2020	1/1/2020
Tier 2 built prior to 1/1/2009	1/1/2022	1/1/2023	1/1/2025
Tier 2 built on or after 1/1/2009	N/A	N/A	1/1/2027
Tier 3 built prior to 1/1/2009	1/1/2025	1/1/2027	N/A
Tier 3 built on or after 1/1/2009	1/1/2027	1/1/2029	N/A

Project eligibility for Tier 1, 2, and 3 flexibility engines based on December 31 of the year 17 years after the date of manufacture.

Funding opportunities are no longer available for Uncontrolled, Tier 1, and Tier 2 engines built prior to 1/1/2009 that have less than 750 brake-horsepower.

Utility Terrain Vehicles (UTVs)

Purchase of a new zero-emission UTV replacement is allowed. The UTV replacement project would provide incentives up to 75 percent of the cost of a new zero-emission UTV or a maximum of \$13,500 for qualified entities (whichever is less).

Marine Vessels

Marine vessel project types include engine repower and shore power. Only existing engines on a marine vessel with a fully functioning non-resettable hour meter are eligible for CMP funding.

Marine Engine Repower

Vessels subject to the in-use compliance requirements of CARB's Commercial Harbor Craft (CHC) Regulation (i.e., barge, crew/supply, dredge, excursion, ferry, towboat and tugboats) are eligible for CMP funding as long as the vessel is fully compliant with the CHC Regulation. Based on the vessel's operation, the newer engine's emissions must be surplus to the currently required U.S. Environmental Protection Agency (EPA) marine engine emission standard (i.e.,

Tier 3 (for Commercial Fishing Vessels only), Tier 3 + DPF, Tier 4 and Tier 4 + DPF etc.). Remanufacture kits, which are comprised of engine component parts that, when installed, reduce the engine’s emissions, are subject to the same requirements as engine repower projects.

The final CHC Regulation was provided to the Office of Administrative Law by CARB on July 21, 2022. The updated CHC Regulation compliance dates for marine vessel types can be found in Table 7 through 10 of the Final Regulation Order at <https://ww2.arb.ca.gov/rulemaking/2021/chc2021>. Due to the updated compliance dates and CMP requirements for surplus emissions, the following table highlights eligible marine vessel repower projects based upon engine model year:

Marine Vessel Type	Engine Model Year
Ferries (except short-run ferries) Pilot Tugboats	2020 or newer
Research Excursion Commercial Passenger Fishing (or Charter Fishing)	2013 or newer
Dredges Barges Crew & Supply Workboats	2007 and newer
Commercial Fishing	All model years eligible

Marine Vessel Replacement

Vessel replacement is a new category. Vessel replacement projects are not eligible unless the applicant can demonstrate that no suitable engines (Tier 3 or Tier 4 marine, or marinized Tier 4 Final off-road) or CARB-verified DPFs physically fit within the existing vessel structure, and no amount of modifications can be made to the vessel structure without compromising its structural integrity or stability, to meet requirements of California Code of Regulations, title 17, section 93118.5 (e)(12) or that a repower project would necessitate extensive vessel modifications which would cost more than the purchase of a new vessel or reduce the passenger capacity of the vessel by 25 percent or greater. The replacement vessel must adhere to like-for-like (meaning similar dimensions, capacities, and capabilities) considerations. The existing engines and vessel will be dismantled and permanently removed from service with a detailed method of destruction submitted as part of the application.

Ship-Side Shore Power

Limited CMP funding opportunities remain for ship-side shore power projects due to the applicability of CARB’s At-Berth Regulation. Applicants must submit their CARB-approved Initial Terminal Plan to document compliance with CARB’s Shore Power Regulation. The proposed projects must provide emission reductions that are surplus to regulatory requirements. Projects not subject to CARB’s regulation are eligible.

Locomotives

Please note that battery electric locomotive switchers may not be prioritized in this solicitation due to potential overlap with the INVEST CLEAN program. All new locomotives and replacement engines must be certified to Tier 4 standards or cleaner to be eligible for CMP funding. There are very limited CMP funding opportunities for Class 1 freight railroads. Such a project will be subject to a case-by-case approval by CARB. Class 2/Class 3 freight railroads and passenger railroads are not subject to any CARB fleet regulations and are therefore eligible for CMP funding.

The following project types are eligible for CMP funding:

1. Locomotive replacement (the reuse and/or recycling of the baseline chassis is allowed if the baseline engine is destroyed)
2. Locomotive Engine Repower
3. Locomotive Conversion
4. Locomotive Retrofit

The table below summarizes the maximum eligible funding for each project type. All projects are also subject to the cost-effectiveness threshold per the CMP Guidelines.

Railroad Class/Type	All Project Types
Class 1/Class 2 Line Haul	80%
Class 3, Switcher, and Passenger	85%

Transport Refrigeration Units (TRUs)

Existing TRUs are eligible for funding based upon the tier phase out schedule and fleet average table as defined in the Portable Engine ATCM. The following must be met:

1. Registration with ARB Equipment Registration (ARBER)
2. Fleets must be in compliance with the TRU ATCM

SECTION IV – APPLICATION SUBMITTAL REQUIREMENTS

Applicants must apply for CMP funding using the South Coast AQMD's CMP Online Grant Management System (GMS) which will be provided on March 14, 2025 at:

www.aqmd.gov/moyer. In addition, all Business Information Forms including 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. **Paper applications will not be accepted.**

PROJECT COST

Applicants must provide cost information that specifies the amount of funding requested and the basis for that request by attaching vendor quotes to the application. The vendor quotes must be dated within 90 days of the application submittal date. Applicants need to inform vendors of the time frame of the award process so that they can estimate prices based on the future/projected order/purchase date.

Purchase orders or other purchase commitments shall not be placed until after the date of award approval by the South Coast AQMD Governing Board. Purchase orders may be placed after South Coast AQMD Governing Board approval and in advance of a fully executed agreement, but these orders/commitments are placed at the Applicant's own risk.

The CMP will fund only a percentage of the cost of the near-zero emission or zero-emission technology based on the type of project. The proposed near-zero emission or zero-emission technology must be certified, verified or approved by CARB in most cases. No administrative or operational costs will be funded.

All project costs must be clearly indicated in the application. In addition, Applicants must disclose all sources of co-funding, including the name of the funding source and amount of funding in the application. **Applicants are cautioned that the project life period used in calculating emissions reductions will be used to determine the length of their annual reporting obligation.** In other words, a project Applicant using a ten-year life for the emissions reduction calculations will be required to operate, track and report activity for the project vehicle for the full ten years. The agreement term will also be ten years.

Applicants are not required to calculate a project's cost-effectiveness. Methodologies for calculating cost-effectiveness are provided in the CARB CMP Guidelines at: <https://ww2.arb.ca.gov/guidelines-carl-moyer>.

APPLICATION SUBMISSION

All online applications must be submitted according to specifications set forth herein. Failure to adhere to these specifications may be cause for rejection of the application without evaluation.

Grounds for Rejection: An application may be immediately rejected if:

- It does not include correct documentation and other forms required.
- It is not signed by an individual authorized to represent the firm.

Staff Contact Information: South Coast AQMD staff contacts for each category are listed under South Coast AQMD Staff Contacts and Additional Resources below. Applicants may contact South Coast AQMD staff to discuss their project prior to submitting an online application to ensure program eligibility.

Business Information Forms: All business information forms **must** be completed and submitted with the online application. Please note, if recommended for an award, you will be required to submit an updated Campaign Contribution Disclosure form at a later date. Download these forms at www.aqmd.gov/moyer. These business forms will also be available on the CMP GMS. South Coast AQMD "Business Information Forms" requiring signatures must be scanned and uploaded to the electronic application in PDF format.

Electronic Submittal: A link to access South Coast AQMD's CMP GMS will be available on March 7, 2025 at: www.aqmd.gov/moyer. The CMP GMS allows Applicants to submit applications electronically to South Coast AQMD and track the progress of their application(s).

Applications must be submitted through the CMP GMS by 1 pm on Tuesday, July 1, 2025. The GMS will not allow applications to be submitted after the due date and time.

First-time users must register as new users to access the system. Applicants will receive a confirmation email after all required documents have been successfully uploaded. A tutorial of the system will be provided at the pre-application workshops or online and you may contact staff if you would like additional assistance.

Third parties assisting in applications may create their own account on the CMP GMS that can be linked through the primary user account.

Missing Information – Within thirty (30) business days of the online application submittal due date of July 1, 2025, South Coast AQMD will email letters to Applicants regarding the missing or incomplete information. Applicants will have seven (7) business days to provide any missing information requested in the letter. It will be the Applicant’s responsibility to submit the missing or incomplete information within the time specified by South Coast AQMD staff. Only complete applications can move forward in the evaluation process.

Disposition of Applications - South Coast AQMD reserves the right to reject any or all applications. All responses become the property of South Coast AQMD. A copy of each application not selected for funding shall be retained for one year.

SECTION V – WORK STATEMENT/SCHEDULE OF DELIVERABLES

Prior to submitting the application, Applicants must sign and agree to the terms and conditions of the requirements for submittal of additional project information to finalize an agreement and that all vehicles, engines or equipment shall be in operation within eighteen (18) months of agreement execution.

SCOPE OF WORK

The scope of work will describe tasks and deliverables that demonstrate compliance with the requirements of the CMP as administered by CARB and South Coast AQMD. The project Applicant is responsible for developing detailed project plans and ordering equipment that complies with the program criteria and guideline requirements. In addition, alternative fuel project Applicants must discuss their plan for refueling the proposed vehicles/equipment, and if appropriate, should provide a letter of agreement from their fuel provider (see Application forms).

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

- Provide emission reductions that are real, surplus, quantifiable and enforceable in accordance with CMP guideline requirements.
- Project equipment must be domiciled within the boundaries of South Coast AQMD jurisdiction.
- Meet the cost-effectiveness limit, as described in this PA and the CMP Guidelines, and subsequent CMP Advisories.

- Commit that project engines or equipment operate in service for the full project life and at least 75 percent of annual operation must occur within South Coast AQMD jurisdiction except for on-road replacement projects. On-road replacement projects may be eligible for funding with a minimum of 51 percent annual operation within South Coast AQMD jurisdiction.
- The cost-effectiveness calculation is based on the percent of operation within the South Coast AQMD jurisdiction. Project life is the number of years used to determine the cost-effectiveness and is equal to the agreement term. The agreement will include the percent operation as a minimum requirement (75 percent for all projects, except on-road replacement projects, which are allowed a 51 percent minimum).
- Commit that all vehicles/engines/equipment are in operation within 18 months of agreement execution.
- Provide appropriate recordkeeping during the project life (i.e., annual mileage, fuel consumption and/or hours of operation), including submission of annual reports as detailed below.
- Ensure that the project complies with all applicable rules and regulations, and the resulting emission reductions from the project are not required as a mitigation measure to reduce adverse environmental impacts that are identified in an environmental document prepared in accordance with the California Environmental Quality Act or the National Environmental Policy Act.
- If requested, Recipient must provide a financial statement and bank reference, or other evidence of financial ability to fulfill agreement requirements.
- If requested, Recipient must make all equipment and records available to South Coast AQMD or CARB for audit and inspections.

PAYMENT TERMS

For all projects except shore power projects, full payment will be made upon installation and commencement of operation of the funded equipment. For shore power projects, a progress payment schedule may be established that allows payment upon completion of key milestones, as delineated in the agreement.

DELIVERABLES

The agreement will describe how the project will be monitored and what type of information must be submitted as part of the reporting requirements. At a minimum, South Coast AQMD expects to receive an annual report for each year during the full agreement term, or project life, which provides the annual miles, fuel consumption or hours of operation, where the vehicle or equipment was operated, and operational and maintenance issues encountered and how they were resolved. South Coast AQMD reserves the right to verify the information provided.

Annual reporting forms are available online at: www.aqmd.gov/moyer

SECTION VI – APPLICATION EVALUATION/RECIPIENT SELECTION CRITERIA

South Coast AQMD staff will evaluate all eligible online applications and make recommendations to the Governing Board for the final selection of project(s) to be funded. Each project will be evaluated based on two primary criteria: (1) the cost-effectiveness of NO_x, PM₁₀

and ROG reduced, and (2) the project’s status with respect to the disadvantaged community and low-income criteria prescribed by CARB.

Note: Infrastructure projects are not subject to a cost-effectiveness limit but instead will be evaluated on a competitive basis using metrics that include, but are not limited to: fleet usage commitments, project location and readiness, expected vehicle usage/throughput and cost share.

PROJECT COST-EFFECTIVENESS

The CMP award amount shall not exceed the project’s incremental cost, applicable funding caps and/or cost-effectiveness limit(s). The cost-effectiveness limit, \$60,000 per weighted ton of emissions reduced, applies to projects that bring vehicles and equipment up to current standards. The cost-effectiveness limit of a maximum of \$522,000 per weighted ton of emissions reduced may be implemented pending CARB approval and applies to projects that are zero-emission or meet the cleanest certified optional standard applicable (by source category). Project cost-effectiveness is subject to change to meet additional program requirements. The table below demonstrates the current cost-effectiveness limit criteria effective October 2024.

Project	Categories	Revised C/E Limit
Base Limit	On-Road, Off-Road, Locomotives, Marine, Light Duty Vehicles	\$60,000
On-Road Advanced Technology Limit	On-Road	\$209,000
School Bus	On-Road	\$313,000
On-Road Zero Emission Technology Limit	On-Road	\$522,000
Off-Road Zero Emission Technology Limit	Off-Road	\$120,000
Locomotive Zero Emission Technology Limit	Locomotive	\$200,000
Marine Zero Emission Technology Limit	Marine	\$522,000

All projects must meet the criteria stated in this PA and the CMP Guidelines in effect at the time of agreement execution. A project's cost-effectiveness is determined based on the annualized cost of the project and the amount of NO_x, ROG and PM₁₀ emission reductions that will be achieved by the project. Project cost-effectiveness is currently calculated according to the following formula:

$$\frac{\text{Annualized Cost (\$/year)}}{[\text{NO}_x \text{ reduction} + \text{ROG reduction} + (20 \times \text{combustion PM}_{10} \text{ reduction})] \text{ (tons/year)}}$$

For projects that involve advanced technologies, the cost-effectiveness will be calculated using the CMP's two-step calculation approach. Detailed guidance for the new two-step calculation approach, as well as all CMP emissions reduction and cost-effectiveness calculations is available at: <https://ww2.arb.ca.gov/sites/default/files/2024-11/AppendixCCostEffectivenessCalculations.pdf>

SECTION VII – IMPORTANT PROGRAM INFORMATION

- Applicants **must** provide proof of ownership with their online application. This may include vehicle/equipment title, bill of sale, or in the case of marine vessel projects, the U.S. Coast Guard registration documentation. Equipment must be owned a minimum of two years from the date of application submittal (with the exception of locomotive projects, which is a one-year minimum).
- Project equipment must be domiciled within the South Coast AQMD jurisdiction and operate a minimum of 75 percent of the time within the boundaries of the South Coast AQMD jurisdiction (except on-road replacement projects, which are required to operate a minimum of 51 percent within the South Coast AQMD jurisdiction).
- Applicants must provide vendor quotes with their application to document the cost of the new replacement vehicle/equipment project (or engine for repower project). Applicants may be awarded up to the designated percentage of total cost for the specified type of project (new purchase, repower replacement and/or retrofit, infrastructure), subject to funding caps and program cost-effectiveness limits. All quotes must have been obtained within 90 days prior to the application submittal date.
- Applicants must provide legible engine tag photos of the baseline engine(s) or manufacturer specifications that document the engine serial number, horsepower, model year and engine family number, emissions certification level and CARB Executive Order (if controlled).
- Applications for fuel and engine technologies that are not certified, verified or approved by CARB, or falling outside the categories specifically discussed in this PA, may be referred to CARB for determination of CMP eligibility on a case-by-case basis. Please discuss these projects with South Coast AQMD staff prior to application submittal. Projects submitted for CARB case-by-case review will require the Applicant to provide additional justification and documentation regarding the project and the Applicant's justification for such consideration.

- A number of the CARB fleet rules and air quality regulations impact CMP eligibility. Compliance with existing CARB regulations is a pre-requisite for CMP funding. Only emission reductions in excess of regulatory requirements can be considered for CMP funding. If Applicants are applying for CMP funds to reduce emissions before the required compliance date (i.e., early reductions), the equipment must demonstrate sufficient years of operation before the regulatory compliance deadline. Applicants are responsible for ensuring that they are in full compliance with all applicable regulations and that vehicle/equipment requests under the CMP provide surplus emission reductions. As noted earlier, Applicants must provide documentation of their regulatory compliance status.
- Any tax obligation or liabilities associated with the award is the responsibility of the Applicant. Please consult your tax advisor on the tax liabilities of receiving an award under the CMP.
- No third-party agreements will be executed.
- Pre-, post- and destruction inspections of all vehicles/engines/equipment approved for funding will be conducted, as required. However, due to the impact of COVID-19 and to ensure the safety of the staff and the public, inspections of all vehicles/engines/equipment may be conducted virtually via remote inspections. Applicants must make all equipment available for in-person or remote inspections unless otherwise specified during agreement preparation, or through updates from South Coast AQMD. Documentation of compliance with existing regulatory requirements is required at the time of pre-inspection.
- The usage for off-road equipment projects will be based on hours (except for locomotive projects, which require annual fuel consumption in gallons), and the usage for on-road vehicle projects will be based on mileage. The Applicant must provide the historical usage records for the equipment as part of the application for the previous two years. For on-road projects, the emission reductions will be based on the lower of the two 12-month periods of California usage within the prior thirty months.
- It is the Applicant's responsibility to ensure that the most current information and requirements are reflected in a submitted project application. Applicants should check the CARB website for updates and advisories to the Guidelines (www.arb.ca.gov/msprog/moyer/moyer.htm).
- In cases of conflict between CARB Guidelines and South Coast AQMD criteria, the more stringent criteria will prevail. South Coast AQMD will post any new information and requirements on its CMP web page at www.aqmd.gov/moyer.
- Projects subject to CARB regulations must submit a copy of the most recent CARB compliance report(s) or other documentation that provides South Coast AQMD with a clear understanding of the fleet's compliance status.

- All emission reductions resulting from funded projects will be credited to the CMP. A grant shall not be made that provides the Applicant with funds in excess of the maximum eligible amount, in accordance with CMP Guidelines.
- A project may be leveraged with other funding sources. The Applicant must disclose all funding sources at the time of application and will be required to report all funding sources prior to invoice payment. Other funding sources may include but are not limited to state and federal funding programs that reduce greenhouse gas (GHG) emissions, funding provided by the Alternative and Renewable Fuel and Vehicle Technology Program, Air Quality Improvement Program, or CARB's Low Carbon Transportation Investment funds to reduce GHG emissions. The sum of all grants and other funds applied toward the project shall (1) not exceed the total project cost for public agency Applicants and (2) not exceed 85 percent of the total project cost for non-public agency Applicants. In other words, the grantee must pay at least 15 percent of the project cost from non-public sources.
- The emission reductions paid for by the CMP shall not be claimed by the other funding sources.
- Zero-emission technology project Applicants that have entered into lease-to-own financing shall receive project funds only to be used to offset the costs of the zero-emission equipment or vehicle and reduce the principle owned by the lessee for purchasing.

SECTION VIII – SCHEDULE OF EVENTS

Issue PA2025-03	March 7, 2025
Applications Open	March 14, 2025
Workshops	Information on virtual pre-recorded presentations and other meetings (as needed) to be posted on www.aqmd.gov/moyer
All Applications Due	1 pm PST on Tuesday, July 1, 2025
Contract Execution	January 2026 - thru June 2026

**ALL APPLICATIONS MUST BE RECEIVED VIA SOUTH COAST AQMD'S
CMP ONLINE GRANT MANAGEMENT SYSTEM
NO LATER THAN TUESDAY, JULY 1, 2025 AT 1 PM PST**

Access to South Coast AQMD's CMP Online GMS is provided at: www.aqmd.gov/moyer

In light of COVID-19 and ensuring public safety protocols are being met, South Coast AQMD may conduct in-person workshops for this year's CMP. However, if in-person workshops are not held, South Coast AQMD will post pre-recorded presentations and host virtual meetings to provide program information and application assistance for Applicants interested in participating in the CMP. Details on meetings and pre-recorded presentations will be posted at www.aqmd.gov/moyer after March 14, 2025.

SOUTH COAST AQMD STAFF CONTACTS AND ADDITIONAL RESOURCES

The South Coast AQMD staff contacts are listed below by project category. Copies of the PA, Business Information Forms and a sample South Coast AQMD CMP agreement may be accessed at: www.aqmd.gov/moyer.

CMP Staff Contacts

Project Category	Staff Contact	Phone Number	Email
On-Road Heavy-Duty Vehicles	Krystle Martinez Mariel Maranan David Chen	(909) 396-3021 (909) 396-2793 (909) 396-3083	kmartinez@aqmd.gov mmaranan@aqmd.gov dchen@aqmd.gov
Off-Road Equipment	Alyssa Yan Darren Ha Kevin Perozo	(909) 396-2024 (909) 396-2548 (909) 396-2522	ayan@aqmd.gov dha@aqmd.gov kperozo@aqmd.gov
Cargo Handling Equipment Electrification	Greg Ushijima	(909) 396-3301	gushijima@aqmd.gov
Marine Vessels	Nick Volpone	(909) 396-2636	nvolpone@aqmd.gov
Ship-Side Shore Power	Nick Volpone	(909) 396-2636	nvolpone@aqmd.gov
Locomotives	Andrew Yoon George Wu	(909) 396-3043	ayoon@aqmd.gov gwu@aqmd.gov
Infrastructure	Krystle Martinez Justin Joe	(909) 396-3021 (909) 396-2054	kmartinez@aqmd.gov jjoe@aqmd.gov

CONTACT FOR ADDITIONAL INFORMATION

Questions regarding the content or intent of this PA, procedural matters or locations of workshops should be addressed to: carlmoyer@aqmd.gov

WEBSITE LINKS TO CARB RULES THAT AFFECT CMP ELIGIBILITY

CARB Regulation	Website
On-Road Private (Truck and Bus)	http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm
Public/Utility Fleets	http://www.arb.ca.gov/msprog/publicfleets/publicfleets.htm
In-Use Off-Road	http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm
Harbor Craft	http://www.arb.ca.gov/ports/marinevess/harborcraft.htm
Cargo Handling Equipment	http://www.arb.ca.gov/ports/cargo/cargo.htm
Shore Power	http://www.arb.ca.gov/ports/shorepower/shorepower.htm
Portable Equipment	https://ww2.arb.ca.gov/our-work/programs/portable-equipment-registration-program-perp



Surplus Off-Road Opt-In for NO_x (SOON)

SOUTH COAST AQMD PROGRAM ANNOUNCEMENT PA 2025-04

The South Coast Air Quality Management District (South Coast AQMD) is seeking proposals for the Surplus Off-Road Opt-In for NO_x (SOON) Provision of the California Air Resources Board's (CARB's) In-Use Off-Road Diesel-Fueled Fleets Regulation. The primary purpose of this Program is to provide financial incentives to assist in the purchase of zero or lower-emissions heavy-duty engine technologies to achieve near-term nitrogen oxide (NO_x) emissions reductions from in-use off-road equipment. Since funding for the SOON Program is from the Carl Moyer Program (CMP), all CMP requirements apply to this Program, except where specifically noted, or where the South Coast AQMD implements more stringent program criteria as described in the Rule 2449 SOON Implementation Guidelines.

SECTION I: OVERVIEW

The South Coast AQMD is soliciting project proposals for the following purpose according to terms and conditions attached. In this Program Announcement (PA), the words "Recipient", "Proposer," and "Applicant" are used interchangeably.

- WHO:** Construction Fleets that can demonstrate compliance with the Off-Road Regulations by CARB throughout the contract term.
- WHAT:** Replacement or repower of older diesel engines to Tier 4 Final or cleaner technologies. Engines must be CARB-certified. The new engine must be certified for sale in California.
- HOW:** All applications must be submitted according to specifications in the Application Portal. Failure to adhere to these specifications may be cause for rejection of the application without evaluation. The Application Portal can be found on South Coast AQMD's program page: <http://www.aqmd.gov/soon>. Application assistance will be offered to applicants that do not own a computer or have internet access. Please note: Hardcopy, Facsimile or Email submittals will not be accepted.
- WHEN:** Solicitation opens on March 14, 2025, and closes on Tuesday, July 1, 2025 at 1:00 pm PST

GENERAL PROGRAM INFORMATION

The primary focus of the SOON Program is to achieve emission reductions from heavy-duty off-road vehicles and equipment operating in California as early and as cost-effectively as possible. The SOON Program is intended to achieve additional NO_x reductions which are needed to meet the PM_{2.5} and ozone ambient air quality standards in the South Coast Air Basin. The emission reductions expected through the deployment of zero or low-emissions engines or replacement technologies under this Program must be real, surplus and quantifiable. Senate Bill 513 (Beall)

removed many of the limitations associated with co-funding from other sources. The air district must verify the sum of all other incentive funds to ensure the CMP funds will not exceed the total project cost. Applicants from non-public entities must provide at least 15 percent of the Moyer eligible project costs from non-public sources.

Replacement and repower projects are **limited to only** those involving a diesel baseline engine subject to the off-road regulation and lower emission or zero emission technology that may be verified and approved by CARB. No administrative or vehicle operational costs are eligible.

It is expected that multiple awards will be granted under this PA, subject to the approval of the South Coast AQMD Governing Board.

All proposals will be evaluated based on criteria set forth in this PA. The South Coast AQMD will evaluate and/or verify information submitted by the Applicant. At South Coast AQMD's discretion, consultants contracted by South Coast AQMD may conduct all or part of such evaluation and/or verification. Data verification during the evaluation and contracting process may cause initial cost-effectiveness rankings, and associated awards, to change. Furthermore, the South Coast AQMD reserves the right to make adjustments to awards based on the subsequent verification of information as well as changes in cost-effectiveness.

PROGRAM CRITERIA

- Fleets with a total statewide equipment horsepower over 20,000 hp and with 40 percent or more of their vehicles at Tier 0 and Tier 1 emission levels as of January 1, 2008, are subject to the SOON Program and are required to apply for funding. Fleets not meeting both of the above criteria on January 1, 2008, may voluntarily participate in this Program and apply for funding.
- On November 17, 2022, amendments to the Off-Road Regulation were adopted by CARB and significantly limited the eligibility of off-road equipment for CMP funding. The potential funding to the current NOx standard of Tier 4 Final or Zero-Emission replacements and repowers will be available for the existing Tiers until the following dates:

Potential Funding	Large Fleets	Medium Fleets	Small Fleets
Tier 0	Not allowed	Not allowed	12/31/2025
Tier 1	Not allowed	12/31/2025	12/31/2027
Tier 2	12/31/2025	12/31/2027	12/31/2029

Tier 3 and Tier 4 Interim equipment may be replaced or repowered without restriction to Tier 4 Final or Zero Emission technologies when feasible. They must also demonstrate eligibility with the most current Off-Road Regulation & CMP Guidelines.

- The annual hours used to calculate cost-effectiveness will be included in the contract. An extension of the contract or partial payback of funds may be required if the proposed annual hours are not achieved.
- For all repower projects, fleets are **not** required to, but may install the highest level verified diesel emission control system (VDECS) at their own cost.

- Applicants must demonstrate that during the contract period, vehicles equipped with new engines, or that have been replaced using SOON program funding, will not use a lower emission rate to calculate the fleet average index and target rate and BACT credit to meet compliance in the DOORS. Actions taken using SOON program funding may be used for determining compliance **after** the completion of the SOON program project contract period for that vehicle. For example, if a Tier 2 vehicle is repowered with a Tier 4 engine with SOON Program funds for purposes of compliance with the off-road regulation, that vehicle is still treated as if it were a Tier 2 until the end of the contract period for the SOON program project.
- Applicants **must** provide vendor quotes with their online application to document the cost of implementing the proposed technology. **All quotes must have been obtained within 90 days of application submittal. Applicants may be required to submit quotes from more than one technology provider.** Applicants must demonstrate that they are in full compliance with all applicable CARB regulations and that vehicle/equipment funding requests under this Program provide surplus emissions reductions. **Applicants are required to submit a compliance plan using the ARB DOORS Fleet Average calculator showing how they will comply with the targets of CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation throughout the contract term, as well as how the new projects under this PA will meet SOON NOx targets in 2025.**
- Applicants must ensure that the vehicle/equipment to be purchased or installed is in compliance with all applicable federal, state and local air quality rules and regulations and that it will maintain compliance for the full contract term.
- Any associated tax obligation with the award is the responsibility of the Applicant.
- No third-party contracts will be executed. The South Coast AQMD contract must be signed by the equipment owner.
- Pre-inspections, post-inspections and destruction inspections of all vehicles/engines/equipment approved for funding will be conducted by South Coast AQMD.
- Destruction of the engine/equipment being repowered or replaced is required.
- To avoid double dipping, applicants shall not apply for funding for the same equipment in any other air district.
- Project equipment must be domiciled and operate a minimum of 75 percent of the time within the boundaries of the South Coast AQMD jurisdiction.

PROJECT CRITERIA

The South Coast AQMD retains the authority to impose more stringent requirements in order to address local concerns.

- SOON Program grants can be no greater than a project's incremental cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including but not limited to tax credits or deductions, grants or other public financial assistance.
- For off-road replacement and repower projects, the CMP guidelines specify that the horsepower rating of the new (or replacement) engine must not be greater than 135 percent of the original manufacturer rated horsepower of the old (or existing) engine. If the new engine is greater than 135 percent, then the eligible funding amount will be based on the cost of an engine or equipment with a horsepower rating that is no higher than 135 percent of the existing engine horsepower rating. The applicant must pay the additional costs associated with the higher horsepower engine and obtain a price quote for an engine or equipment that is within the 135 percent range for the funding determination. In addition, verifiable records on the existing engine must be provided with the online application to accurately identify the engine manufacturer year and horsepower (e.g., photographs of engine labels, statements from engine manufacturers, etc.).
- Applicants must ensure that the vehicle/equipment to be purchased or installed is in compliance with all applicable federal, state and local air quality rules and regulations and that it will maintain compliance for the full contract term.
- The certification emission standard and Tier designation for the engine must be determined from CARB's Executive Order issued for that engine, not by the engine model year. Executive orders for off-road engines may be found at <http://www.arb.ca.gov/msprog/offroad/cert/cert.php>.
- Reduced emission engines must be certified/verified for sale in California and must comply with durability and warranty requirements. These may include new CARB-certified engines and verified diesel emission control strategies.
- Class 7 diesel forklifts are the only diesel forklifts eligible for SOON Program funding and are subject to all off-road project criteria. The South Coast AQMD must obtain and verify documentation of the classification of the forklift prior to funding.
- If repower with an engine meeting the current applicable standard is technically infeasible, unsafe or cost prohibitive, the replacement engine must meet the most current practicable previously applicable emission standard and cost-effectiveness criteria and, if rated at less than 175 hp, must comply with the requirements related to replacing in-use engines contained in Title 40, Code of Federal Regulations, Section 1068.240.
- Replacement of an uncontrolled diesel off-road engine with a new on-road engine certified to an emission standard equal to or lower than the Tier 4 Final off-road emission standard or a newer emission-certified alternative fuel engine may be eligible for funding as off-road equipment with similar modes of operation as on-road vehicles on a case-by-case basis. Other equipment may be eligible for funding on a case-by-case basis. These repowers must meet all other applicable project criteria.
- Applicants must provide their DOORS Fleet Compliance Snapshot.

- Applicants must provide the DOORS EIN for each vehicle for which funding is requested.
- Applicants must provide proof they have owned each vehicle for which funding is requested for a replacement vehicle for at least two years.
- Applicants must provide at least the most recent two (2) years of hour-meter readings.
- Dual-fuel repower or replacement technology including electric hybrid technologies that utilize a combination of either CNG and diesel fuel or LNG and diesel fuel are eligible for funding provided that the technologies and fuels will be referred to CARB for evaluation and possible eligibility in the program.

Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable and enforceable emission reduction benefits.

MAXIMUM ELIGIBLE FUNDING

The maximum eligible funding amount and project life for each SOON project type is summarized below.

Project	Maximum Funding	Maximum Project Life
Replacement	80% of vehicle/equipment cost	5 years, except: (three years max. for excavators, skid steer loaders, and rough terrain forklifts)
Repower	85% of engine cost plus parts and labor necessary for installation	7 years
Replacement or Repower to Zero Emission	85% of vehicle/equipment cost or 85% of engine cost plus parts and labor necessary for installation, respectively	10 years

COST-EFFECTIVENESS EVALUATION DISCUSSION

The SOON Program is required to meet the requirements of the CMP by using the cost-effectiveness calculation methodology found in Appendix C of the CMP 2024 Guidelines (see <https://ww2.arb.ca.gov/guidelines-carl-moyer>). Under the SOON Program, only NOx emission reductions will be taken into consideration to calculate the cost-effectiveness.

REPORTING AND MONITORING

All participants in the SOON Program are required to keep appropriate records during the full contract period. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract implementation period. All equipment must operate in the South Coast AQMD for the full project life. The South Coast AQMD shall conduct periodic reviews of each

project's operating records to ensure that the engine is operated as stated in the program application. Annual records must contain the following, at a minimum:

- Total Hours of Operation
- Total Hours of Operation in the South Coast AQMD jurisdiction
- Annual Maintenance and Repair Information
- DOORS snapshot demonstrating compliance with the Off-Road Regulation

Records must be retained and updated throughout the project life and made available for South Coast AQMD inspection. The South Coast AQMD may conduct periodic reviews of each vehicle/equipment project's operating records to ensure that the vehicle is operated as required by the project requirements.

The equipment owner, if awarded CMP grant funds, will be required to submit annual reports for the life of the project, as described in Section II – Work Statement/Schedule of Deliverables.

SECTION II: WORK STATEMENT/SCHEDULE OF DELIVERABLES

All applicants that are selected for funding awards must complete the Work Statement and Schedule of Deliverables described below as part of the contracting process. Development of these materials for the initial application is NOT required; however, applicants must sign the online application indicating their understanding of the requirements for submittal of additional project information to finalize a contract.

WORK STATEMENT

The scope of work involves a series of tasks and deliverables that demonstrate compliance with the requirements of the SOON Program as administered by CARB and South Coast AQMD.

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

- Emission reductions must be real, quantifiable, enforceable and surplus in accordance with CARB and South Coast AQMD guidelines.
- Cost-effectiveness of the project must meet the minimum requirement of the CMP guidelines.
- Project engines or equipment must operate in-service for the full project life.
- Appropriate annual usage records must be kept and reported to South Coast AQMD during the project life (i.e., annual hours of operation).
- A compliance plan that demonstrates compliance with the off-road regulation throughout the contract period must be provided.
- Ensure that the project complies with other local, state and federal programs, and resulting emission reductions from a specific project are not required as a mitigation measure to reduce adverse environmental impacts that are identified in an environmental document prepared in accordance with the California Environmental Quality Act or the National Environmental Policy Act.

- If requested, a contractor must provide a financial statement and bank reference, or other evidence of financial ability to fulfill contract requirements.

DELIVERABLES

The contract will describe how the project will be monitored and what type of information will be included in project progress reports. At a minimum, the South Coast AQMD expects to receive the following:

- An annual report, throughout the project life, which provides the annual hours of operation, where the vehicle(s) or equipment(s) was operated, and operational and maintenance issues encountered and how they were resolved.
- An annual submission of the applicant's DOORS Fleet Compliance Snapshot demonstrating compliance with the off-road regulation.

South Coast AQMD reserves the right to verify the information provided.

SECTION III: PROPOSAL SUBMITTAL REQUIREMENTS

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 proposer to ensure that all information submitted is accurate and complete.

PROJECT COST

Applicants must provide cost information that specifies the amount of funding requested and the basis for that request by attaching vendor quotes to the application. Applicants need to inform vendors of the time frame of the award process so that they can accurately quote costs based on the anticipated order/purchase date. **Note that no purchase orders may be placed or work performed for projects awarded under this PA until after the date of award approval by the South Coast AQMD Governing Board. Any orders placed or payments made in advance of an executed contract with the South Coast AQMD are done at the risk of the applicant. The South Coast AQMD has no obligation to fund the project until a contract is fully executed by both parties.**

The SOON Program funds only the differential cost between existing technology and zero or lower-emissions technology. The proposed zero or lower-emissions technology must be CARB-certified in most cases. Non-CARB certified engines requiring an experimental permit from CARB may be considered, but the project will require special CARB approval. Proposals will be ranked by cost-effectiveness on a vehicle/equipment-by-vehicle/equipment basis. The cost-effectiveness limit has been established at \$60,000/ton of NOx emissions reduced for projects that bring diesel engines to the current standard and \$120,000/ton of NOx emissions reduced for projects beyond current standards such as zero-emission. The cost-effectiveness level used for the selection of projects may be lower depending on the demand for program funds. No fueling infrastructure, administrative or operational costs will be funded. Cost-effectiveness may vary depending on CARB review.

All project costs must be clearly indicated in the application. In addition, applicants must include any sources of co-funding and the amount of each co-funding source in the application.

Applicants should be aware that the project life used in calculating the NOx emissions reductions will be used to determine the length of their annual reporting obligation and the

length of their contract. For example, if a seven-year project life is used for the NO_x emissions reduction calculation, then the applicant will be required to operate and track activity for the funded-vehicle/equipment for the full seven years.

PROPOSAL SUBMISSION

All online applications must be submitted according to specifications set forth herein. Failure to adhere to these specifications may be cause for rejection of the application without evaluation.

Issue PA2025-04	March 7, 2025
Applications Open	March 14, 2025
Workshops	Information on virtual pre-recorded presentations and other meetings (as needed) to be posted on www.aqmd.gov/moyer
All Applications Due	1 pm PST on Tuesday, July 1, 2025
Contract Execution	January 2026 - thru June 2026

**ALL APPLICATIONS MUST BE RECEIVED VIA SOUTH COAST AQMD'S
ONLINE GRANT MANAGEMENT SYSTEM
NO LATER THAN TUESDAY, JULY 1, 2025 AT 1 PM PST**

Access to South Coast AQMD's online CMP/SOON Grant Management System (GMS) is provided at: www.aqmd.gov/soon

Grounds for Rejection:

An application may be immediately rejected if the application:

- Does not include correct documentation and other forms required.
- Is not signed by an individual authorized to represent the firm.

Certifications and Representations

South Coast AQMD "Business Information Forms" requiring signatures will be available on the GMS and are required to be uploaded prior to the date and time above along with the application.

Compliance Plan

Projects funded by SOON monies must result in NO_x emissions reductions that are surplus to those that would be realized by fleets complying with the base rule. Fleets are required to submit a compliance plan in electronic format to demonstrate how they comply with both the base rule as well as the SOON provision of the rule. Fleet owners, at a minimum, must provide the following information for each year for the anticipated contract period:

- A vehicle list which includes, but is not limited to, vehicle type, manufacturer, model, model year, and whether the equipment is included in the base or SOON fleet for each piece of equipment in the fleet.

- Information including, but not limited to, calculations, fleet information, etc., showing compliance with the base rule fleet target levels or compliance with the BACT turnover and retrofit requirements. Either the CARB calculator (individual tabs for each future year) or the Excel SOON fleet calculator spreadsheet may be used.
- Information including, but not limited to, calculations, fleet information, etc., showing whether the vehicles funded by the SOON program are in compliance with the SOON NOx fleet average target levels.

SOON Compliance Plan documents and the Microsoft Excel SOON fleet calculator can be downloaded at the South Coast AQMD SOON website: www.aqmd.gov/soon.

Methods of Delivery:

The proposer must submit the application using the South Coast AQMD online system (known as the CMP Grant Management System (GMS)), available at www.aqmd.gov/soon. The GMS will allow applicants to submit their application electronically to the South Coast AQMD prior to the date and time specified above. Tutorials of the GMS system are available – please visit www.aqmd.gov/soon.

Disposition of Proposals

The South Coast AQMD reserves the right to reject any or all proposals. All responses become the property of the South Coast AQMD. One copy of the proposal shall be retained for South Coast AQMD files.

Modification or Withdrawal

Once submitted, proposals cannot be altered without the prior written consent of South Coast AQMD.

SECTION IV: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA

South Coast AQMD staff will evaluate all submitted proposals and make recommendations to the South Coast AQMD Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the 2024 CMP Guidelines, including verification that the project meets the NOx cost-effectiveness limit(s) for this program. The cost-effectiveness determination will be done on an equipment-by-equipment basis.

The evaluation will determine the ranking for each project based on the cost-effectiveness of NOx emissions reduced. Please note that depending upon the number of online applications received in response to this PA, South Coast AQMD may prioritize the selection of projects to reduce emissions in and around disadvantaged communities (DAC) and low-income communities located within the South Coast AQMD jurisdiction. While South Coast AQMD encourages all eligible applications, this means that some projects may not be selected based on their domicile address, regardless of their cost-effectiveness ranking.

At least 50 percent of the CMP funds must be used for projects that are located and operated within a DAC and/or low-income community. South Coast AQMD uses the following method to meet these requirements.

1. All projects must meet the criteria in the 2024 CMP Guidelines and the cost-effectiveness limit of \$60,000/ton of NOx emissions reduced for projects bringing diesel engines to current standard and \$120,000/ton of NOx emissions reduced for project beyond current standards such as zero-emission. Cost-effectiveness may vary depending on CARB review.
2. Each project's domiciled address will be used to determine if the project is located within a DAC or low-income community. The CalEnviroScreen 4.0 tool will be used by South Coast AQMD to determine if a project is located within a DAC and/or low-income community. This tool is available at: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>
3. Projects that are not domiciled within a DAC and/or low-income community may still be considered if the application documentation shows that the vehicle/equipment was operated a majority of time in a DAC and/or low-income community.

All other projects will be ranked according to NOx cost-effectiveness, with the most cost-effective projects considered first and then in descending order for each funding category until the remainder of the funds are exhausted.

Be aware that there is a possibility that due to program priorities, cost-effectiveness or funding category limitations (i.e., caps), project Applicants may be offered only partial funding, and not all applications that meet the cost-effectiveness criteria may be funded.

SECTION V: PAYMENT TERMS

For all projects, payment will be made upon installation and commencement of operation of the funded equipment for 85 percent of the submitted repower invoice, 80 percent of the submitted replacement invoice, 85 percent of the submitted repower/replacement to zero emission invoice, or the contract maximum amount, whichever is less.

SECTION VI: LEGAL UPDATES AND DEFINITIONS

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 is included in all South Coast AQMD contracts.

COMPLIANCE WITH APPLICABLE LAWS

Applicants must comply with all federal, state, and local laws, ordinances, codes and regulations. If the application is eligible for funding, all vehicles and/or equipment to be purchased or installed must be compliant with all applicable federal, state, and local air quality rules and regulations, and will maintain compliance for the full Contract term.

CONFLICT OF INTEREST

Applicant must address any potential conflicts of interest with other clients affected by actions performed by the firm on behalf of South Coast AQMD. Although the Applicant will not be automatically disqualified by reason of work performed for such firms, the South Coast AQMD reserves the right to consider the nature and extent of such work in evaluating the application. Conflicts of interest will be screened on a case-by-case basis by the South Coast AQMD General Counsel's Office. Conflict of interest provisions of the state law, including the Political Reform Act, may apply to work performed pursuant to this contract.

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 contractor will be required to notify South Coast AQMD in writing if they have been found by a court or federal or state agency to have violated labor laws. The contractor 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 contractor will give South Coast AQMD details about those violations in the certification. If the contractor has previously provided that information to the South Coast AQMD, 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 contractor's yearly certification will be due at the same time as the annual progress reports. South Coast AQMD reserves the right to terminate the contract with a contractor that has been found to have violated labor laws, and the contractor may be required to return any and all contract funds, as determined by South Coast AQMD. The contractor will also ensure that these requirements are included in all subcontracts.

ECONOMIC SANCTIONS (RUSSIA/UKRAINE) On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (EO) regarding sanctions in response to Russian aggression in Ukraine. Applicants who are considered eligible for CMP funds under this PA and received executed contracts from South Coast AQMD, are obligated to comply with existing economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine.

DEFINITIONS

1. Alternative Fuel

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

2. Base Rule

The base rule is defined as the CARB In-Use Off-Road Diesel-Fueled Fleets Regulation without the SOON provisions (Title 13, Division 3, Chapter 9, Article 4.8, Section 2449 and

2449.1). Compliance with the Base Rule is required and is demonstrated by the Diesel Off-Road Online Reporting System (DOORS) Compliance Snapshot.

3. Compliance Plan

Compliance plan is the future forecast of fleet average emissions using current fleet information and planned future repower, replacement, retirement and retrofit projects. An Excel spreadsheet template is available on the South Coast AQMD SOON webpage.

4. Contract Term

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

- i. Project completion period is the first part of the Contract term starting from the date of Contract execution by both parties to the date the project post-inspection confirms that the project has become operational.
- ii. Project implementation period is the second part of the Contract term and equals the project life.

5. Cost-Effectiveness Limit

The cost-effectiveness limit determines the maximum funding that can be provided to an individual equipment repower or replacement project for each ton of emissions reduced. Under the SOON Program the cost-effectiveness is calculated based on tons of NO_x reduced per year.

6. Current NO_x Standard

For all engine horsepower categories, the current NO_x standard in 2022 is Tier 4 Final.

7. Incremental Cost

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

- i. Repower projects are eligible to receive up to 85 percent.
- ii. Replacement projects are eligible to receive up to 80 percent.
- iii. Repower/Replacement to Zero Emission projects are eligible to receive up to 85 percent.

8. Project Life

Project life is the period of the contract term during which the repowered or replacement vehicle is operated. The contractor must report the annual usage throughout the project life. In addition, project life is used to calculate the cost-effectiveness and funding amount for a project.

9. Replacement Project

Replacement project is the purchase of a new or used equipment to replace an existing unit. Only new equipment with engines certified to Tier 4 Final, or cleaner, emissions standards are eligible for funding.

10. Repower Project

Repower project is the replacement of an old engine of an existing equipment with a newer engine certified to lower emission standards.

11. South Coast AQMD Jurisdiction

The South Coast AQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. Within Riverside County, the South Coast AQMD also has jurisdiction over the Salton Sea Air Basin and a portion of the Mojave Desert Air Basin. This area of 10,743 square miles is home to approximately 17 million people—about half the population of the state of California. It is the second most populated urban area in the United States and one of the smoggiest. Visit <http://www.aqmd.gov/nav/about/jurisdiction> for more information.

CONTACT FOR ADDITIONAL INFORMATION

Questions regarding the content or intent of this PA, procedural matters, sample contract, and the compliance plan worksheet can be found at the South Coast AQMD SOON website (<http://www.aqmd.gov/SOON>), or can be addressed to:

Darren Ha
Technology Advancement Office
South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765
Phone: (909) 396-2548
dha@aqmd.gov

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BOARD MEETING DATE: March 7, 2025

AGENDA NO. 3

PROPOSAL: Authorize Purchase of Hardware Maintenance and Support Services for Servers and Storage Devices

SYNOPSIS: Servers and storage devices are used by enterprise-level software applications that currently support the Clean Air Support System, a set of computer applications used in South Coast AQMD core activities. Maintenance support for these systems will expire on April 30, 2025. This action is to obtain approval for the sole source purchase of hardware and software maintenance and support services for servers and storage devices from Hewlett Packard Enterprise Company for one year, in an amount not to exceed \$190,000. Funds for these purchases are included in Information Management's FY 2024-25 Budget.

COMMITTEE: Administrative, February 14, 2025; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Procurement Manager to purchase one year of maintenance and support services for South Coast AQMD servers and storage devices from Hewlett Packard Enterprise Company at a cost not to exceed \$190,000.

Wayne Nastri
Executive Officer

RMM:HL:LG:mf

Background

South Coast AQMD uses Hewlett-Packard Enterprise Company (HPE) servers and storage devices running Windows Server and Linux operating systems. The HPE servers support several production applications such as the Clean Air Support System (Applications for Permit Processing, Finance, Compliance, New Source Review, Emission Fee Billing, Notice of Violations, and Facility Permits), RECLAIM Electronic Reporting System Interim Reports, Subscription Services, Web Servers, PeopleSoft Financial and Human Capital Management database, OnBase document management

system, Legal system, AQMP Modeling, and Telemetry system. Hardware and software maintenance and support services are required to ensure the continued operation of these programs with minimum interruption. Maintenance and support services for these servers expire on April 30, 2025.

HPE is the sole manufacturer and provider of the hardware and software, and the only source for maintenance support licensing agreements. HPE also provides South Coast AQMD with substantial discounts through cooperative agreements.

Sole Source Justification

Section VIII.B.2 of the Procurement Policy and Procedure identifies circumstances under which a sole source purchase award may be justified. This request for a sole source award is made under provision VIII.B.2.c(2) and (3). The project involves the use of proprietary technology, and the contractor has ownership of key assets required for project performance. HPE is the sole provider of this hardware and software and therefore, the only source for its maintenance and support licensing agreements.

Proposal

Staff recommends the purchase of one year of maintenance and support services for server hardware and software from HPE at a cost not to exceed \$190,000.

Resource Impacts

Sufficient funds are included in Information Management’s FY 2024-25 Budget.

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BOARD MEETING DATE: March 7, 2025

AGENDA NO. 4

PROPOSAL: Authorize Purchase of Server Software, Database, and Microsoft Support Software under Microsoft Enterprise Agreement

SYNOPSIS South Coast AQMD maintains a data center that includes 32 servers used to run various critical applications and services. These servers run a suite of software, including operating system, database, and support software. This action is to authorize the purchase of Microsoft software and support for a period of three years in the amount not to exceed \$380,000. Funds for the first year are included in the current fiscal year budget, with provisions for subsequent years to be included in future budget requests.

COMMITTEE: Administrative, February 14, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

Authorize the Procurement Manager to execute all necessary documents to enter into a three-year Microsoft Enterprise Agreement for server software, database, and Microsoft support software in an amount not to exceed \$380,000 over three years.

Wayne Nastri
Executive Officer

RMM:HL:mf

Background

South Coast AQMD currently utilizes Microsoft SQL Server for enterprise database management and Windows Server for server operating systems. The existing licensing model without Software Assurance limits scalability and timely software updates.

This transition from a licensing model to the Software Assurance Enterprise Agreement model will ensure that operating systems remain current and secure, while meeting ongoing database and software needs. Additionally, this agreement will provide flexibility to support future application projects.

South Coast AQMD's 32 primary servers support several essential applications, including Clean Air Support System (applications for permit processing, Finance, Compliance, New Source Review, Emission Fee Billing, Notices of Violations, and Facility Permits under RECLAIM); Web servers; PeopleSoft Financial and Human Capital Management database; OnBase document management system; and Legal system.

The Enterprise Agreement model will facilitate the ongoing performance, security, and support of these systems, while also providing the flexibility to support future application projects with minimal operational disruptions.

Proposal

In accordance with South Coast AQMD's Administrative Policies and Procedures No. 35, bids will be solicited from firms on the List of Prequalified Vendors to provide Computer, Network, Printer Hardware and Software, and Desktop Computer Hardware Upgrades, and through vendor master agreements, cooperative agreements, and other interagency agreements with governmental entities in order to achieve the best available price. The prequalified vendor list was approved by the Board on February 2, 2024 and is in effect for a period ending February 2, 2026.

This action is to authorize the Procurement Manager to execute a purchase order for Microsoft Windows Server, SQL Server, and necessary support software with the vendor providing the lowest cost bid at a total cost not to exceed \$380,000 for a three-year contract. The software licenses will be configured to achieve the highest functional performance for South Coast AQMD's operations within budgetary constraints at the time of purchase.

Resource Impacts

Sufficient funding is available in Information Management's FY 2024-25 Budget. Funding for subsequent fiscal years will be requested and budgeted appropriately.

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BOARD MEETING DATE: March 7, 2025

AGENDA NO. 5

REPORT: Legislative, Public Affairs and Media Report

SYNOPSIS: This report highlights the January 2025 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

LTO:PC:DS:bel:cb

Background

This report summarizes the activities of the Legislative, Public Affairs and Media Office for January 2025. 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 January 20, in commemoration of Martin Luther King Jr. Day, 23 volunteers including employees and their families joined the Working with Communities Program and Leadership Long Beach to create a community garden at Freeman Community Center.

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:

Upland Chamber of Commerce

On January 9, staff participated virtually in the Government Affairs Committee to provide an update on Proposed Amended Rules 1111 - Reduction of NOx Emissions from Natural-Gas-Fired Furnaces; and 1121 - Reduction of NOx Emissions from Residential Type, Natural-Gas-Fired Water Heaters (PARs 1111 and 1121).

East Los Angeles Resource Fair

On January 11, staff participated in-person at Los Angeles County Supervisor Hilda Solis' East Los Angeles Resource Fair, assisting Eaton Fire and power outage victims by sharing information on how to file air quality complaints, the Mobile App, and Wildfire Smoke & Ash Health Safety Tips.

Santa Ana Chamber of Commerce

On January 14, staff joined the Santa Ana Chamber of Commerce Government Affairs Committee meeting, sharing information on Wildfire Smoke and Ash Health Safety Tips, how to sign up for air alerts, PARs 1111 and 1121 and a reminder about the upcoming Local Government and Small Business Assistance Advisory Group meeting.

Association of California Cities – Orange County

On January 16, staff attended the Association of California Cities – Orange County’s Newly Elected Councilmember Orientation and Training and provided an overview presentation on South Coast AQMD’s agency and programs.

San Gabriel Valley Economic Partnership

On January 22, staff participated in-person at the San Gabriel Valley Economic Partnership Legislative Action Committee meeting to provide information on the South Coast AQMD Executive Order for use of emergency engines in Los Angeles County for the wildfires, Wildfire Smoke and Ash Health Safety Tips and an update on PARs 1111 and 1121.

Reach Out

On January 23, staff took part in the Reach Out Partners for Innovative Communities Coalition meeting and shared information regarding Wildfire Smoke and Ash Health Safety Tips, the upcoming Rule 2305 – Warehouse Actions and Investments to Reduce Emissions (WAIRE) deadline, PARs 1111 and 1121, and the Residential Electric Lawn & Garden Equipment Rebate program.

San Gabriel Valley City Managers

On January 23, staff attended the San Gabriel Valley City Managers event to provide information on wildfire and ash safety and PARs 1111 and 1121.

Orange County Council of Governments

On January 23, staff participated virtually at the Orange County Council of Governments meeting and shared the latest Advisor newsletter, Carl Moyer program funding opportunity, and information on how to use the Mobile App for air alerts and wildfire advisories.

Greater Ontario Business Council

On January 23, staff participated in-person at the Greater Ontario Business Council Government Affairs Committee meeting and provided updates on PARs 1111 and 1121 and the upcoming WAIRE deadline.

Co-Governance Ice Cream Social

On January 25, staff participated in Los Angeles City Councilmember Eunisses Hernandez’s Co-Governance Ice Cream Social and staffed an information booth with Wildfire Smoke and Ash Health Safety Tips, how to file an air quality complaint and South Coast AQMD’s Clean Air Program for Elementary Students (CAPES) and Why Healthy Air Matters (WHAM) programs.

Riverside County Board of Supervisors

On January 28, staff provided public comment in-person at the Riverside County Board of Supervisors meeting regarding PARs 1111 and 1121.

Inland Regional Energy Network

On January 29, staff participated in the Community Resilience Center Workshop to provide updates on PARs 1111 and 1121 as well as wildfire and ash safety information and other air quality related issues.

Proposed Amended Rules 1111 and 1121

In January, staff conducted outreach on PARs 1111 and 1121. Staff organized presentations at San Bernardino Council of Governments on January 8 as well as future presentations at Association of California Cities – Orange County, Gateway Cities Council of Governments, San Gabriel Valley Council of Governments, Western Riverside Council of Governments, and Southern California Association of Governments. Updates and fact sheets were distributed to cities, local, state and federal elected officials, chambers of commerce, community organizations, and other organizations.

Wildfire and Ash Safety

Staff broadly distributed Wildfire and Ash Safety information to impacted communities and throughout the region. Efforts included translation of information into languages based on census data for wildfire burn and adjacent areas including Armenian, Chinese, Farsi, Korean, Spanish, and Tagalog. There were 7,500 masks delivered to impacted communities through elected official offices, community organizations, and community events. Outreach to landscapers in Los Angeles County was conducted on safety and the temporary ban on leaf blowers and masks were provided. Updates were sent via email to local, state, and federal elected officials, as well as other organizations. Staff also shared the Residential Air Filtration Program with residents at Los Angeles County Supervisor Hilda Solis' East Los Angeles Resource Fair.

- 1/10/25 – Office of Los Angeles County Supervisor Holly Mitchell, Los Angeles, 1,000 N95 Masks
- 1/10/25 – Anderson Munger Family YMCA, Los Angeles, 1,000 N95 Masks
- 1/10/25 – Salvation Army Pasadena Tabernacle Corps, Pasadena, 1,000 N95 Masks
- 1/21/25 – Office of Los Angeles Councilmember Monica Rodriguez, Pacoima, 1,000 N95 Masks
- 1/24/25 – Torres Consulting for outreach to landscapers, Downey, 500 N95 Masks
- 1/29/25 – YWCA San Gabriel Valley, Covina, 1,000 N95 Masks
- 1/30/25 – Office of Senator Sasha Renée Pérez, Pasadena, 500 N95 Masks, 500 KN95 Masks
- 1/31/25 – Union Station Homeless Services, Pasadena, 1,000 KN95 Masks

Environmental Justice Update

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

Pacoima Community Initiative

On January 17, staff participated in the Pacoima Community Initiative’s (PCI) monthly meeting. Staff shared information on the CAPES and WHAM programs.

PCI, Pacoima Charter Elementary School, and Mujeres de la Tierra

On January 22, staff met with PCI, Pacoima Charter Elementary School, and Mujeres de la Tierra in Los Angeles and provided information on the wildfire and ash safety.

Legacy LA

On January 29, staff met with Legacy LA and provided information on CAPES, WHAM, PARs 1111 and 1121, and wildfire and ash safety.

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.

University of California, Los Angeles (UCLA)

On January 21, executive staff spoke with UCLA students on the topic of air quality from a regulator’s perspective.

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®	2,695
Calls to South Coast AQMD’s Spanish Line	26
Clean Air Connections	4
Total Calls	2,725

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	37
Calls to Automated System	287
Total Calls	324
Visitor Transactions	113
Email Advisories Sent	34,132

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 179 companies, and
- Processed 86 Air Quality Permit Checklists.

Types of businesses assisted:

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

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	420
Press Releases	40

Major Media Topics:

- **Wildfire Response:**
 - **Completed live and taped Interviews** regarding wildfires and air quality including: ABC7, Air Talk with Larry Mantle, Associated Press, Bloomberg, Boyle Heights Beat, CBS, Inside Climate News, KCAL, KCRW, KNX News Radio, KTLA, LA Channel 35, LA Daily, LA Mom Magazine, LA Public Press, Los Angeles Times, New York Times, ProPublica, San Francisco Chronicle, SoCal News Group, SoCal Public Radio/LAist, Spectrum News, USA Today, and Washington Post.
 - **Completed in-studio live demonstration** of a DIY air filter on KCAL 9.
 - **Completed written responses** on air quality related to wildfires for ABC, LA Times, NY Times, Newsweek, Southern California News Group, Direct Relief, Wall Street Journal, KJLH Radio, Newsweek and SoCal Newsgroup.
 - **Monitoring Data:** Los Angeles Times requested monitoring data on lead and arsenic from our regional network sites during and after the fires. Response was sent.
 - **Smoke:** Climate Central inquired about the whereabouts of the smoke from recent Los Angeles wildfires. Response was provided. KTLA inquired about the cause of the fresh smoke odors after the recent rainfall. Response was provided. Desert Sun asked whether the Coachella Valley will get smoke from the LA Wildfires over the next few days. Response was provided.
 - **Wildfire Ash Safety:** LAist requested information regarding wildfire ash and air quality effects. Response was provided.
 - **Wildfire Debris Cleanup:** CBS News requested a phone interview regarding potential toxics and environmental impact of the LA wildfire debris and smoke on air and soil. Reporter was referred to U.S. EPA.
- **WAIRE and Large Water Heater Rule (1146.2):** Bloomberg SF requested an interview regarding WAIRE and Rule 1146.2. Written response provided. California Environmental Insider requested a comment on the lawsuit opposing the rule. Response was provided.
- **Climate Pollution Reduction Grant (CPRG) Fund:** Capital and Main had follow-up questions about their CPRG inquiry from mid-December. E&E News inquired about the funding for the Port of LA and information about the CPRG grant. The Los Angeles Times would like to know status of the CPRG funding. Politico inquired about the CPRG funding and recent Executive Orders. Responses were provided.
- **Rail Yard Indirect Source Rule (ISR):** Capital and Main requested information on the status of the Railyard ISR in light of the state retracting its waivers. Response was provided.

- **Furnaces and Water Heater Rules (1111/1121):** Floodlight News requested an interview about PARs 1111 and 1121. Written response was provided. Chino Valley Champion Newspaper requested information on the status of the rules and upcoming meetings. Response was provided. CalMatters requested an interview about the rules. Asked reporter to follow up later in February.
- **Air Quality Documentary:** California Climate Action Corps is working on a film about EJ communities and air pollution. Working on gathering more details.
- **AQ Sensors:** Smart Cities Dive requested information regarding South Coast AQMD's methods for gathering air quality data. Interview scheduled.
- **Ports Indirect Source Rule:** CalMatters requested an update on the Ports rule. Response was provided. Reporter had follow-up questions. Working on a response.
- **Expanded Air Monitoring Press Release:** Pitched to media outlets resulting in media coverage.
- **Ash Concern Advisories:** Pitched to media outlets resulting in media coverage.
- **Dust Summit Press Release & Cancellation:** Pitched to media outlets resulting in media coverage.
- **No-Burn Day Advisories:** Pitched to media outlets resulting in media coverage.
- **Smoke Advisories:** Pitched to media outlets resulting in media coverage.
- **Windblown Dust and Ash Advisories:** Pitched to media outlets resulting in media coverage.

News Releases:

- **No-Burn Alert and Extension: Mandatory Wood-Burning Ban in Effect for Residents of the South Coast Air Basin – January 1, 2, 5, & 31, 2025 (English and Spanish)** – Informed the public of mandatory wood-burning bans and extensions due to predicted high air pollution.
- **South Coast AQMD Issues and Extends Windblown Dust and Ash Advisory Due to High Winds – January 6, 10, 12, 13, 19 & 22, 2025 (English and Spanish)** – Informed the public of windblown dust and ash advisories issued and extended due to high wind events and toxic ash concerns.
- **South Coast AQMD Issues and Extends Smoke Advisory Due to Wildfires – January 7, 9, 11 & 22, 2025 (English and Spanish)** – Informed the public of a smoke advisory due to wildfires.
- **South Coast AQMD Extends Smoke and Windblown Dust Advisories, Agency Issues Executive Order for Emergency Engines – January 8, 2025 (English and Spanish)** – Informed the public of the extended smoke, windblown dust advisories, the Check Before You Burn (CBYB) Alert and the Executive Order for emergency engines.

- **South Coast AQMD Advises and Reminds Residents to take Precautions as Ash Remains a Concern due to Wildfires – January 14 & 15, 2025 (English and Spanish)** – Informed and reminded the public to be cautious of ash exposure and its proper disposal.
- **South Coast AQMD to Host Coachella Valley Dust Summit and Cancellation – January 29 & 31, 2025 (English and Spanish)** – Informed the public of an upcoming dust summit hosted in Palm Desert and its cancellation.
- **South Coast AQMD Expands Air Quality Monitoring for Eaton and Palisades Fires – January 31, 2025 (English and Spanish)** – Informed the public that air monitoring has begun in the burn scars and surrounding communities of the Eaton Fire and Palisades Fire.

Social Media Posts:

[No Burn Day Advisory \(1/2\)](#): 13,500 Twitter Impressions

RT by @ReadyLA, @CodeRed001Blue, @NWSSanDiego, @NWSLosAngeles

[AQ Forecast \(1/8\)](#): 364,400 Twitter Impressions

--RT by @MayorOfLA, @LongBeachCity

[Wildfire Tips \(1/8\)](#): 5,536 Twitter Impressions

--RT by @CountyofLA, @citymb, @AirResources, @OnStar, @senatorsrp, @AsmPacheco, @AsmCarrillo, @Rep_Whitesides

[Smoke + No Burn Day Advisory \(1/9\)](#): 248,000 Twitter Impressions

RT by @KTLA, @MayorOfLA, @MissionViejoCA, @LADOTofficial, @SBCCounty, @SBCCountyPH, @supervisorowe, @SealBeachPolice

[Live AQI Map \(1/12\)](#): 78,100 Twitter Impressions

--RT by @MayorOfLA, @CaltransHQ, @LADOTofficial, @LACOFD

[Smoke + Dust/Ash Advisory \(1/22\)](#): 17,700 Twitter Impressions

RT by @LACOFD, @countyofLA, @PasadenaGov, @NWSLosangeles, @AirResources, @theWeatherboy, @gtwhitesides

[Wildfire Air Quality Danger Indicators \(1/22\)](#): 11,600 Twitter Impressions

--RT by @CaliforniaEPA, @NormaJTorres, @UnifiedLA, @LADOTofficial, @ReadyLA, @MayorOfLA, @AirResources, @santamonicacity, @NWSLosAngeles

[Wildfire Precautions \(1/24\)](#): 25,500 Twitter Impressions

RT by @MayorOfLA, @CaliforniaEPA, @AirResources, @CodeRed001Blue

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. Senator Adam Schiff
- U.S. Representative Pete Aguilar
- U.S. Representative Nanette Barragán
- U.S. Representative Julia Brownley
- U.S. Representative Ken Calvert
- U.S. Representative Judy Chu
- U.S. Representative Gil Cisneros, Jr.
- U.S. Representative Lou Correa
- U.S. Representative Laura Friedman
- U.S. Representative Robert Garcia
- U.S. Representative Jimmy Gomez
- U.S. Representative Sydney Kamlager-Dove
- U.S. Representative Young Kim
- U.S. Representative Ted Lieu
- U.S. Representative Dave Min
- U.S. Representative Jay Obernolte
- U.S. Representative Luz Rivas
- U.S. Representative Dr. Raul Ruiz
- U.S. Representative Linda Sánchez
- U.S. Representative Brad Sherman
- U.S. Representative Mark Takano
- U.S. Representative Norma Torres
- U.S. Representative Derek Tran
- U.S. Representative Maxine Waters
- U.S. Representative George Whitesides
- Senator Ben Allen
- Senator Bob Archuleta
- Senator Catherine Blakespear
- Senator Sabrina Cervantes
- Senator Steven Choi
- Senator Maria Elena Durazo
- Senator Lena Gonzalez
- Senator Monique Limon
- Senator Mike McGuire
- Senator Caroline Menjivar
- Senator Rosilicie Ochoa Bogh
- Senator Steve Padilla
- Senator Sasha Renee Perez
- Senator Eloise Gomez Reyes
- Senator Laura Richardson
- Senator Susan Rubio
- Senator Kelly Seyarto
- Senator Lola Smallwood-Cuevas
- Senator Henry Stern
- Senator Tom Umberg
- Assemblymember Isaac Bryan
- Assemblymember Lisa Calderon
- Assemblymember Jessica Caloza
- Assemblymember Juan Carrillo
- Assemblymember Leticia Castillo
- Assemblymember Phillip Chen
- Assemblymember Laurie Davies
- Assemblymember Diane Dixon
- Assemblymember Sade Elhawary
- Assemblymember Bill Essayli
- Assemblymember Mike Fong
- Assemblymember Jesse Gabriel
- Assemblymember Robert Garcia
- Assemblymember Mike Gipson
- Assemblymember Jeff Gonzalez
- Assemblymember Mark Gonzalez
- Assemblymember John Harabedian
- Assemblymember Jacqui Irwin
- Assemblymember Dr. Cory Jackson
- Assemblymember Tom Lackey
- Assemblymember Josh Lowenthal
- Assemblymember Tina McKinnor
- Assemblymember Al Muratsuchi
- Assemblymember Blanca Pacheco
- Assemblymember Cottie Petrie-Norris
- Assemblymember Sharon Quirk-Silva

- Assemblymember James Ramos
- Assemblymember Celeste Rodriguez
- Assemblymember Michelle Rodriguez
- Assemblymember Blanca Rubio
- Assemblymember Kate Sanchez
- Assemblymember Pilar Schiavo
- Assemblymember Nick Schultz
- Assemblymember Jose Luis Solache
- Assemblymember Tri Ta
- Assemblymember Avelino Valencia
- Assemblymember Greg Wallis
- Assemblymember Rick Chavez Zbur

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

Agoura Hills	Colton	Inglewood
Alhambra	Costa Mesa	Irvine
Aliso Viejo	Covina	Irwindale
Anaheim	Culver City	Jurupa Valley
Arcadia	Cypress	La Canada Flintridge
Artesia	Dana Point	La Habra
Avalon	Desert Hot Springs	La Habrá Heights
Azusa	Diamond Bar	La Mirada
Baldwin Park	Downey	La Palma
Banning	Duarte	La Puente
Beaumont	Eastvale	La Quinta
Bell	El Monte	La Verne
Bell Gardens	El Segundo	Laguna Beach
Bellflower	Fontana	Laguna Hills
Beverly Hills	Fountain Valley	Laguna Niguel
Big Bear Lake	Fullerton	Laguna Woods
Bradbury	Garden Grove	Lake Elsinore
Brea	Gardena	Lake Forest
Buena Park	Glendale	Lakewood
Burbank	Glendora	Lawndale
Calabasas	Grand Terrace	Loma Linda
Calimesa	Hawaiian Gardens	Lomita
Canyon Lake	Hawthorne	Long Beach
Carson	Hemet	Los Alamitos
Cathedral City	Hermosa Beach	Los Angeles
Cerritos	Hidden Hills	Lynwood
Chino	Highland	Malibu
Chino Hills	Huntington Beach	Manhattan Beach
City of Industry	Huntington Park	Maywood
Claremont	Indian Wells	Mission Viejo
Coachella	Indio	Monrovia

Montclair	Redlands	Signal Hill
Montebello	Redondo Beach	South El Monte
Monterey Park	Rialto	South Pasadena
Newport Beach	Riverside	Stanton
Norco	Rolling Hills	Temecula
Norwalk	Rolling Hills Estates	Temple City
Ontario	Rosemead	Torrance
Orange	San Bernardino	Tustin
Palm Desert	San Clemente	Upland
Palm Springs	San Dimas	Vernon
Palos Verdes Estates	San Fernando	Villa Park
Paramount	San Gabriel	Walnut
Pasadena	San Juan Capistrano	West Covina
Pico Rivera	San Marino	West Hollywood
Placentia	Santa Ana	Westlake Village
Pomona	Santa Clarita	Westminster
Rancho Cucamonga	Santa Fe Springs	Whittier
Rancho Mirage	Santa Monica	Wildomar
Rancho Palos Verdes	Seal Beach	Yorba Linda
Rancho Santa Margarita	Sierra Madre	Yucaipa

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
 Alpine Mountaineer
 Altadena Town Council
 Arcadia Chamber of Commerce
 Associa Desert Resort Management
 Association of California Cities -- Orange County
 Avail Property Management
 Azusa Chamber of Commerce
 Baldwin Park Business Association
 Beach Cities Health District
 Bear Valley Electric Service, Inc.
 Big Bear Chamber of Commerce
 Big Bear Mountain Resort
 Big Bear Municipal Water District
 California Department of Transportation
 Carson Chamber of Commerce
 Chino Valley Chamber of Commerce
 Claremont Chamber of Commerce

Coachella Valley Association of Governments
Colton Chamber of Commerce
Corona Chamber of Commerce
Covina Chamber of Commerce
Crestline Chamber of Commerce
Desert Hispanic Chamber of Commerce
Desert Management
Duarte Chamber of Commerce
El Monte/South El Monte Chamber of Commerce
Fontana Chamber of Commerce
Foothill Transit
Fountain Valley Chamber of Commerce
Gardena Valley Chamber of Commerce
Gateway Cities Council of Governments
Glendora Chamber of Commerce
Greater Coachella Valley Chamber of Commerce
Greater Monterey Park Chamber of Commerce
Greater Ontario Business Council
Greater Riverside Chambers of Commerce
Greater West Covina Business Association
Hermosa Beach Chamber of Commerce and Visitors Bureau
Hollywood Chamber of Commerce
Imperial Irrigation District
Industry Business Council
Inglewood Airport Area Chamber of Commerce
Inland Empire Resource Conservation District
Inland Regional Energy Network
Inland Valley Development Agency
Irwindale Chamber of Commerce
La Cañada Flintridge Chamber of Commerce and Community Association
La Verne Chamber of Commerce
Lake Arrowhead Communities Chamber of Commerce
League of California Cities, Orange County Division
Lomita Chamber of Commerce
Los Angeles Area Chamber of Commerce
Los Angeles County Economic Development Corporation
Los Angeles County Metropolitan Transportation Authority
Manhattan Beach Chamber of Commerce
March Joint Powers Authority
Metro Gold Line Foothill Extension Construction Authority
Metropolitan Water District of Southern California
Monrovia Chamber of Commerce
Moreno Valley Chamber of Commerce

Mountain Transit
Omnitrans
Ontario International Airport Authority
Orange County Council of Governments
Orange County Hispanic Chamber of Commerce
Orange County Transportation Authority
Palm Desert Area Chamber of Commerce
Palos Verdes Peninsula Chamber of Commerce
Pasadena Chamber of Commerce
Personalized Property Management
Pomona Chamber of Commerce
Port of Long Beach
Port of Los Angeles
Powerstone Property Management
Rancho Mirage Chamber of Commerce
Redlands Chamber of Commerce
Redondo Beach Chamber of Commerce
Regional Chamber of Commerce - San Gabriel Valley
Rim of the World Recreation and Park District
Riverside Public Utilities
Rosemead Chamber of Commerce
Running Springs Area Chamber of Commerce
San Bernardino Area Chamber of Commerce
San Bernardino Council of Governments/San Bernardino County Transportation Authority
San Bernardino International Airport Authority
San Dimas Chamber of Commerce
San Fernando Valley Council of Governments
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
San Marino Chamber of Commerce
Santa Ana Chamber of Commerce
Santa Monica Chamber of Commerce
Sierra Madre Chamber of Commerce
South Bay Association of Chambers of Commerce
South Bay Cities Council of Governments
South Bay Parkland Conservancy
South Pasadena Chamber of Commerce
Southern California Association of Governments
Southern California Black Chamber of Commerce
Southern California Edison

Southern California Gas Company
Temple City Chamber of Commerce
Thousand Palms Chamber of Commerce
Torrance Area Chamber of Commerce
Upland Chamber of Commerce
Upper San Gabriel Valley Municipal Water District
U.S. Chamber of Commerce
Valley Industry and 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:

ActiveSGV
Asian Pacific Islander Forward Movement
Asian Youth Center
Boys and Girls Clubs of Coachella Valley
California Institute of Technology
California State University, Dominguez Hills
California State University, San Bernardino
Cathedral City Senior Center
Center for Asian Americans United for Self Empowerment
Clean Air Coalition of North Whittier & Avocado Heights
Clean Healthy Air Clean Healthy Altadena
Coachella Senior Center
Coachella Valley Community Health Center
Community Association Financial Services
Del Amo Action Committee
Desert Hot Springs Senior Center
Desert Recreation District - Bermuda Dunes Community Center
Desert Recreation District - Indio Community Center
Desert Recreation District - Palm Desert Community Center & Gymnasium
Desert Recreation District – Portola Community Center in Palm Desert
EcoVista360
Environmental Charter Schools
Grades of Green
GRID Alternatives
Ground Truthing California, South El Monte
Habitat for Humanity of the Coachella Valley
Hacienda Heights Improvement Association
Harbor Community Health Centers
Heritage Palm HOA
Highland Senior Center

Indio Senior Center
Inland Southern California Climate Collaborative
L.A. Care Health Plan
La Quinta Museum
La Quinta Public Library - La Quinta Creation Station
Leadership Long Beach
Los Angeles Unified School District
Mizell Center Full of Life
Mt. San Antonio College
Mujeres de la Tierra
Nature For All - San Gabriel Mountains Forever
North Whittier Neighborhood Watch/Avocado Heights Association
Ontario-Montclair School District
Our Global Humanity
Palos Verdes Peninsula Land Conservancy
Reach Out
Red Cross
Rim of the World Unified School District
Rotary Club of Carson-Gardena- Dominguez
Rotary Club of Hawthorne-LAX-Lennox
Rotary Club of Indio
Rotary Club of Inglewood
Rotary Club of Lawndale
Rotary Club of Manhattan Beach
Rotary Club of Redondo Beach
Rotary Club of South Bay Sunrise
Rotary Club of Torrance Del Amo
Rotary Club of Wilmington
Salvation Army, Pasadena
San Antonio Regional Hospital
San Gabriel Mountains Forever
San Gabriel Valley Conservation Corps
San Gabriel Valley Habitat for Humanity
Santa Ana Unified School District
Sierra Club, Angeles Chapter- Pasadena Group
South Bay Adult School
South Bay Children's Health Center
South Bay Families Connected
South Bay Parkland Conservancy
Strength Based Community Change
Sustainable Claremont
The Joslyn Center – Cove Communities Senior Association
The People's Collective for Environmental Justice

University of California, Riverside
University of La Verne
Venice Family Clinic
Visual Artists Guild
YMCA
Youth Science Center

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BOARD MEETING DATE: March 7, 2025

AGENDA NO. 6

REPORT: Hearing Board Report

SYNOPSIS: This reports the actions taken by the Hearing Board during the period of January 1 through January 31, 2025.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Micah Ali
Hearing Board Chair

ft

Attached are the following summaries: **January 2025 Hearing Board Cases, and Rules From Which Variances and Orders for Abatement Were Requested from January 1, 2025 through January 31, 2025.** The applicable South Coast AQMD Rules for January 2025 are also attached.

There was one appeal filed during the period of January 1, 2025 to January 31, 2025.

Report of January 2025 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 Pharmaceutical Manufacturing, LLC Case No. 4780-5 (Consent Calendar)	203(b) 1134 2004(f) 3002(c)(1)	Petitioner was unable to comply with the initial operation and final compliance deadlines in the variance. Also, petitioner was unable to comply with the increments of progress and Gantt chart requirements in Condition Nos. 6 and 8 of the Amended Variance. Petitioner cannot proceed with permanent shut down of the Cogens until the replacement Fuel Cells are fully installed and progress on the Fuel Cells project has been stalled by an unexpected crisis in the U.S. IV solution market.	Not Opposed/Granted	MFCD/EXT granted commencing on 1/30/2025 and continuing through 9/30/2025	NOx: 9.77 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
2. CalPortland Company Case No. 3221-23 (Consent Calendar)	203(b)	CalPortland applied for an ex-parte emergency variance because the next available hearing appointment date would have been beyond the 200-hour exceedance.	Not Opposed/Granted	Ex Parte variance granted commencing on 1/29/2025 and continuing for 30 days or until the interim variance hearing on 2/28/25, whichever comes first	NOx: 92.73 lbs/day
3. Inland Empire Utilities Agency Case No. 5209-6 (Erika Chavez)	203(b) 3002(c)(1)	Petitioner is upgrading flaring system; petitioner shall conduct source tests of enclosed digester gas fired flares under Permits to Operate.	Not Opposed/Granted	SV granted commencing on 1/28/2025 and continuing through 3/4/2025	None
4. University of California, Los Angeles Case No. 5708-3 (Brian Tomasovic)	203(b) 1134(d)(3) 3002(c)(1)	Petitioner attempted to complete the reliability testing which was delayed due to two significant unanticipated events: Power issues caused by the Palisades Fire that took the unit offline and thermal damage to the ductwork, which required its removal for repairs.	Not Opposed/Granted	IA granted for increment of progress 2b only commencing on 1/31/2025 and continuing through 2/28/2025	NOx: 72.64 lbs/day

Acronyms

IA: Interim Authorization
IV: Interim Variance
N/A: Not Applicable
NOx: Oxides of Nitrogen
SV : Short Variance

Rules from which Variances and Orders for Abatement were Requested in 2025

Rules	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Actions
203(b)	4												4
1134	1												1
1134(d)(3)	1												1
2004(f)	1												1
3002(c)(1)	3												3

**SOUTH COAST AQMD RULES AND REGULATIONS INDEX
FOR 2025 HEARING BOARD CASES AS OF JANUARY 31, 2025**

REGULATION II – PERMITS

Rule 203 Permit to Operate

REGULATION XI - TOXICS AND OTHER NON-CRITERIA POLLUTANTS

Rule 1134 Emissions of Oxides of Nitrogen from Stationary Gas Turbines

REGULATION XX – REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)

Rule 2004 Requirements

REGULATION XXX – TITLE V PERMITS

3002 – Requirements

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BOARD MEETING DATE: March 7, 2025

AGENDA NO. 7

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, 2025. An Index of South Coast AQMD Rules is attached with the penalty report.

COMMITTEE: Stationary Source, February 21, 2025, Reviewed

RECOMMENDED ACTION:
Receive and file.

Bayron T. Gilchrist
General Counsel

BTG:cr

	CIVIL FILINGS	VIOLATIONS
1.	Orange County Collision Services County of Orange Superior Court – Small Claims Case No.: 30-2025-01457570-SC-SC-CJC; Filed 1.14.25 (CL) NOV No.: P68786 Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations Rule 1171 – Solvent Cleaning Operations California Health and Safety Code § 42402	1
2.	Montebello Container Company LLC County of Los Angeles Superior Court – Civil Case No.: 25NWCV00224; Filed 1.17.25 (ND) NOV No.: P65893 203 – Permit to Operate California Health and Safety Code § 42402	1

CIVIL FILINGS

VIOLATIONS

3.	HK2 Food District Inc	1
	County of Los Angeles Superior Court – Small Claims	
	Case No.: 25WCSC00142; Filed 1.31.25 (CM)	
	NOV No.: P74903	
	Rule 1415.1 – Reduction of Refrigerant Emissions from Stationary Refrigeration Systems	
	California Health and Safety Code § 42402	

3 Violations

Attachments

January 2025 Penalty Report

Index of South Coast AQMD Rules and Regulations

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
General Counsel's Office
Settlement Penalty Report (01/01/2025 - 01/31/2025)

Total Penalties

Civil Settlement: \$1,270,061.95
Hearing Board Settlement: \$1,000.00
MSPAP Settlement: \$122,803.00

Total Cash Settlements: \$1,393,864.95

Total SEP Value: \$0.00

Fiscal Year through 01/31/2025 Cash Total: \$5,752,146.60

Fiscal Year through 01/31/2025 SEP Value Only Total: \$0.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
Civil						
148236	AIR LIQUIDE LARGE INDUSTRIES U.S. LP	1118, 1173, 3002	01/09/2025	NS	P65631, P65632, P67830, P67832, P67834, P67838, P67840, P75104	\$48,360.00
153367	ARCO AM/PM	461, H&S 41960.2	01/14/2025	VB	P78673	\$2,218.00
183832	AST TEXTILE GROUP INC	2004, 2005	01/24/2025	SH	P76075, P76082, P76083, P78711, P78714	\$90,000.00
800016	BAKER COMMODITIES INC	415, 2004, 3002	01/16/2025	DH	P63824, P65291, P65293, P67318, P67319, P67321, P72855, P72866, P72871, P72872	\$15,000.00
118589	CROWLEY PETROLEUM TRANSPORT INC	1142	01/15/2025	KCM	P75080, P78225	\$33,000.00
198838	DOLLSKILL	2305	01/15/2025	JL	O15133	\$1,500.00
201776	FOREVER 21	2305	01/16/2025	JL	O15016	\$18,100.00
140961	GKN AEROSPACE TRANSPARENCY SYS INC	109, 203, 222, 1146, 1147	01/09/2025	EC	P68777	\$909,935.95
9163	INLAND EMPIRE UTILITIES AGENCY	1470, 3002	01/21/2025	KER	P79541	\$2,418.00
201871	LEE'S HVAC INC	1111	01/23/2025	MR	P80104	\$850.00
202591	MAERSK	2305	01/15/2025	ND	O15203	\$7,000.00
82419	NEW WAVE CONVERTING INC	109, 202, 203, 442, 1147	01/09/2025	MR	P61449, P62002, P62005, P63962, P65506	\$2,780.00
195532	REDU HOLDINGS LLC	203, 463, 1173, 2004	01/10/2025	KER	P73318, P73329, P74363, P74385	\$39,398.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
172857	ROOP CORPORATION	461	01/15/2025	JJ	P70242, P70244, P75705	\$3,000.00
191415	SIERRA ALUMINUM A DIVISION OF SAMUEL SON & CO	1147.2, 2004, 2012	01/21/2025	KER	P63840, P63841, P78911, P79210	\$20,802.00
121304	SOUTHWEST AIRLINES CO	461	01/16/2025	KCM	P71653, P76793	\$2,000.00
14966	VA GREATER LOS ANGELES HEALTHCARE	1146, 1415, 3002	01/22/2025	JL	P73565, P73567, P76305, P76309, P80056	\$73,700.00
Total Civil Settlements: \$1,270,061.95						
Hearing Board						
146536	WALNUT CREEK ENERGY LLC	203, 2004, 3002	01/16/2025	KCM	6230-6	\$1,000.00
Total Hearing Board Settlements: \$1,000.00						
MSPAP						
175232	7-ELEVEN INC (#26216)	461, H&S 41960.2	01/23/2025	VB	P74688	\$1,513.00
197504	7-ELEVEN INC (#43119)	461, H&S 41960.2	01/23/2025	VB	P79384	\$2,422.00
163286	A&P COMPLIANCE TESTING LLC	461	01/10/2025	VB	P80615	\$3,627.00
157047	AIR CLEAN ENVIRONMENTAL INC	1403	01/17/2025	CL	P78982	\$3,177.00
177956	APRO LLC (DBA "UNITED OIL #150")	461, H&S 41960.2	01/17/2025	VB	P74683	\$1,722.00
174685	ARCO TREASURE FRANCHISE CO (#42056)	461, H&S 41960.2	01/10/2025	VB	P79378	\$1,286.00
152859	ARCO AM/PM (#82649)	461, H&S 41960.2	01/10/2025	VB	P80966	\$1,813.00
74094	ARCO DLR	461	01/10/2025	SW	P74682	\$4,100.00
201897	BERKSHIRE HATHAWAY HOME SERVICES CALIFORNIA PROPERTIES	1403	01/17/2025	CL	P77754	\$2,397.00
140512	BLS LIMOUSINE SERVICE OF LOS ANGELES	461	01/03/2025	SW	P75476	\$3,627.00
124094	CALTRANS BATAVIA MAINTENANCE STATION	203	01/10/2025	VB	P80268	\$21,588.00
169564	CIRCLE K STORES INC (#2709421)	203, 461	01/17/2025	CL	P79612	\$1,588.00
169352	CIRCLE K STORES INC (#2211137)	461	01/17/2025	CL	P74696	\$1,588.00
102141	CIRCLE K STORES INC	461	01/17/2025	CL	P79373	\$1,813.00
169286	CIRCLE K STORES INC (#2211182)	461	01/17/2025	CL	P80634	\$1,663.00
150455	CONOCOPHILLIPS (#255146) (DBA "SINACO OIL 2")	461	01/10/2025	VB	P77748	\$1,269.00
109794	CULVER STUDIOS OFFICE - SONY PICTURE	203	01/23/2025	VB	P73577	\$1,009.00
74060	ENGINEERED POLYMER SOLUTIONS INC	1147	01/17/2025	CL	P74885	\$2,647.00
202576	EUROPEAN IMPORTS A SYSCO COMPANY	2305	01/24/2025	CM	O15192	\$1,500.00
127964	G&M OIL CO LLC (#107)	203	01/10/2025	VB	P74694	\$3,627.00
121685	G&M OIL CO LLC (#90)	201	01/03/2025	SW	P79390	\$2,418.00
28042	GLENDORA COUNTRY CLUB	203, 461	01/17/2025	CM	P73183	\$2,012.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
194517	GOLDEN OIL LLC	201, 203, 461	01/17/2025	VB	P79355	\$3,531.00
201741	HOME LEGEND	2305	01/23/2025	CM	O15179	\$9,000.00
181652	INDIAN SPRINGS GOLF CLUB	461	01/24/2025	CM	P79348	\$3,834.00
195032	JAEYONG ILC	203	01/23/2025	SW	P80922	\$1,148.00
184584	JLM DEVELOPMENT INC	1403	01/17/2025	CL	P77753	\$2,397.00
196009	MB COLLISION	203	01/10/2025	CM	P74664	\$2,018.00
165640	NEW CINGULAR WIRELESS	203	01/23/2025	VB	P79713	\$1,009.00
196669	PCH FUEL INC	461	01/17/2025	SW	P79387	\$1,513.00
20375	PRUDENTIAL OVERALL SUPPLY	1146	01/17/2025	CL	P75439	\$2,552.00
19167	R J NOBLE COMPANY	461	01/03/2025	SW	P80274	\$1,109.00
98145	RANCHO SANTIAGO COMMUNITY COLLEGE	461	01/10/2025	CM	P80275	\$1,294.00
145972	RECHE CANYON CONVALESCENT CENTER	203	01/23/2025	VB	P79704	\$1,367.00
205540	RP LANDSCAPE & IRRIGATION	403	01/17/2025	CL	P78466	\$2,877.00
186678	SAPPHIRE CHANDELIER LLC	203	01/17/2025	VB	P75610	\$4,450.00
190508	SOCAL COLLISION LLC	109, 203	01/10/2025	VB	P77602	\$1,125.00
180588	SUNSTATE EQUIPMENT CO LLC	461	01/10/2025	VB	P79716	\$1,209.00
181807	UNITED PACIFIC (#5625)	201	01/17/2025	VB	P80633	\$908.00
188380	VALENCE SURFACE TECHNOLOGIES LYNWOOD	3002	01/10/2025	VB	P75802	\$995.00
144249	VINTNERS DISTRIBUTORS INC	461	01/23/2025	SW	P74691	\$1,209.00
104531	VONS (#6765)	203, 1147	01/24/2025	CM	P74869, P74883	\$2,918.00
203135	W.L. BUTLER CONSTRUCTION INC	1401, 40 CFR 61.145	01/17/2025	CL	P75758	\$1,059.00
140294	W.L. BUTLER CONSTRUCTION INC	403	01/17/2025	CL	P79346	\$5,295.00
184882	WEST ADAMS PETROLEUM INC	461	01/23/2025	VB	P78664	\$1,580.00
Total MSPAP Settlements: \$122,803.00						

SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX FOR JANUARY 2025 PENALTY REPORT

REGULATION I - GENERAL PROVISIONS

Rule 109 Recordkeeping for Volatile Organic Compound Emissions

REGULATION II - PERMITS

Rule 201 Permit to Construct

Rule 202 Temporary Permit to Operate

Rule 203 Permit to Operate

Rule 222 Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II

REGULATION IV - PROHIBITIONS

Rule 403 Fugitive Dust

Rule 415 Odors from Rendering Facilities

Rule 442 Usage of Solvents

Rule 461 Gasoline Transfer and Dispensing

Rule 463 Storage of Organic Liquids

REGULATION XI - SOURCE SPECIFIC STANDARDS

Rule 1111 NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces

Rule 1118 Emissions from Refinery Flares

Rule 1142 Marine Tank Vessel Operations

Rule 1146 Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters

Rule 1147 NOx Reductions from Miscellaneous Sources

Rule 1147.2 NOx Reductions from Metal Melting and Heating Furnaces

Rule 1151 Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations

Rule 1171 Solvent Cleaning Operations

Rule 1173 Fugitive Emissions of Volatile Organic Compounds

REGULATION XIV - TOXICS

Rule 1401 New Source Review of Toxic Air Contaminants

Rule 1403 Asbestos Emissions from Demolition/Renovation Activities

Rule 1415 Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems

Rule 1415.1 Reduction of Refrigerant Emissions from Stationary Refrigeration Systems

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

**SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX
FOR JANUARY 2025 PENALTY REPORT**

REGULATION XX - REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)

- Rule 2004 Requirements
- Rule 2005 New Source Review for RECLAIM
- Rule 2012 Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions

REGULATION XXIII - FACILITY BASED MOBILE SOURCE MEASURES

- Rule 2305 Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (Waive) Program

REGULATION XXX - TITLE V PERMITS

- Rule 3002 Requirements

CODE OF FEDERAL REGULATIONS

- 40 CFR 61.145 Standards for Demolition and Renovation

CALIFORNIA HEALTH AND SAFETY CODE

- 41960.2 Gasoline Vapor Recovery
- 42402 Violation of Emission Limitations – Civil Penalty

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BOARD MEETING DATE: March 7, 2025

AGENDA NO. 8

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, 2025 and January 31, 2025, and proposed projects for which South Coast AQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, February 21, 2025, Reviewed

RECOMMENDED ACTION:
Receive and file.

Wayne Nastri
Executive Officer

SR:MK:BR:SW:ET:DC

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 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, 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) 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 review¹ of environmental documents for the current reporting period for Attachments A and B combined²:

¹ 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.

² 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>.

Statistics for Reporting Period from January 1, 2025 to January 31, 2025	
Attachment A: Environmental Documents Prepared by Other Public Agencies and Status of Review	52
Attachment B: Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies (which were previously identified in the December 2024 report)	3
Total Environmental Documents Listed in Attachments A & B	55
<i>Comment letters sent</i>	<i>10</i>
<i>Environmental documents reviewed, but no comments were made</i>	<i>43</i>
<i>Environmental documents currently undergoing review</i>	<i>2</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 2025.

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, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Goods Movement</i> LAC250109-01 Berths 187-191 Vopak, Liquid Bulk Terminal Wharf Improvements and Berth 191 Cement Terminal Project Port of Los Angeles#	The project consists of upgrading and repairing the mooring, berthing, and seismic systems at Berths 187–190 to meet California's Marine Oil Terminal Engineering. The project also consists of maintaining standards and improving the wharf at Berth 191 to resume cement import operations. The project is located near the northwest corner of Canal Street and Yacht Street within Port of Los Angeles in the designated AB 617 Wilmington, Carson, and West Long Beach community. References: LAC250109-01; LAC220719-01 Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2022/july/LAC220719-01.pdf Comment Period: N/A Public Hearing: N/A	Other	City of Los Angeles Harbor Department	Document reviewed - No comments sent
<i>Industrial and Commercial</i> LAC250115-05 John S Gibson Truck and Chassis Parking Lot Project#	The project consists of developing a 405,602 square-foot short-term truck and chassis parking facility and related site improvements on 18.63 acres. The project includes paving the site and striping of 393 truck and chassis stalls. The project is located at 1599 John S. Gibson Boulevard in San Pedro within the designated AB 617 Wilmington, Carson, and West Long Beach community. Reference: LAC231101-01 https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/january-2025/lac241120-05-draft-eir-john-s-gibson-truck-and-chassis-parking-lot-project.pdf Comment Period: 11/15/2024 - 2/4/2025 Public Hearing: N/A	Draft Environmental Impact Report	Port of Los Angeles	Comment letter sent on 1/10/2025
<i>Industrial and Commercial</i> LAC250114-07 ALISU 4901 Site#	The project consists of cleaning soil, soil gas, and groundwater contaminated with volatile organic compounds (VOCs) such as tetrachloroethene (PCE), trichloroethene (TCE) and their degradation (breakdown) products in preparation for future construction of a 75,400 square-foot industrial building on 3.53 acres. The project is located at 4901 South Boyle Avenue in Vernon on the southwest corner of South Boye Avenue and Leonis Boulevard, within the AB 617 Southeast Los Angeles community. Comment Period: 1/13/2025 - 2/14/2025 Public Hearing: N/A	Draft Remedial Action Plan	Department of Toxic Substances Control (DTSC)	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, SBC = San Bernardino County, and 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, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Industrial and Commercial LAC250114-08 1450 Artesia Specific Plan Project#	The project consists of constructing a 268,000 square-foot warehouse on 6.3 acres. The project is located near the southwest corner of Artesia Boulevard and Normandie Avenue in Gardena, within the designated AB 617 Wilmington, Carson, and West Long Beach community. Reference: LAC230613-08 Comment Period: N/A Public Hearing: 2/4/2025	Other	City of Gardena	Document reviewed - No comments sent
Industrial and Commercial RVC250107-01 Bloomington Truck & Trailer Maintenance Facility PROJ-2021-00021	The project consists of a zoning amendment from single residential to industrial and a conditional use permit to construct and operate a 15,000 square-foot truck and trailer maintenance facility on 2.4 acres. The project is located at 11317 Lilac Avenue on the southeast corner of Lilac Avenue and Jurupa Avenue in Bloomington. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/january-2025/rvc250107-01-mnd-bloomington-truck-amp-trailer-maintenance-facility-project.pdf Comment Period: 12/23/2024- 1/21/2025 Public Hearing: 2/20/2025	Notice of Intent to adopt a Mitigated Declaration	County of San Bernardino	Comment letter sent on 1/21/2025
Industrial and Commercial RVC250114-02 Galway Downs	The project consists of updating Conditional Use Permits and Change of Zone on an existing events facility, which includes construction of buildings and expansion of facility uses on 241.6 acres. The project is located at 38801 Los Corralitos Road in Temecula. Comment Period: 1/14/2025-2/13/2025 Public Hearing: N/A	Notice of Preparation of a Draft Environmental Impact Report	County of Riverside	Document reviewed - No comments sent

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SOUTH COAST AQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>Waste and Water-related</i> LAC250129-03 Approval of Complete Site Assessment Report for North Posse Site	The project consists of a complete site assessment report for the North Posse Site in Torrance, which includes contaminants of concern above applicable screening levels for risk to human health in commercial and industrial scenario. The project is located at 3041 Del Amo Boulevard. Comment Period: N/A Public Hearing: N/A	Other	California Regional Water Quality Control Board, Los Angeles Region	Document reviewed - No comments sent
<i>Waste and Water-related</i> ODP250122-06 Community Survey - Santa Susana Field Laboratory (SSFL)	The project consists of seeking public input and gaining insight from interested individuals about Department of Toxic Substances Control (DTSC) oversight of cleanup at the Santa Susana Field Laboratory (SSFL). The SSFL is a 2,850-acre site, located on the southeast corner of Service Area Road and Woolsey Canyon Road in Ventura County. References: ODP240201-08, ODP240103-06, 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: 1/20/2025 - 3/31/2025 Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent
<i>Waste and Water-related</i> SBC250128-07 Crestline-Lake Arrowhead Water Agency and San Bernardino Valley Municipal Water District Proposed Multi Year Water Exchange Project	The project consists of implementing a water exchange project, which allows for flexibility in management and use of allocated excess State Water Project (SWP) water by Crestline-Lake Arrowhead Water Agency (CLAWA). The project is located within the San Bernardino County in the San Bernardino Mountains. Comment Period: 1/30/2025 - 2/28/2025 Public Hearing: 4/4/2025	Initial Study/Negative Declaration	Crestline-Lake Arrowhead Water Agency (CLAWA)	Document reviewed - No comments sent

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SOUTH COAST AQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>Utilities</i> LAC250106-03 Glenarm BESS Project	The project consists of installing a 25-megawatt (MW) utility-scale Battery Energy Storage System (BESS) on approximately 0.59 acre. The project is located at 72 East Glenarm Street in Pasadena. <p align="center">Comment Period: 1/6/2025- 2/4/2025 Public Hearing: N/A</p>	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Pasadena	Document reviewed - No comments sent
<i>Utilities</i> ODP250114-06 Grace Solar Energy Center	The project consists of requesting a 40-year Conditional Use Permit (CUP), Public Use Permit (PUP), Development Agreement (DA) amendment for construction, operation, and decommissioning of a solar facility on 3,838 acres. The project will include a solar photovoltaic (PV) generating facility that would generate and store up to 500 megawatts (MW) of renewable electricity, battery energy storage systems (BESS), 230-kV generation-tie (gen-tie), access roads, appurtenant facilities, and coordinated efforts with the Bureau of Land Management (BLM). The project is located approximately 2.8 miles north of Interstate 10 and west of Blythe, which includes Riverside County, unincorporated Riverside County, and land administered by the BLM. <p align="center">Comment Period: 1/10/2025 - 2/8/2025 Public Hearing: N/A</p>	Draft Supplemental Environmental Impact Report	County of Riverside	Document reviewed - No comments sent
<i>Utilities</i> SBC250107-02 CSI Revision (PRAA-2023-00021)	The project consists of revising an application to construct a new galvanizing line within an existing structure and an expansion of approximately 9,000 square feet to accommodate new equipment. The project also includes constructing new push pull pickle line wholly within an existing structure at the existing California Steel Industries Site in Fontana. The project is located at 14000 San Bernardino Avenue, in unincorporated San Bernardino County. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/february-2025/sbc250107-02-nd-csi-revision-project.pdf <p align="center">Comment Period: 1/6/2025- 2/6/2025 Public Hearing: N/A</p>	Notice of Intent to Adopt an Initial Study/Negative Declaration	County of San Bernardino	Comment letter sent on 2/6/2025

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SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Utilities</i> SBC250121-01 Inland Valley Infrastructure Corridor (IVIC)#	The project consists of improving the following infrastructure systems: water; wastewater/sewer; dry utilities, including communications; drainage; roads; and other future utility integration. The project is bounded by San Bernardino International Airport to the north, State Route 210 to the east, and Tippecanoe Avenue to the west. The project is also within the AB 617 San Bernardino, Muscoy community. Reference: SBC231206-03 Comment Period: N/A	Notice of Availability of a Final Environmental Impact Report	Inland Valley Development Agency	Document reviewed - No comments sent
<i>Transportation</i> LAC250123-03 Eastside Transit Corridor Phase 2 Project#	The project consists of seeking federal funding opportunities under the National Environmental Policy Act (NEPA) for the first phase of the 4.7-mile E Line extension to Greenwood Station in Montebello. The project is located within the designated AB 617 Southeast Los Angeles community. References: LAC240501-04, LAC220809-01, LAC140819-04, LAC100518-02, and LAC100305-02 Comment Period: N/A	Other	Los Angeles County Metropolitan Transportation Authority (LACMTA)	Document reviewed - No comments sent
<i>Transportation</i> SBC250107-03 SBD 127 Near Baker Pavement Rehabilitation	The project consists of preserving, repairing, and extending the life of the existing pavement on State Route 127 (SR-127). The limits of work for this project are along SR-127 at post mile L0.0 to 3.0 and post mile 10.5 to 37.7 in San Bernardino County. Comment Period: N/A	Finding of No Significant Impact	California Department of Transportation (Caltrans)	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
<i>Institutional (schools, government, etc.)</i> RVC250128-01 La Sierra High School Track and Field Project	The project consists of renovating an existing track and field; adding field lighting, public address system, scoreboard, bleachers to accommodate 2,800 spectators; constructing a 5,500 square-foot field house that would include restrooms, ticket office, storage, concessions stand, and team room; relocating existing tennis courts; and repaving and restriping a 134,000 square-foot parking lot. The project would reduce the number of parking spaces by 136 parking stalls. The project encompasses 10.52 acres and is located at 4145 La Sierra Avenue, in the La Sierra Neighborhood of Riverside. Reference: RVC241105-07 Comment Period: 2/3/2025- 3/20/2025 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	Alvord Unified School District	Document reviewed - No comments sent
<i>Medical Facility</i> LAC250106-01 Cudahy Seniors Site#	The project consists of requesting a community survey on the clean-up activity at the Cudahy Seniors (Site). Environmental investigations conducted at the 1.33-acre site found contamination in soil vapor, including chloroform, benzene, tetrachloroethene and trichloroethene above regulatory screening levels. The project is located at 4610 Santa Ana Street in Cudahy and is within the designated AB 617 Southeast Los Angeles community. Reference: LAC241016-01 Comment Period: 1/6/2025- 2/10/2025 Public Hearing: N/A	Draft Remediation Plan	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent

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<u>SOUTH COAST AQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<p><i>Medical Facility</i> LAC250115-04 West Covina Medical Behavioral Health Building Addition Project</p>	<p>The project consists of constructing 42,000 square-foot behavioral health facility on 2.83 acres. The project is located near the northeast corner of S. Orange Avenue and West Cameron Avenue, south of Interstate 10.</p> <p style="text-align: center;">Comment Period: 1/15/2025 - 2/3/2025 Public Hearing: 2/11/2025</p>	<p>Notice of Intent to adopt a Mitigated Negative Declaration and Other</p>	<p>City of West Covina</p>	<p>Document reviewed - No comments sent</p>
<p><i>Retail</i> LAC250127-03 Radford Studio Center Project</p>	<p>The project consists of modernizing and expanding the existing media production facilities within the approximately 55-acre Project site, permitting up to 1,667,010 square feet of new floor area, retaining 532,990 square feet of existing floor area, and demolishing up to 646,120 of existing floor area. The project is located at 4024, 4064, 4200 North Radford Avenue in Los Angeles.</p> <p style="text-align: center;">Comment Period: 1/30/2025 - 3/17/2025 Public Hearing: N/A</p>	<p>Notice of Availability of a Draft Environmental Impact Report</p>	<p>City of Los Angeles</p>	<p>Under review, may submit comments</p>

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<i>Retail</i> ORC250128-02 Shaffer Plaza	The project consists of seeking public input for the cleanup at Shaffer Plaza, a 2.9-acre site contaminated with elevated concentrations of volatile organic compounds (VOCs), specifically tetrachloroethylene (PCE), in the soil and soil vapor. The project is located at 301-349 East Grove Avenue and 1997 North Orange Olive Road in the City of Orange. Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent
<i>Retail</i> RVC250109-02 Nexus Hotel and Residential Project	The project consists of redeveloping an existing parking lot and constructing a nine-story resort hotel and residential building consisting of 125 hotel rooms and 132 residential condo units. The project also consists of constructing a 6,040 square-foot stand-alone restaurant. The project is located at the southeast corner of North Calle El Segundo and East Andreas Road in Palm Springs. Comment Period: 1/13/2025 - 2/3/2025 Public Hearing: N/A	Notice of Intent to adopt a Mitigated Negative Declaration	City of Palm Springs	Document reviewed - No comments sent

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Retail RVC250128-05 Ethanac Travel Center Development Project	The project consists of considering an appeal adopting a Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program and approving Conditional Use Permit for a 13,980 square-foot travel center and Variance 24-05022 for a Freeway Oriented Sign. The project is located on the northwest corner of Ethanac and Trumble Road. References: RVC241004-02, RVC240926-05, RVC240709-06, and RVC240201-03 Comment Period: N/A Public Hearing: 2/11/2025	Other	City of Perris	Document reviewed - No comments sent
General Land Use (residential, etc.) LAC250123-02 2830 Prewett Project (ENV-2023-5352-MND)	The proposed project consists of constructing a 3,938 square-foot residential unit on 9,536-square-foot project site. The project is located at 2824 - 2830 North Prewett Street in Los Angeles, near the northwest corner of North Thomas Street and Two Tree Avenue. Comment Period: 1/23/2025 - 2/24/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
General Land Use (residential, etc.) LAC250128-04 1000 North La Brea Avenue Project	The project consists of demolishing existing structures and constructing 514 residential units, 30,000 square feet of retail use, 27,976 square feet of common open space, and 32,420 square feet of private open space on 0.99 acre. The project is located at the northwest corner of La Brea Avenue and Romaine Street at 1000 through 1028 North La Brea Avenue in West Hollywood. Reference: LAC231201-14 Comment Period: 1/23/2025 - 3/10/2025 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of West Hollywood	Document reviewed - No comments sent

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<i>General Land Use (residential, etc.)</i> ODP250115-01 Project No. PM071006	The project consists of constructing three single-family residential lots on 18.04 acres. The project is located near the southeast corner of Listie Avenue and Galloping Way within the Antelope Valley Zoned District. Comment Period: 1/15/2025 - 2/13/2025 Public Hearing: N/A	Notice of Intent to adopt a Mitigated Negative Declaration	County of Los Angeles Department of Regional Planning	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> ORC250115-03 Hive Live	The project consists of demolishing the existing Hive Creative Office Campus and the Los Angeles Chargers practice field and constructing a new multi-phased master planned residential development on 14.25 acres. The project includes three multi-family residential structures with up to 1,050 dwelling units, 3,692 square feet of retail uses, and 335,958 square feet of open space. The project is located at 3333 Susan Street in Costa Mesa. Reference: ORC240611-04 Comment Period: 1/21/2025 - 3/6/2025 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of Costa Mesa	Document reviewed - No comments sent

Key:
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 Project Notes:
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ATTACHMENT A
ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW
January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> ORC250127-01 2021 – 2029 Housing Element Implementation Project	The project consists of an update to the City’s 2021-2029 6th Cycle Housing Element Update, which includes land use, zoning, and policy changes that would facilitate housing development throughout the City and allow future construction of 318 residential units. The project would include two candidate housing sites: 1) the 17.8-acre Smith Basin and 2) the 1.5-acre Town Centre Site. The Smith Basin project is located at the City’s southeastern boundary, in the north-central portion of the Smith Basin. The Town Centre Site is located in the City’s east- central portion in Villa Park Town Centre at 17855 and 17871 Santiago Boulevard. <div style="text-align: right;"> Comment Period: 1/24/2025 - 2/24/2025 Public Hearing: N/A </div>	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Villa Park	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> ORC250127-04 385 Nyes Place (DR-2023-0971/CDP-2023-0970) Project	The project consists of constructing a 4,231 square-foot residence on an existing vacant lot and reconstructing the existing curb to allow driveway access to the project site. The project is located at 385 Nyes Place in Laguna Beach. <div style="text-align: right;"> Comment Period: 1/29/2025 - 2/28/2025 Public Hearing: N/A </div>	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Laguna Beach	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> ORC250128-03 Santa Barbara Towns	The project consists of constructing 26 residential units and associated improvements, including a total of 80 parking spaces and seven entitlements on 3.02 acres. The project is located at 5802 Santa Catalina Avenue in Garden Grove. <div style="text-align: right;"> Comment Period: 1/23/2025 - 2/11/2025 Public Hearing: N/A </div>	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Garden Grove	Document reviewed - No comments sent

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SOUTH COAST AQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>General Land Use (residential, etc.)</i> RVC250123-05 Xenia Avenue & 6th Street Apartments (PP2024-0017)	The project consists of constructing 66 residential units, including community amenities, childcare center, and 93 parking spaces on approximately 1.51 acres. The project is located at the northeast corner of Xenia Avenue and Sixth Street. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Beaumont	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> SBC250117-03 Housing Element Program 10 & 11 General Plan Amendment and Rezone	The project consists of rezoning and a General Plan amendment as part of the 2021-2029 General Plan Housing Element Update to accommodate the development of housing needs in the area. One rezoning project parcel is located near the northeast corner of North Mount Vernon Avenue and Interstate 10 in Colton. The second rezoning project parcel is located near the northwest corner of South 8 th Street and West Congress Street in Colton. Comment Period: 1/20/2025 - 2/21/2025 Public Hearing: N/A	Notice of Preparation of Draft Environmental Impact Report	City of Colton	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> SBC250127-02 Foothill and Macy Route 66 Residential Development#	The project consists of requesting a change to the General Plan land use designation from Commercial to Residential Medium and subdividing 15 lots of approximately 15.71 acres into 134 single family lots. The project is located on the northwest corner of West Foothill Boulevard and Macy Street in San Bernardino. The project is also within the AB 617 San Bernardino, Muscoy community. Comment Period: 1/25/2025 - 2/24/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of San Bernardino	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
<p><i>Plans and Regulations</i></p> <p>LAC250106-02 City of Paramount Clearwater Specific Plan</p>	<p>The project consists of amendments to the Clearwater Specific Plan and future development through a project horizon year of 2045. The project includes construction of 100,000 square-foot of vendor space, 1,386,169 square-foot of non-residential buildings, and 2,000 residential units on 71 acres. The project is located on the northwest corner of Somerset Boulevard and Paramount Boulevard.</p> <p>https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/february-2025/lac250106-02-nop-clearwater-specific-plan.pdf</p> <p style="text-align: center;">Comment Period: 1/7/2025 - 2/6/2025 Public Hearing: N/A</p>	<p>Notice of Preparation</p>	<p>City of Paramount</p>	<p>Comment letter sent on 2/6/2025</p>
<p><i>Plans and Regulations</i></p> <p>LAC250109-03 Santa Monica College 2024 Main Campus Master Plan Update</p>	<p>The project consists of demolishing existing temporary and permanent buildings, totaling approximately 360,100 gross square feet (gsf) of building area, and the constructing new buildings consisting of 265,216 gsf of new floor area in five main new buildings on 43.98 acres. The project also includes approximately 207,073 gsf of building renovations to two existing buildings (the Physical and Life Science Complex and the Library and Media Center). The project is located at 1900 Pico Boulevard in Santa Monica.</p> <p>Reference: LAC100422-02</p> <p style="text-align: center;">Comment Period: 1/9/2025-2/10/2025 Public Hearing: N/A</p>	<p>Notice of Preparation</p>	<p>Santa Monica Community College District</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> LAC250114-05 Generation and Handling Fee Requirements	The project consists of authorizing the Department of Toxic Substances Control (DTSC) to adopt emergency regulations for the administration of DTSC's Generation and Handling Fee. The project has statewide applicability. Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent
<i>Plans and Regulations</i> LAC250115-02 Bicycle Master Plan Project	The project consists of three components which covers an area of approximately 7.86 square miles: 1) the Bicycle Master Plan (BMP) which proposes 30.1 miles of new bikeways and bikeway improvements to build upon the city's existing 1.3 miles of bicycle routes and 9.2 miles of bicycle lanes; 2) the Vehicle Miles Traveled (VMT) Mitigation Exchange and Banking Program (Program) which would establish a mitigation opportunity for projects exceeding the VMT threshold by allowing a developer or project proponent to purchase VMT reduction credits which could be used to fund the implementation of the bicycle improvements; and 3) a General Plan Amendments to ensure the city's General Plan is consistent with the BMP. The project would amend the existing General Plan Infrastructure and Community Services Element. The project is located in western Los Angeles County near the southeastern edge of Ventura County in the City of Agoura Hills. Comment Period: 1/13/2025- 2/12/2025 Public Hearing: N/A	Notice of Preparation of a Programmatic Environmental Impact Report	City of Agoura Hills	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
<i>Plans and Regulations</i> RVC250129-04 Site Plan #PA25-0034	The project consists of a developing the Tierra Vista Road Townhouses DP, which is approximately 56,841 square feet. The project is located approximately 120 feet west of the Ynez Road and Tierra Vista Road Intersection in Temecula. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Temecula	Document reviewed - No comments sent
<i>Plans and Regulations</i> ORC250114-04 City of Anaheim General Plan Focused Update	The project consists of updating the City of Anaheim's adopted General Plan to reflect the zoning and land use updates resulting from the 2021-2029 Housing Element, which include: 1)addressing the City's Regional Housing Needs Assessment (RHNA); 2) including a growth allocation of 17,453 housing units; and 3)completing the actions identified in the Center City Corridors Implementation Plan. The project encompasses over 34,000 acres with an additional 2,431 acres and is located in Anaheim. Reference: ORC241224-03 Comment Period: 12/20/2024 - 2/3/2025 Public Hearing: N/A	Notice of Availability of Draft Programmatic Environmental Impact Report	City of Anaheim	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
<p>Plans and Regulations</p> <p>RVC250122-04 Green River Ranch Specific Plan Amendment and Industrial Park Project</p>	<p>The project consists of a General Plan Amendment to change the land use designations of: 1) 5.5 acres north of Green River Road and West of Dominguez Ranch Road from Mixed Use II (Industrial & Commercial) to General Commercial; and 2) the south side of Green River Road and west of Dominguez Ranch Road from General Commercial, Mixed Use II , and Estate Residential to 49.31 acres of Mixed Use II and 103.73 acres of open Space-General. The project also includes constructing five warehouses totaling 746,167 square feet on 49.31 acres, located on the south side of Green River Road, between Fresno Road and Dominguez Ranch Road. The project is bounded by State Route 91 to the north, Dominguez Rand Road to the east, Riverside County to the south, and State Route 91 to the west. References: RVC241016-02; RVC220901-09</p> <p>Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2022/september/RVC220901-09.pdf.</p> <p style="text-align: center;">Comment Period: N/A Public Hearing: 2/5/2025</p>	Other	City of Corona	Document reviewed - No comments sent
<p>Plans and Regulations</p> <p>RVC250122-05 Specific Plan Amendment (SPA) 24-0586 and Major Modification 23-05073</p>	<p>The project consists of expanding an existing vehicle fuel station, which includes: 1) a Specific Plan Amendment to change the land use designation of 0.94 acre from Residential to Commercial and to apply a Residential Overlay; 2) constructing three islands to accommodate six compressed natural gas (CNG) and diesel fuel dispensers; 3) constructing two islands to accommodate four hydrogen fuel dispensers; and 4) constructing walled enclosures for CNG, hydrogen, and electrical equipment. The project is located at 4063 North Webster Avenue, north of Chevron Fueling Station, located at 796 Ramona Expressway. Reference: RVC230601-01</p> <p>Staff previously provided comments on the Site Plant for the project, which can be accessed at: http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/june-2023/RVC230601-01.pdf https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/february-2025/RVC250122-05.pdf</p> <p style="text-align: center;">Comment Period: 1/17/2025 - 2/17/2025 Public Hearing: 2/19/2025</p>	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Perris	Comment letter sent on 2/13/2025

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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> RVC250123-04 PP2024-52	The project consists of an amendment to Plot Plan No 04-PP-18 to construct a 457,444 square-foot warehouse. The project is located at 1022 Prosperity Way. Reference: RVC241002-09 Comment Period: N/A Public Hearing: N/A	Site Plan	City of Beaumont	Document reviewed - No comments sent
<i>Plans and Regulations</i> RVC250128-06 Planned Development Overlay (PDO) 23-05029 Tentative Parcel Map 38739; Development Plan Review 22-00031 (March Plaza Project)	The project consists of entitlements to facilitate the construction of a business park with three buildings totaling 66,686 square feet on 4.37 acres. The property is located at the northwest corner of Perris Boulevard and Harley Knox Boulevard. Reference: RVC241127-02 Comment Period: N/A Public Hearing: 2/19/2025	Other	City of Perris	Document reviewed - No comments sent
<i>Plans and Regulations</i> SBC250122-01 General Plan and Zoning Map/Code Update	The proposed project consists of updating the General Plan and Zoning Maps to implement the certified Housing Element which includes the following: Land Use, Circulation, Conservation, Parks, Recreation, Open Space, Noise, and Economic Development. The project has a city-wide applicability and is bounded by State Route 60 to the north, Chino to the east, Anaheim Hills to the south, and Diamond Bar and Yorba Linda to the west. Reference: SBC140729-02 Comment Period: 1/13/2025 - 3/3/2025 Public Hearing: N/A	Notice of Availability of a Draft Subsequent Environmental Impact Report	City of Chino Hills	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
<i>Plans and Regulations</i> SBC250122-03 Redlands RHNA Rezone Project	The project consists of rezoning 24 sites within the city to allow residential development of 2,436 housing units and implementation of residential development within the project sites through 2035. The project is bounded by Citrus Avenue to the north, Kansas Street to the east, Orange Avenue to the south, and New Jersey Street to the west. Reference: SBC240710-17 Comment Period: 1/22/2025 - 3/7/2025 Public Hearing: N/A	Notice of Availability of a Draft Subsequent Environmental Impact Report	City of Redlands	Document reviewed - No comments sent
<i>Plans and Regulations</i> SBC250129-01 Plot Plan No PLN24-0251 (Boulders II/Boulders East)	The project consists of the following: 1) General Plan Amendment to change the project site's land use designation and modifying the dwelling units per acre; 2) Changing the zoning classification of the project site from Low Medium Density Residential (LMDR) to High Density Residential (HDR); and 3) Constructing 240 residential units on 10.14 acres which includes 380 parking spaces, a 795 square-foot maintenance building and recreational amenities, and 5,025 square-foot clubhouse, pool, fitness center, business center, tot lot, barbeque area, dog park, and pickle ball court. The project is located near the northeast corner of Berea Road and Normandy Road. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Menifee	Document reviewed - No comments sent
<i>Plans and Regulations</i> SBC250129-02 Proj-2024-000134	The project consists of constructing a 7,800 square-foot grocery store building to replace an existing 4,941 square-foot grocery store building. The project is located at 31987 Hilltop Boulevard in Running Springs. Comment Period: N/A Public Hearing: N/A	Other	County of San Bernardino	Document reviewed - No comments sent

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**ATTACHMENT C PROPOSED AIR PERMIT PROJECTS FOR
WHICH SOUTH COAST AQMD IS CEQA LEAD AGENCY
THROUGH JANUARY 31, 2025**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
<p>Quemetco is proposing to modify its 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 landfill gas collection system.</p>	<p>Sunshine Canyon Landfill</p>	<p>Subsequent Environmental Impact Report (SEIR)</p>	<p>The consultant is working on a Draft SEIR which South Coast AQMD staff is reviewing.</p>	<p>Castle Environmental Consulting</p>

**ATTACHMENT C PROPOSED AIR PERMIT PROJECTS FOR
WHICH SOUTH COAST AQMD IS CEQA LEAD AGENCY
THROUGH JANUARY 31, 2025**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
<p>SoCalGas is proposing to modify their Title V permit for the Honor Rancho Natural Gas Storage Field to: 1) replace five compressor engines with four new natural gas-fueled compressor engines (each rated at 5,000 horsepower (hp)), new selective catalytic reduction systems and a new aqueous urea storage tank; 2) install two new electric compressors (each rated at 5,500 hp) with associated ancillary equipment; 3) construct a new building to house the new compressors; 4) install an advanced renewable energy system, which will include hydrogen electrolyzers, hydrogen storage, and fuel blending equipment to mix hydrogen with natural gas which will fuel the compressor engines; 5) install a hydrogen vehicle fueling station; 6) install an electric microgrid with an energy storage system and a natural gas fuel cell system; and 7) install one new electricity transmission line which will connect to Southern California Edison.</p>	<p>Southern California Gas Company (SoCalGas)</p>	<p>Addendum to the Final Subsequent Environmental Assessment for Rule 1110.2 and Rule 1100, and the Final Program EIR for the 2016 Air Quality Management Plan</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>Dudek</p>

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 9

REPORT: Rule and Control Measure Forecast

SYNOPSIS: This report highlights South Coast AQMD rulemaking activities and public hearings scheduled for 2025.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Wayne Nastri
Executive Officer

SLR:MK:IM:JA:ZS

2025 MASTER CALENDAR

The 2025 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.

1124	Aerospace Assembly and Component Manufacturing Operations
Proposed Amended Rule 1124 is being moved from June to August 2025 to allow additional time for staff to work with stakeholders.	
1171	Solvent Cleaning Operations
Proposed Amended Rule 1171 is being moved from May to June 2025 to allow additional time for staff to work with stakeholders.	

2025 MASTER CALENDAR

Month	Title and Description	Type of Rulemaking
May		
1111* ⁺	<p>Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces</p> <p>Proposed Amended Rule 1111 will establish requirements for the manufacturers for the sale of units that meet low-NOx and zero-emission standards, to provide consumers the choice between the types of units. The Proposed Amended Rule will also include a mitigation fee, which will allow manufacturers to sell more low-NOx units if needed.</p> <p style="text-align: right;"><i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
1121* ⁺	<p>Control of Nitrogen Oxides from Residential Type, Natural-Gas-Fired Water Heaters</p> <p>Proposed Amended Rule 1121 will establish requirements for the manufacturers for the sale of units that meet low-NOx and zero-emission standards, to provide consumers the choice between the types of units. The Proposed Amended Rule will also include a mitigation fee, which will allow manufacturers to sell more low-NOx units if needed.</p> <p style="text-align: right;"><i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
Regulation III	<p>Fees</p> <p>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 possible fee revisions.</p> <p style="text-align: right;"><i>Kalam Cheung 909.396.3281; 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

2025 MASTER CALENDAR (Continued)

Month	Title and Description	Type of Rulemaking
June		
223	<p>Emission Reduction Permits for Large Confined Animal Facilities 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>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
462	<p>Organic Liquid Loading Proposed Amended Rule 462 will incorporate the use of advanced techniques to detect fugitive emissions and vapor leaks. Other amendments may be needed to streamline implementation and add clarity. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
1171	<p>Solvent Cleaning Operations Proposed Amended Rule 1171 will seek to phase out two toxic compounds, pCBtF and tBAc, and consider interim VOC limits for certain coatings that are being reformulated as well as other amendments to improve clarity. <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / AB 617 CERP
August		
1124	<p>Aerospace Assembly and Component Manufacturing Operations Proposed Amended Rule 1124 will seek to phase out two toxic compounds, pCBtF and tBAc, and consider interim VOC limits for certain coatings that are being reformulated as well as other amendments to improve clarity. <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1445*	<p>Control of Toxic Emissions from Laser and Plasma Arc Metal Cutting 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

* 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

2025 MASTER CALENDAR (Continued)

Month	Title and Description	Type of Rulemaking
3rd Quarter		
2304*+ 316.1	<p>Commercial Marine Ports Fees for Rule 2304</p> <p>Proposed Rule 2304 will establish requirements for each commercial marine port to develop an alternative charging and fueling infrastructure plan for all port-related emission sources and subsequently install the infrastructure as planned. Proposed Rule 316.1 will establish fees to recover the South Coast AQMD’s anticipated cost of implementing Proposed Rule 2304.</p> <p><i>Elaine Shen 909.396.2715; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP
445*	<p>Wood Burning Devices</p> <p>Proposed Amended Rule 445 will address additional U.S. EPA requirements for Best Available Control Measures, including lowering the curtailment threshold.</p> <p><i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
1107	<p>Coating of Metal Parts and Products</p> <p>Proposed Amended Rule 1107 will seek to phase out two toxic compounds, pCBtF and tBAc, and consider interim VOC limits for certain coatings that are being reformulated as well as other amendments to improve clarity.</p> <p><i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1133.3	<p>Emission Reductions from Greenwaste Composting Operations</p> <p>Proposed Amended Rule 1133.3 will seek additional VOC and ammonia emission reductions by requiring composting of chipped and ground greenwaste and other best management practices.</p> <p><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
1138+	<p>Control of Emissions from Restaurant Operations</p> <p>Proposed Amended Rule 1138 will address U.S. EPA requirements to be no less stringent than other air districts.</p> <p><i>Elaine Shen 909.396.2715; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
4th Quarter		
404	<p>Particulate Matter – Concentration</p> <p>Proposed Amended Rule 404 seeks to address operations of air curtain incinerators with new provisions and requirements.</p> <p><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other

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

2025 MASTER CALENDAR (Continued)

Month	Title and Description	Type of Rulemaking
4th Quarter (Continued)		
1136	<p>Wood Products Coatings Proposed Amended Rule 1136 will seek to phase out two toxic compounds, pCBtF and tBAC, and consider interim VOC limits for certain coatings that are being reformulated as well as other amendments to improve clarity. <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1146	<p>Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters Proposed amendments to Rule 1146 will seek further emission reductions from an updated BARCT analysis. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / Other
1146.1 [#]	<p>Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters Proposed amendments to Rule 1146.1 seeks further emission reductions from an updated BARCT analysis. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / Other
1420.2	<p>Emission Standards for Lead from Metal Melting Facilities 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. <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1426.1	<p>Hexavalent Chromium Emissions from Metal Finishing Operations 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. <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics

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

2025 MASTER CALENDAR (Continued)

Month	Title and Description	Type of Rulemaking
4th Quarter (Continued)		
1435*	<p>Control of Toxic Air Contaminant Emissions from Metal Heating Operations 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. <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP
1469	<p>Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations 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 / Other
Regulation XIII**	<p>New Source Review 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 reconcile Regulation XIII with 2002 NSR Reform. Additional rules under Regulation XIII may be needed to address offsets and other provisions under Regulation XIII. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
Regulation XX**	<p>RECLAIM Proposed Amended Regulation XX will address the transition of NOx RECLAIM facilities to a command-and-control regulatory structure. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP

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2025 To-Be-Determined

2025	Title and Description	Type of Rulemaking
102	<p>Definition of Terms 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>Definition of Geographical Areas 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>Transfer and Voiding of Permits 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
403	<p>Fugitive Dust 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>Supplemental Fugitive Dust Control Requirements for Coachella Valley Sources 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 [#]	<p>Liquid and Gaseous Air Contaminants Proposed Amended Rule 407 will update SO_x 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
410	<p>Odors from Transfer Stations and Material Recovery Facilities 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

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

2025 To-Be-Determined (Continued)

2025	Title and Description	Type of Rulemaking
425	<p>Odors from Cannabis Processing 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>Breakdown Provisions 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 [#]	<p>Sulfur Content of Gaseous Fuels 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 [#]	<p>Sulfur Content of Liquid Fuels 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 [#]	<p>Sulfur Content of Fossil Fuels 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>Open Burning Amendments may be needed to clarify existing provisions. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
444.1	<p>Air Curtain Incinerators Proposed Rule 444.1 may be needed to address the operations of air curtain incinerators with provisions and requirements. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
461	<p>Gasoline Transfer and Dispensing 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
468 [#]	<p>Sulfur Recovery Units Proposed Amended Rule 468 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

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2025 To-Be-Determined (*Continued*)

2025	Title and Description	Type of Rulemaking
469 [#]	<p>Sulfuric Acid Units Proposed Amended Rule 469 will update SO_x 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 [#]	<p>Secondary Lead Smelters/Sulfur Oxides Proposed Amended Rule 1101 will update SO_x 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>Dry Cleaners Using Solvent Other Than Perchloroethylene 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 [#]	<p>Fluid Catalytic Cracking Units SO_x Proposed Amended Rule 1105 will update SO_x 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
1108	<p>Cutback Asphalt 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>Emulsified Asphalt 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>Emissions from Gaseous- and Liquid-Fueled Engines 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

* *Potentially significant hearing*

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

2025 To-Be-Determined (Continued)

2025	Title and Description	Type of Rulemaking
1110.4	<p>Emissions from Emergency Generators Proposed Rule 1110.4 will establish and revise rule provisions to reduce NO_x, 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>Architectural Coatings 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>Petroleum Refinery Coking Operations 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
1119 [#]	<p>Petroleum Coke Calcining Operations – Oxides of Sulfur Proposed Amended Rule 1119 will update SO_x 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>Solvent Degreasers 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>Metal Container, Closure, and Coil Coating Operations 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>Magnet Wire Coating Operations 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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2025 To-Be-Determined (Continued)

2025	Title and Description	Type of Rulemaking
1128	<p>Paper, Fabric, and Film Coating Operations 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>Graphic Arts 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
1130.1	<p>Screen Printing Operations 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
1142	<p>Marine Tank Vessel Operations 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>Consumer Paint Thinners and Multi-Purpose Solvents 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>Metalworking Fluids and Direct-Contact Lubricants 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>Plastic, Rubber, Leather, and Glass Coatings 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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2025 To-Be-Determined (Continued)

2025	Title and Description	Type of Rulemaking
1162	<p>Polyester Resin Operations 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
1166	<p>Volatile Organic Compound Emissions from Decontamination of Soil Proposed Amended Rule 1166 will update requirements, specifically concerning notifications and usage of mitigation plans (site specific versus various locations). <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
1174	<p>Control of Volatile Organic Compound Emissions from the Ignition of Barbecue Charcoal 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>	AQMP / Other
1176	<p>VOC Emissions from Wastewater Systems 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>Fleet Rules 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. <i>Sang-Mi Lee: 909.396.3169; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / Other
1401	<p>New Source Review of Toxic Air Contaminants Proposed Amended Rule 1401 will amend Table 1 to include new toxic air contaminants identified by California Office of Environmental Health Hazard Assessment (OEHHA). <i>Kalam Cheung 909.396. 3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1403*	<p>Asbestos Emissions from Demolition/Renovation Activities 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

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2025 To-Be-Determined (Continued)

2025	Title and Description	Type of Rulemaking
1404	<p>Hexavalent Chromium Emissions from Cooling Towers 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>Recovery or Recycling of Refrigerants from Motor Vehicle Air Conditioners 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>Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems, and Reduction of Refrigerant Emissions from Stationary Refrigeration Systems 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
1420	<p>Emissions Standard for Lead 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. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1420.1	<p>Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities 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. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics

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2025 To-Be-Determined (Continued)

2025	Title and Description	Type of Rulemaking
1420.3	<p>Emissions Standards for Lead from Firing Ranges Proposed Rule 1420.3 will establish requirements to address lead emissions from firing ranges. <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1450*	<p>Control of Methylene Chloride Emissions Proposed Rule 1450 will reduce methylene chloride emissions from furniture stripping and establish monitoring, reporting, and recordkeeping requirements. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1455	<p>Control of Hexavalent Chromium Emissions from Torch Cutting and Welding Proposed Rule 1455 will establish requirements to reduce hexavalent chromium emissions from torch cutting and welding of chromium alloys. <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / AB 617 CERP
1466	<p>Control of Particulate Emissions from Soils with Toxic Air Contaminants Amendments may be needed for residential cleanup projects. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1466.1	<p>Control of Particulate Emissions from Demolition of Buildings 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. <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1470	<p>Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines 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>Emissions from Emergency Standby Diesel-Fueled Engines 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

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2025 To-Be-Determined (Continued)

2025	Title and Description	Type of Rulemaking
1472	<p>Requirements for Facilities with Multiple Stationary Emergency Standby Diesel-Fueled Internal Combustion Engines 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>Ambient Monitoring and Sampling of Gaseous Toxic Air Contaminants 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>General Conformity 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
Regulation XX	<p>RECLAIM - Requirements for Oxides of Sulfur (SO_x) Emissions Amendments to Regulation XX rules to address SO_x requirements at RECLAIM facilities if there is consideration to transition SO_x 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* ⁺	<p>Facility-Based Mobile Sources Proposed rules within Regulation XXIII would reduce emissions from indirect sources and the mobile sources attracted to these facilities. <i>Elaine Shen 909.396.2715; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP

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2025 To-Be-Determined (Continued)

2025	Title and Description	Type of Rulemaking
<p>Regulation II, III, IV, V, VII, VIII, XI, XIV, XIX, XXIII, XXIV, XXX and XXXV</p>	<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>	<p>Other / AQMP/ Toxics / AB 617 BARCT / AB 617 CERP</p>

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+ *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

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 10

REPORT: FY 2024-25 Contract Activity

SYNOPSIS: This report lists the number of contracts let during the first six months of FY 2024-25, 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

Background

The Board's Procurement Policy and Procedures requires staff to provide semi-annual reports to the Board on contract activity. This report is for the period of July 1, 2024 - December 31, 2024. 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 2024-25) was \$102,258,813.87, with 117 contracts and contract modifications totaling \$98,491,945.00 (96 percent) approved by the Board and 161 contracts and contract modifications totaling \$3,766,868.87 (4 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 290 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)

Contract Category	Number	Amount
New Awards	129	\$94,719,405.00
Other	37	\$1,724,540.53
Sponsorships	17	\$98,729.30
Modifications	95	\$5,716,139.04
Terminations	12	-\$253,323.52
Total	290	\$102,005,490.35

Of the total value for New Awards, \$94,719,405.00 (93 percent) was awarded through the competitive process. As shown in Table 2, contracts totaling \$3,766,868.87 were approved by the Executive Officer.

Table 2: Contracts Approved by Executive Officer

Contract Description	Contract Amount
Board Member Assistant contracts and contract modifications, as approved by the Board's Administrative Committee	\$953,852.59
Technical consulting/Legal advice	\$1,116,042.00
Contract modifications for extensions of time or additional budgeted services from previously approved vendors	\$827,557.04
Sponsorships in advanced technologies and community and business outreach	\$98,729.30
Miscellaneous services including the lease of alternative fuel vehicles, software subscriptions, memberships, and air monitoring station licenses	\$763,463.70
Venue related services to support clean air outreach events including AB617 meetings	\$7,224.24
Total	\$3,766,868.87

Attachment

Contract Activity Report for the period July 1, 2024 through December 31, 2024

**South Coast AQMD
Contract Activity Report
July 1, 2024 - December 31, 2024**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOTNOTE
I. NEW AWARDS							
Competitive - Board Approved							
44	TECHNOLOGY ADVANCEMENT OFFICE	C23040	32	CONSTRUCTION AND OPERATION OF 1 NEW ELECTRIC VEHICLE CHARGING STATION.	CITY OF GLENDALE	\$225,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24023	56	ENHANCED FLEET MODERNIZATION PROGRAM (REPLACE YOUR RIDE)	CENTER FOR SUSTAINABLE ENERGY	\$357,750.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24119	32	ZERO-EMISSION INFRASTRUCTURE PROJECT	DEPENDABLE HIGHWAY EXPRESS, INC.	\$91,273.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24128	32	REPLACEMENT OF 2 OFF-ROAD VEHICLES	ALTMAN SPECIALTY PLANTS, LLC	\$42,530.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24140	32, 77	REPOWER 4 MAIN AND 4 AUXILIARY ENGINES OF 2 MARINE VESSELS	BAYDELTA MARITIME LLC	\$2,881,913.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24141	32	REPOWER 2 MAIN ENGINES ON 1 MARINE VESSEL	DOLPHIN SAFARI, INC.	\$164,174.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24143	77	REPOWER 2 MAIN ENGINES ON 1 MARINE VESSEL	JASON CHRUPCALA	\$297,600.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24145	77	REPOWER 2 MAIN AND TWO 2 AUXILIARY ENGINES OF 2 MARINE VESSELS	SAN PEDRO BAIT CO. INC	\$554,402.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24148	77	REPOWER 2 MAIN ENGINES ON 1 MARINE VESSEL	CATALINA CLASSIC CRUISES	\$724,800.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24149	32	REPOWER 2 MAIN ENGINES ON 1 MARINE VESSEL	CABO DETERMINED LLC	\$297,600.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24150	77	REPOWER 1 MAIN AND 2 AUXILIARY ENGINES ON 1 MARINE VESSEL	AUGELLO ENTERPRISES LLC	\$636,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24154	32	REPOWER 2 MAIN ENGINES ON 1 MARINE VESSEL	SAN PEDRO PRIDE INC	\$210,665.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24156	32	REPLACEMENT OF 3 MAIN ENGINES ON 3 MARINE VESSELS	BALBOA ISLAND FERRY	\$1,776,546.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24159	77	REPOWER 2 MAIN ENGINES ON 1 MARINE VESSEL	BARBARA H FISHING, LP	\$522,400.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24165	77	REPOWER 1 MAIN ENGINE ON 1 MARINE VESSEL	MICHAEL MAMIN	\$108,800.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24167	77	REPLACEMENT OF 6 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	AAA FARM, INC.	\$826,733.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24174	32	REPLACEMENT OF 2 OFF-ROAD AGRICULTURE EQUIPMENT	DOMENIGONI BROTHERS RANCH LP	\$290,341.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24175	32,77	REPLACEMENT OR REPOWER OF 8 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	BELK FARMS, LLC	\$1,369,653.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24176	32	REPLACEMENT OF ONE 1 OFF-ROAD EQUIPMENT	ANTONIO RAMIREZ	\$304,319.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24183	77	REPOWER 1 MAIN ENGINE OF 1 MARINE VESSEL	GREGORY J. KUGLIS	\$158,400.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24184	32	REPLACEMENT OF 2 OFF-ROAD AGRICULTURE EQUIPMENT	AGSER CONTRACTING	\$260,235.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24185	77	REPLACEMENT OF 2 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	AMAZING COACHELLA INC	\$991,440.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24188	32	REPLACEMENT 2 OFF-ROAD EQUIPMENT	EARTHWORKS SOIL AMENDMENTS, INC.	\$103,644.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24189	32	REPOWER OF 2 MAIN ENGINES ON 1 MARINE VESSEL	AMNAV MARITIME SERVICES, INC.	\$2,952,994.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24190	77	REPLACEMENT OF 1 OFF-ROAD AGRICULTURE EQUIPMENT	DESERT MIST FARMS LLC	\$230,945.00	

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DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOTNOTE
44	TECHNOLOGY ADVANCEMENT OFFICE	C24193	32	REPLACEMENT OF 1 OLDER OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	DEMLER FARMS LLC	\$70,560.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24196	32,77	REPLACEMENT OF 6 OLDER OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	ANTHONY VINEYARDS, INC.	\$475,116.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24198	32	REPLACEMENT OF 1 OLDER OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	BALMORAL FARM, INC	\$127,920.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24200	32	REPOWER 17 OFF-ROAD ENGINES	COBURN EQUIPMENT	\$3,815,749.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24201	77	REPLACEMENT OF 2 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	IGNACIO PARTIDA	\$145,457.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24203	32	REPLACEMENT OF 4 OLDER OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	IRVINE VALENCIA GROWERS	\$454,311.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24204	32	REPLACEMENT OF 3 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	EL DORADO DAIRY	\$665,443.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24207	32, 77	REPLACEMENT OF 2 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	DESERT CUSTOM FARMING INC.	\$342,480.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24210	77	REPLACEMENT OF 1 OFF-ROAD AGRICULTURE EQUIPMENT	GABRIEL VALENZUELA	\$114,646.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24211	32	REPLACE 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	JAMES JAY TEVELDE	\$142,352.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24212	77	REPLACEMENT OF 1 OFF-ROAD AGRICULTURE EQUIPMENT	HACIENDA DE TRAMPAS	\$151,441.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24214	77	REPLACEMENT OF 2 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	JAIME FRANCO SERRATOS	\$131,182.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24215	77	REPLACEMENT OF 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	JESUS CAMPOS	\$94,820.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24216	77	REPLACEMENT OF 4 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	JUNIOR ENTERPRISES, LLC	\$482,550.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24219	32	REPLACEMENT OF 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	DYT DAIRY	\$259,973.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24222	77	REPLACEMENT OF 1 OFF-ROAD AGRICULTURE EQUIPMENT	FRANCISCO MENDOZA	\$82,854.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24224	32, 77	REPLACEMENT OF 10 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	LONG LIFE FARMS INC.	\$1,288,074.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24225	77	REPLACEMENT OF 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	LARSEN LAND AND CATTLE CO LLC	\$178,350.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24226	77	REPLACEMENT OF 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	LB HARVESTING, INC	\$21,062.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24230	32, 77	REPLACEMENT OF 10 OFF ROAD EQUIPMENT	SA RECYCLING LLC	\$456,118.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24232	32	REPLACEMENT OF 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	M.H. UYEKAWA, INC	\$250,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24239	32	REPLACEMENT OF 7 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	QUALITY GROWERS INC	\$599,859.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24240	32, 77	PROVIDE TECHNICAL ASSISTANCE WITH THE IMPLEMENTATION OF INCENTIVE PROGRAMS INCLUDING THE CARL MOYER, COMMUNITY AIR PROTECTION AND PROP 1B PROGRAMS.	GREEN PARADIGM CONSULTING, INC	\$75,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24244	32	REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	DUNHAM ENTERPRISES	\$488,291.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24245	32	REPLACEMENT OF 2 OFF-ROAD AGRICULTURE EQUIPMENT	O & S HOLSTEINS LP	\$173,145.00	

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44	TECHNOLOGY ADVANCEMENT OFFICE	C24247	32	REPLACEMENT OF 2 OFF-ROAD AGRICULTURE EQUIPMENT	OAK GLEN WINERY LLC	\$117,536.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24248	32	REPLACEMENT OF 2 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	SOUTHWEST DAIRY INCORPORATED	\$197,309.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24251	77	REPLACEMENT OF 3 OFF-ROAD AGRICULTURE EQUIPMENT	SUNLAND CACTUS NURSERY	\$240,179.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24252	80	REPOWER 8 DUAL-ENGINE OFF-ROAD EQUIPMENT	PEED EQUIPMENT COMPANY	\$4,211,250.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24253	77	REPLACEMENT OF 5 OFF-ROAD EQUIPMENT	TOTAL TERMINALS INTERNATIONAL, LLC	\$574,857.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24256	77	REPLACEMENT OF 2 OFF-ROAD AGRICULTURE EQUIPMENT	SUNWEST FARMS LLC	\$422,072.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24259	80, 32	REPLACEMENT OF FOURTEEN (14) OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	TGI EQUIPMENT CORPORATION	\$4,169,613.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24260	32	REPLACEMENT OF 2 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	SCOTT BROS. DAIRY FARMS	\$473,453.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24262	77	REPLACEMENT OF 6 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	SUN & SANDS ENTERPRISES LLC	\$571,098.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24263	77	REPLACEMENT OF 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	SANTIAGO FIGUEROA FELIX	\$68,468.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24266	32	ZERO EMISSIONS INFRASTRUCTURE PROJECT	GREENLANE INFRASTRUCTURE, LLC	\$15,044,652.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24268	32, 77	REPLACEMENT OF 7 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	TUDOR RANCH INC	\$856,200.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24270	32	REPLACEMENT OF 6 OFF-ROAD AGRICULTURE EQUIPMENT	PRADO RECREATION INC	\$1,068,595.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24271	32	REPOWER 2 MAIN ENGINES OF 2 MARINE VESSELS	SAN CLEMENTE SPORTFISHING, INC	\$66,227.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24272	80	REPLACEMENT OF 7 TWO-FOR-ONE DUAL-ENGINE EQUIPMENT	RENTAC INC	\$3,922,112.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24273	77	REPLACEMENT OF 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	VAN DRUNEN FARMS	\$96,996.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24276	32	REPLACEMENT OF 3 OFF-ROAD EQUIPMENT	TINA MCMINN EQUIPMENT RENTALS, INC.	\$115,969.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24277	32	REPLACEMENT OF 4 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	SPRUCE GROVE INC	\$263,337.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24278	32, 77	REPLACEMENT OF 10 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	THERMICULTURE MANAGEMENT LLC	\$707,790.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24279	32	REPLACEMENT OF 1 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT WITH A LOWER OR ZERO EMISSION ENGINE/EQUIPMENT	JORGE MANUEL MALDONADO TORRES	\$163,056.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24283	32	REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	MISSION SPRINGS WATER DISTRICT	\$54,600.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24289	77	REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	ALEXANDRA DATES, INC.	\$115,085.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24298	32	REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	MCMINN EQUIPMENT RENTAL & LEASING, INC.	\$866,905.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24300	32	REPLACEMENT OF 6 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	BOERSMA DAIRY	\$1,665,196.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24311	32	REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	PENA NURSERY	\$49,479.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24313	32,77	REPLACEMENT OF 7 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	WEST COAST TURF	\$550,246.00	

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44	TECHNOLOGY ADVANCEMENT OFFICE	C24317	32	ZERO-EMISSION INFRASTRUCTURE	CR&R INCORPORATED	\$156,082.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24320	79	REPLACEMENT OF 1 ON-ROAD ZERO-EMISSION CLASS 8 FREIGHT TRUCK	DISNEYLAND RESORT	\$240,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24321	79	REPLACEMENT OF 1 ON-ROAD ZERO-EMISSION CLASS 8 FREIGHT TRUCK	SIERRA NEVADA BREWING COMPANY	\$240,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25036	79	REPLACEMENT OF 15 ON-ROAD CLASS 8 FREIGHT TRUCKS	CAL-MEX INTERNATIONAL BROKER INC	\$1,001,100.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25047	32	REPOWER 2 ENGINES AND THE OPERATION OF 1 MARINE VESSEL	COAST MARITIME LLC	\$238,400.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25054	79	REPLACEMENT OF 2 ON-ROAD ZERO-EMISSION CLASS 8 FREIGHT TRUCKS	OAKLAND PORT SERVICES CORP	\$305,284.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25055	32	REPLACEMENT OF 5 OFF-ROAD AGRICULTURE EQUIPMENT	CHINO VALLEY DAIRY PRODUCTS, INC.	\$745,621.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25057	77	REPLACEMENT OF 3 HEAVY-DUTY VEHICLES	KING FIO TRUCKING LLC	\$724,476.00	
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C25058	01	BRAKE TIRE & WEAR EXPOSURE STUDY	EMISSIONS ANALYTICS LLC	\$850,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25060	77	ZERO-EMISSION INFRASTRUCTURE	LBCT LLC	\$293,075.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25062	79	REPLACEMENT OF 7 ON-ROAD ZERO-EMISSION CLASS 8 FREIGHT TRUCKS	RPM TRANSPORATION INC	\$1,680,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25066	77	REPLACEMENT OF 1 OFF-ROAD AGRICULTURE EQUIPMENT	JOSE LUIS MONTOYA LOPEZ	\$38,791.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25067	77	REPLACEMENT OF 3 OFF-ROAD EQUIPMENT	LBCT LLC	\$684,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25069	32	REPLACEMENT OF 5 HEAVY DUTY VEHICLES	TRADELINK TRANSPORT, INC.	\$1,052,500.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25071	79	REPLACEMENT OF 25 ON-ROAD ZERO-EMISSION CLASS 8 WASTE HAULERS	REPUBLIC SERVICES PROCUREMENT INC	\$5,160,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25078	79	REPLACEMENT OF 5 ON-ROAD ZERO-EMISSION CLASS 8 FREIGHT TRUCKS	BALI EXPRESS SERVICES INC	\$1,200,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25088	79	REPLACEMENT OF 29 ON-ROAD ZERO EMISSION CLASS 8 FREIGHT TRUCKS	US FOODS INC	\$6,960,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25091	79	REPLACEMENT OF 5 ON-ROAD ZERO-EMISSION CLASS 8 WASTE HAULERS	USA WASTE OF CALIFORNIA INC	\$1,200,000.00	
44	MSRC	ML16127	23	IMPLEMENT "COMPLETE STREETS" PEDESTRIAN ACCESS PROJECT"	CITY OF YUCAIPA	\$174,420.00	
44	MSRC	ML18186	23	INSTALL EV CHARGING INFRASTRUCTURE	CITY OF PARAMOUNT	\$42,686.00	
44	MSRC	MS27001	23	PROGRAMMATIC OUTREACH SERVICES	BETTER WORLD GROUP ADVISORS	\$300,000.00	
					Subtotal	\$87,405,625.00	
Competitive - Executive Officer Approved							
44	TECHNOLOGY ADVANCEMENT OFFICE	C24173	31	TECHNICAL ASSISTANCE TO SUPPORT TECHNOLOGY ADVANCEMENT OFFICE MOBILE SOURCE INCENTIVE AND TECHNOLOGY DEMONSTRATION PROGRAMS	INTEGRA ENVIRONMENTAL CONSULTING	\$75,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24306	32,17	COMMERICAL eL&G PROGRAM	MASON'S SAW & LAWNMOWER SERVICE, IN	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24307	32, 17	COMMERCIAL eL&G PROGRAM	BURBANK IRRIGATION SUPPLY	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24309	32, 17	COMMERCIAL eL&G PROGRAM	SAIDICO DIRECT INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25037	32,17	COMMERICAL eL&G PROGRAM	ANDREWS LAWNMOWER SHOP	\$0.00	

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DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOTNOTE
46	MONITORING AND ANALYSIS	C25038	01	CONTRACTED MET AUDIT AND TECHNICAL SUPPORT FOR THE METEOROLOGICAL MONITORING NETWORK	TRINITY CONSULTANTS INC	\$60,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25045	32, 17	COMMERICAL eL&G PROGRAM	IMPERIAL SPRINKLER SUPPLY	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25073	32, 17	COMMERICAL eL&G PROGRAM	PARKWAY LAWNMOWER SHOP	\$0.00	
16	ADMINISTRATIVE & HUMAN RESOURCES	C25081	01	CLASSIFICATION & COMPENSATION	IOPREDICT INC	\$45,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25086	32, 17	COMMERICAL eL&G PROGRAM	CARRILLO OUTDOOR POWER COMPANY, LLC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25089	32/17	COMMERICAL eL&G PROGRAM	INFANTE BROS LAWNMOWER SHOP	\$0.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25116	01	LEGISLATIVE REPRESENTATION SERVICES	KADESH & ASSOCIATES, LLC	\$233,152.00	
					Subtotal	\$413,152.00	
Sole Source - Board Approved							
44	TECHNOLOGY ADVANCEMENT OFFICE	C23090	67	DATA COLLECTION ON CHARGING EV	ELECTRIC POWER RESEARCH INSTITUTE	\$209,588.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24094	17	LONG-RANGE CLASS 8 FUEL CELL ELECTRIC TRUCKS DEMONSTRATION	HYUNDAI MOTOR COMPANY	\$3,500,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24101	17	DEVELOP AND DEMONSTRATE AN ELECTRIC POWER TAKE-OFF SYSTEM ON A ZERO-EMISSION BATTERY ELECTRIC MEDIUM-DUTY TRUCK CHASSIS.	ODYNE SYSTEMS, LLC	\$750,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24131	31	CONDUCT A REGIONAL MEDIUM AND HEAVY-DUTY ZERO EMISSION VEHICLE INFRASTRUCTURE ANALYSIS	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$150,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24166	31	DEVELOPMENT OF A PORTABLE LIQUID HYDROGEN FUELING SYSTEM	ZERO EMISSION INDUSTRIES INC	\$1,175,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24318	01	EVALUATION OF ELECTRIC POWERED TRAILER FOR HEAVY-DUTY VEHICLES	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$50,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25032	17	REPLACE UP TO 5 INTERMODAL BOX CONECTOR CARTS	LBCT LLC	\$273,150.00	
43	MONITORING AND ANALYSIS	C25056	01	SENSOR LIBRARY PROGRAM	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$45,000.00	
43	MONITORING AND ANALYSIS	C25090	01	SENSOR LIBRARY PROGRAM	PACOIMA BEAUTIFUL	\$45,000.00	
					Subtotal	\$6,197,738.00	
Sole Source - Executive Officer Approved							
08	LEGAL	C24109	01	PROVIDE LEGAL ADVICE AND COUNSEL	GREENBERG TRAURIG LLP	\$15,000.00	
70	DIVERSITY, EQUITY, INCLUSION & CAP	C24281	01	AB 617 CO-LEAD	ANGELICA S BALDERAS	\$24,000.00	
70	DIVERSITY, EQUITY, INCLUSION & CAP	C24302	01	FACILITATOR SERVICES FOR AB617 COMMUNITY	VMA COMMUNICATIONS INC	\$32,000.00	
70	DIVERSITY, EQUITY, INCLUSION & CAP	C24315	01	AB 617 CO-LEAD	PHYSICIANS FOR SOCIAL RESPONSIBILITY	\$90,720.00	
70	DIVERSITY, EQUITY, INCLUSION & CAP	C25025	01	AB 617 CO-LEAD	WATTS CLEAN AIR AND ENERGY COMMITT	\$60,000.00	
01	DISTRICT GENERAL	C25035	01	WEST INLAND EMPIRE EMPLOYMENT RELATIONS CONSORTIUM MEMBERSHIP WITH PREMIUM LIEBERT LIBRARY SUBSCRIPTION	LIEBERT CASSIDY WHITMORE	\$5,170.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25040	01	LEGISLATIVE CONSULTING	ACTUM II, LLC	\$100,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25042	01	EDUCATION/OUTREACH SERVICES FOR COMMERCIAL LAWN AND GARDEN EXCHANGE PROGRAM	TORRES CONSULTING	\$95,000.00	
01	DISTRICT GENERAL	C25046	01	HEALTH INSURANCE BROKERAGE SERVICES	ALLIANT INSURANCE SERVICES INC	\$81,000.00	

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01	DISTRICT GENERAL	C25074	01	EMPLOYEE AND LABOR RELATIONS LEGAL SERVICES	LIEBERT CASSIDY WHITMORE	\$100,000.00	
01	DISTRICT GENERAL	C25075	01	EMPLOYMENT AND LABOR RELATIONS	ATKINSON, ANDELSON, LOYA, RUUD & ROMO	\$100,000.00	
					Subtotal	\$702,890.00	
II. OTHER							
Board Assistant							
Board Administrative Committee/Executive Officer Approved							
02	GOVERNING BOARD	C25000	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	MARISELA SANTANA	\$20,850.00	
02	GOVERNING BOARD	C25001	01	BOARD ASSISTANT SERVICES FOR V. MANUEL PEREZ	GUILLERMO GONZALEZ	\$61,284.96	
02	GOVERNING BOARD	C25002	01	BOARD ASSISTANT SERVICES FOR HOLLY J. MITCHELL	LORAIN LUNDQUIST	\$57,059.04	
02	GOVERNING BOARD	C25003	01	BOARD ASSISTANT SERVICES FOR NITHYA RAMAN	JACKSON GUZE	\$46,491.96	
02	GOVERNING BOARD	C25004	01	BOARD ASSISTANT SERVICES FOR ANDREW DO	CHRIS WANGSAPORN	\$39,624.00	
02	GOVERNING BOARD	C25005	01	BOARD ASSISTANT SERVICES FOR GIDEON KRACOV	NASREEN JOHNSON	\$26,400.00	
02	GOVERNING BOARD	C25006	01	BOARD ASSISTANT SERVICES FOR VANESSA DELGADO	ALISA COTA	\$25,872.00	
02	GOVERNING BOARD	C25007	01	BOARD ASSISTANT SERVICES FOR VANESSA DELGADO	SANDRA HERNANDEZ	\$45,000.00	
02	GOVERNING BOARD	C25008	01	BOARD ASSISTANT SERVICES FOR GIDEON KRACOV	JORDAN JIHAE OH	\$57,331.92	
02	GOVERNING BOARD	C25009	01	BOARD ASSISTANT SERVICES FOR VANESSA DELGADO	MARIA TERESA ACOSTA	\$48,000.00	
02	GOVERNING BOARD	C25010	01	BOARD ASSISTANT SERVICES FOR GIDEON KRACOV	ERNESTO CASTILLO	\$28,800.00	
02	GOVERNING BOARD	C25011	01	BOARD ASSISTANT SERVICES FOR PATRICIA LOCK DAWSON	THOMAS ALAN GROSS	\$15,215.76	
02	GOVERNING BOARD	C25012	01	BOARD ASSISTANT SERVICES FOR CARLOS RODRIGUEZ	MARK D TAYLOR	\$77,663.04	
02	GOVERNING BOARD	C25013	01	BOARD ASSISTANT SERVICES FOR PATRICIA LOCK DAWSON	ANDREW E SILVA	\$35,503.20	
02	GOVERNING BOARD	C25014	01	BOARD ASSISTANT SERVICES FOR LARRY MCCALLON	RONALD KETCHAM	\$45,045.96	
02	GOVERNING BOARD	C25015	01	BOARD ASSISTANT SERVICES FOR VERONICA PADILLA-CAMPOS	AMY J WONG	\$28,265.04	
02	GOVERNING BOARD	C25016	01	BOARD ASSISTANT SERVICES FOR VERONICA PADILLA-CAMPOS	FREDRICK MINASSIAN	\$28,264.92	
02	GOVERNING BOARD	C25017	01	BOARD ASSISTANT SERVICES FOR LARRY MCCALLON	DEBRA S MENDELSON	\$27,862.20	
02	GOVERNING BOARD	C25018	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	JACQUELINE VAZQUEZ	\$6,000.00	
02	GOVERNING BOARD	C25019	01	BOARD ASSISTANT SERVICES FOR MICHAEL A. CACCIOTTI	WILLIAM GLAZIER	\$12,000.00	
02	GOVERNING BOARD	C25020	01	BOARD ASSISTANT SERVICES FOR MICHAEL A. CACCIOTTI	BENJAMIN S WONG	\$28,805.04	
02	GOVERNING BOARD	C25021	01	BOARD ASSISTANT SERVICES FOR MICHAEL A. CACCIOTTI	WESLEY REUTIMANN	\$12,000.00	
02	GOVERNING BOARD	C25022	01	BOARD ASSISTANT SERVICES FOR MICHAEL A. CACCIOTTI	TIMOTHY PHILLIP SANDOVAL	\$13,380.00	
02	GOVERNING BOARD	C25023	01	BOARD ASSISTANT SERVICES FOR MICHAEL A. CACCIOTTI	WILLIAM J KELLY	\$26,405.04	
02	GOVERNING BOARD	C25024	01	BOARD ASSISTANT SERVICES FOR MICHAEL A. CACCIOTTI	SHO TAY	\$11,400.00	
02	GOVERNING BOARD	C25027	01	BOARD ASSISTANT SERVICES FOR MICHAEL A. CACCIOTTI	KEN CHAWKINS	\$14,881.92	
02	GOVERNING BOARD	C25028	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	UDUAK-JOE NTUK	\$32,850.00	
02	GOVERNING BOARD	C25050	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	RAMON GALINDO	\$5,500.00	
02	GOVERNING BOARD	C25051	01	BOARD ASSISTANT SERVICES FOR CURT HAGMAN	COUNTY OF SAN BERNARDINO [MICHAEL MILLER]	\$24,264.00	
02	GOVERNING BOARD	C25052	01	BOARD ASSISTANT SERVICES FOR CURT HAGMAN	COUNTY OF SAN BERNARDINO [PETER ROGERS]	\$11,416.04	
02	GOVERNING BOARD	C25095	01	BOARD ASSISTANT SERVICES FOR DONALD P. WAGNER	TARA P CAMPBELL	\$33,020.00	
					Subtotal	\$946,456.04	
Board Assistant Modifications							
Board Administrative Committee/Executive Officer Approved							
02	GOVERNING BOARD	C25017	01	BOARD ASSISTANT SERVICES FOR LARRY MCCALLON	DEBRA S MENDELSON	\$7,396.55	
					Subtotal	\$7,396.55	
Board Assistant Modifications							

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Terminated Contracts-Partial/No Work Performed							
02	GOVERNING BOARD	C25050	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	RAMON GALINDO	-\$18,350.00	
02	GOVERNING BOARD	C25028	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	UDUAK-JOE NTUK	-\$16,425.00	
02	GOVERNING BOARD	C25000	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	MARISELA SANTANA	-\$7,425.00	
02	GOVERNING BOARD	C25012	01	BOARD ASSISTANT SERVICES FOR CARLOS RODRIGUEZ	MARK D TAYLOR	-\$38,831.52	
02	GOVERNING BOARD	C25018	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	JACQUELINE VAZQUEZ	-\$3,000.00	
02	GOVERNING BOARD	C25004	01	BOARD ASSISTANT SERVICES FOR ANDREW DO	CHRIS WANGSAPORN	-\$36,322.00	
					Subtotal	-\$120,353.52	
Other - Executive Officer Approved/AHR/DEO Approved							
16	ADMINISTRATIVE & HUMAN RESOURCES	C24100	01	LEASE FOR 15 TOYOTA COROLLA	ENTERPRISE FM TRUST	\$571,944.10	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25043	01	VENUE FOR HEARING BOARD PUBLIC HEARING REGARDING CHIQUITA CANYON LANDFILL	SANTA CLARITA COMMUNITY COLLEGE DISTRICT	\$7,224.24	
16	ADMINISTRATIVE & HUMAN RESOURCES	C25048	01	LEASE FOR 3 TOYOTA PRIUS	ENTERPRISE FM TRUST	\$117,451.60	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25096	01	SUBSCRIPTION TO CAPITOL TRACK	WAVELENGTH AUTOMATION INC	\$4,068.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25101	01	COMMUNITIES IN CHARGE INCENTIVE RECIPIENT AGREEMENT - SECOND BLOCK GRANT FOR LIGHT-DUTY ELECTRIC VEHICLE CHARGER INCENTIVE PROJECTS	CALSTART, INC	\$70,000.00	
					Subtotal	\$770,687.94	
III. SPONSORSHIPS							
Sponsorships - Executive Officer Approved							
49	TAO CF/1B/CMP	C24312	01	COSPONSOR DRIVING MOBILITY 11	SUSTAIN SOCIAL	\$3,800.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25026	01	FRIENDS OF THE COLISEUM FOUNDATION SPONSORSHIP 2024	FRIENDS OF THE COLISEUM FOUNDATION	\$10,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25033	01	LA GOLF CART RENTALS - 2024 EJ CONFERENCE	LA GOLF CART RENTALS LLC	\$1,738.80	
49	TAO CF/1B/CMP	C25034	01	COSPONSOR IRVINE CLEAN ENERGY CONFERENCE	UNIVERSITY OF CALIFORNIA - IRVINE	\$10,000.00	
49	TAO CF/1B/CMP	C25039	01	COSPONSOR CLEAN MOBILITY FORUM	CALSTART, INC	\$4,500.00	
49	TAO CF/1B/CMP	C25041	01	COSPONSOR 2024 COMOTION LA	COMOTION INC	\$20,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25044	01	SPONSOR THE 26TH ANNUAL EL SEGUNDO MAIN STREET CAR SHOW	EL SEGUNDO CHAMBER OF COMMERCE	\$600.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25049	01	SPONSOR CA SAFE SCHOOLS "YOUR LIFE IS NOW"	COMMUNITY INITIATIVES	\$5,000.00	
49	TAO CF/1B/CMP	C25053	01	COSPONSOR SOCIAL ELECTRIFIED RIDE	ORANGE COUNTY AUTOMOBILE DEALERS ASSOCIATION	\$7,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25064	01	VALLEY CULTURAL FOUNDATION SPONSORSHIP	VALLEY CULTURAL CENTER	\$5,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25068	01	COSPONSOR THE 2024 WOMEN IN GREEN BREAKFAST	UNITED STATES GREEN BUILDING COUNCIL	\$5,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25072	01	HISPANAS ORGANIZED FOR POLITICAL EQUALITY (HOPE) SPONSORSHIP	HISPANAS ORGANIZED FOR POLITICAL EQUALTY	\$6,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C25077	01	SPONSOR 35TH REAL WORLD EMISSIONS WORKSHOP	COORDINATING RESEARCH COUNCIL INC	\$5,000.00	
49	TAO CF/1B/CMP	C25092	01	COSPONSOR 2024 15TH ANNUAL ENERGY EVENT	SUSTAIN SOCIAL	\$2,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25094	01	SPONSOR FIGHT FOR AIR CLIMB	AMERICAN LUNG ASSOCIATION	\$5,000.00	
49	TAO CF/1B/CMP	C25105	01	COSPONSOR CALSTART'S MEMBER SYMPOSIUM	CALSTART, INC	\$5,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C25123	01	COACHELLA VALLEY SUMMIT	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$2,090.50	
					Subtotal	\$98,729.30	
IV. MODIFICATIONS							
Board Approved							
16	ADMINISTRATIVE & HUMAN RESOURCES	C22101	01	INVESTIGATIVE SERVICES	PUBLIC INTEREST INVESTIGATIONS INC	\$50,000.00	15

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44	TECHNOLOGY ADVANCEMENT OFFICE	C23200	77	BULK-PURCHASE PRICING FOR ONE AIR FILTRATION UNIT AND A 3 YEAR FILTER(S) FOR AB 617 COMMUNITIES OF EASTERN COACHELLA VALLEY, EAST LOS ANGELES, BOYLE HEIGHTS, AND WEST COMMERCE	MEDIFY AIR LLC	\$218,750.00	15
44	TECHNOLOGY ADVANCEMENT OFFICE	C23201	77	BULK-PURCHASE PRICING FOR ONE AIR FILTRATION UNIT AND A 3 YEAR FILTER(S) FOR AB 617 COMMUNITIES OF EASTERN COACHELLA VALLEY, EAST LOS ANGELES, BOYLE HEIGHTS, AND WEST COMMERCE	ORANSI LLC	\$218,750.00	15
44	TECHNOLOGY ADVANCEMENT OFFICE	C23202	77	BULK-PURCHASE PRICING FOR ONE AIR FILTRATION UNIT AND A 3 YEAR FILTER(S) FOR AB 617 COMMUNITIES OF EASTERN COACHELLA VALLEY, EAST LOS ANGELES, BOYLE HEIGHTS, AND WEST COMMERCE	IQAIR FOUNDATION	\$500,000.00	15
44	TECHNOLOGY ADVANCEMENT OFFICE	C23204	77	BULK-PURCHASE PRICING FOR ONE AIR FILTRATION UNIT AND A 3 YEAR FILTER(S) FOR AB 617 COMMUNITIES OF EASTERN COACHELLA VALLEY, EAST LOS ANGELES, BOYLE HEIGHTS, AND WEST COMMERCE	US AIR PURIFIERS LLC	\$218,750.00	15
35	LEGISLATIVE & PUBLIC AFFAIRS	C24078	01	LEGISLATIVE REPRESENTATION IN SACRAMENTO, CA	JOE A GONSALVES & SON	\$143,836.00	15
44	TECHNOLOGY ADVANCEMENT OFFICE	C24259	80, 32	REPLACEMENT/REPOWER OF THIRTY-NINE (39) OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	TGI EQUIPMENT CORPORATION	\$0.00	6
44	MSRC	MS21016	23	PROCURE 2 POWER CENTERS AND 4 MEGA CHARGERS	RYDER INTEGRATED LOGISTICS INC	\$3,169,746.00	11
44	TECHNOLOGY ADVANCEMENT OFFICE	C23202	77	BULK-PURCHASE PRICING FOR ONE AIR FILTRATION UNIT AND A 3 YEAR FILTER(S) FOR AB 617 COMMUNITIES OF EASTERN COACHELLA VALLEY, EAST LOS ANGELES, BOYLE HEIGHTS, AND WEST COMMERCE	IQAIR FOUNDATION	\$218,750.00	15
16	ADMINISTRATIVE & HUMAN RESOURCES	C21088	01	EMPLOYEE AND LABOR RELATIONS LEGAL SERVICES	ATKINSON, ANDELSON, LOYA, RUUD & ROMO	\$100,000.00	0
16	ADMINISTRATIVE & HUMAN RESOURCES	C21089	01	EMPLOYEE AND LABOR RELATIONS LEGAL SERVICES	LIEBERT CASSIDY WHITMORE	\$50,000.00	15
					Subtotal	\$4,888,582.00	
Executive Officer Approved							
16	ADMINISTRATIVE & HUMAN RESOURCES	C15025	01	MEDICAL SERVICE PROVIDER	SOUTHERN CALIFORNIA PERMANENTE MED GROUP	\$0.00	4
16	ADMINISTRATIVE & HUMAN RESOURCES	C15026	01	PROVIDE OCCUPATIONAL HEALTH SERVICES	UNIVERSITY OF CALIFORNIA - IRVINE	\$40,000.00	0
44	TECHNOLOGY ADVANCEMENT OFFICE	C15150	31	INSTALL/UPGRADE EIGHT HYDROGEN FUELING STATIONS THROUGHOUT THE BASIN	AIR PRODUCTS AND CHEMICALS, INC	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C15552	32	REPOWER 2 MAIN AND 1 AUXILIARY ENGINE ON 1 MARINE VESSEL	PFLEGER INSTITUTE OF ENVIRONMENTAL	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C15611	31	INSTALLATION OF ONTARIO RENEWABLE HYDROGEN FUELING STATION	ONTARIO CNG STATION INC.	\$0.00	6
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C16393	01	CONSULTANTS TO PROVIDE CEQA ASSISTANCE	PLACEWORKS INC	\$0.00	6
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C16394	01	CONSULTANTS TO PROVIDE CEQA ASSISTANCE	ENVIRONMENTAL AUDIT INC	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C17232	32	REPLACEMENT OF 5 OFF-ROAD VEHICLES	FRIENDLY HILLS COUNTRY CLUB	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C17259	32	REPLACEMENT OF 4 OFF-ROAD EQUIPMENT	A & I ROCK CO., INC.	\$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C18035	01	COUNSEL: LIABILITY LITIGATION	DUNBAR & ASSOCIATES, A PROFESSIONAL LAW	\$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C18085	01	INSURANCE BROKERAGE SERVICES	ALLIANT INSURANCE SERVICES INC	\$52,000.00	0

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16	ADMINISTRATIVE & HUMAN RESOURCES	C18147	01	BENEFIT PLAN ADMINISTRATION	BENEFIT COORDINATORS CORPORATION	\$20,000.00	0
08	LEGAL	C18305	01	PRINT PUBLICATIONS/UPDATES	THOMSON REUTERS - WEST PYMT CTR	\$30,792.80	0
44	TECHNOLOGY ADVANCEMENT OFFICE	C19166	31	REPLACEMENT OF 29 DIESEL AND GASOLINE POWERED AIRPORT SHUTTLE BUSES	PHOENIX CARS, LLC	\$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C19445	01	MAINTENANCE, SERVICE AND REPAIRS OF HVAC AND REFRIGERATION EQUIPMENT	SARRIS INC	\$49,184.00	0
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C19462	27	MULTIFAMILY AFFORDABLE HOUSING ELECTRIFICATION PROJECT	ASSOCIATION FOR ENERGY AFFORDABILITY INC	\$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C20045	01	ELEVATOR MAINTENANCE AND SERVICE	KONE INC.	\$47,996.00	15
44	TECHNOLOGY ADVANCEMENT OFFICE	C20051	54	COMMERCIAL HARBOR CRAFT NOX AND PM EMISSIONS REDUCTION TECHNOLOGY DEMONSTRATION	NETT TECHNOLOGIES INC.	\$0.00	6
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C20078	01	CANSAC-CEFA PARTNERSHIP PROGRAM FOR CLIMATE ECOSYSTEM AND FIRE APPLICATION	DESERT RESEARCH INSTITUTE	\$16,000.00	0
44	TECHNOLOGY ADVANCEMENT OFFICE	C20086	80	TECHNICAL ASSISTANCE AND IMPLEMENTATION OF THE CARL MOYER PROGRAM INCLUDING THE SCHOOL BUS PROGRAM	CALSTART, INC	\$0.00	6
08	LEGAL	C20127	01	PROVIDE LEGAL ADVICE AND COUNSEL	SLOVER & LOFTUS	\$100,000.00	15
44	TECHNOLOGY ADVANCEMENT OFFICE	C20137	01	AIR MONITORING LICENSE AGREEMENT	LEEWARD BAY MARINA	\$12,000.00	6
42	RULE 1180 MONITORING	C20153	01	AIR MONITORING LICENSE AGREEMENT	MANHATTAN BEACH UNIFIED SCHOOL DISTRICT	\$25,000.00	0
44	TECHNOLOGY ADVANCEMENT OFFICE	C20207	32	REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	FUENTES BROS TRUCKING	\$0.00	11
44	TECHNOLOGY ADVANCEMENT OFFICE	C20265	31	TECHNICAL ASSISTANCE WITH HEAVY-DUTY VEHICLE EMISSIONS TESTING, ANALYSES AND ENGINE DEVELOPMENT & APPLICATIONS	EASTERN RESEARCH GROUP, INC.	\$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C20335	01	DEFERRED COMPENSATION PLAN CONSULTANT SERVICE	BENEFIT FINANCIAL SERVICES GROUP	\$36,000.00	0
08	LEGAL	C21090	01	PROVIDE LEGAL ADVICE AND COUNSEL	OLSON REMCHO LLP	\$10,000.00	0
17	CLERK OF THE BOARDS	C21094	01	LEGAL REPRESENTATION FOR HEARING BOARD	STRUMWASSER & WOOCHEER LLP	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C21291	27	REPOWER 3 MAIN ENGINES OF 2 MARINE VESSELS	SOUTHWEST MARINE RESOURCES, LLC	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C21314	79	REPLACEMENT OF 1 ON-ROAD DRAYAGE TRUCK	JASON KWON	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C21323	79	REPLACEMENT OF 17 ON-ROAD DRAYAGE TRUCKS	USA WASTE OF CALIFORNIA INC	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C21343	79	REPLACEMENT OF 1 DRAYAGE TRUCK	ALLEN CHUL HYON	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C21348	79	REPLACEMENT OF 4 ON-ROAD WASTE HAULERS	UNIVERSAL WASTE SYSTEMS, INC.	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C21355	01	PLANNING, ORGANIZING, AND FACILITATING SOUTH COAST AQMD'S MLK AND CESAR CHAVEZ EVENTS	LEE ANDREWS GROUP INC	\$0.00	6
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C21396	01	PERFORM TECHNICAL UPGRADES, INTEGRATE DATA FROM ADDITIONAL MONITORS AND MAINTAIN PUBLIC ALERT SYSTEM TO PROVIDE AUTOMATED ALERTS FOR H2S	SONOMA TECHNOLOGY INC	\$16,000.00	15
08	LEGAL	C22067	01	PROVIDE LEGAL ADVICE AND COUNSEL	BEST BEST & KRIEGER	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C22068	79	REPLACEMENT OF 2 ON-ROAD WASTE HAULERS	CITY OF SACRAMENTO	\$0.00	11
44	TECHNOLOGY ADVANCEMENT OFFICE	C22079	79	REPLACEMENT OF 12 ON-ROAD CLASS 8 FREIGHT TRUCKS	NEW BERN TRANSPORT CORPORATION	\$0.00	6

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44	TECHNOLOGY ADVANCEMENT OFFICE	C22080	79	REPLACEMENT OF 12 ON-ROAD CLASS 8 FREIGHT TRUCKS	ESTES EXPRESS LINES	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C22084	31	DEVELOP AND DEMONSTRATE HYDROGEN FUEL CELL MEDIUM-DUTY BUSES	A-1 ALTERNATIVE FUEL SYSTEMS	\$0.00	6
04	FINANCE	C22141	01	PROVIDE INVESTMENT CONSULTING SERVICES	PFM ASSET MANAGEMENT LLC	\$75,000.00	0
16	ADMINISTRATIVE & HUMAN RESOURCES	C22194	01	JANITORIAL SERVICES AT THE SOUTH COAST AQMD HEADQUARTERS IN DIAMOND BAR	SANTA FE JANITORIAL MAINTENANCE SERVICES	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C22305	32	REPLACEMENT OF 2 OFF-ROAD EQUIPMENT	SALVADOR MORA	\$0.00	11
49	TAO CF/1B/CMP	C22332	32	REPLACEMENT OF 3 OFF-ROAD EQUIPMENT	BURNT VALLEY LAND & CATTLE, LLC	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C22380	32	REPLACEMENT OF 3 OFF-ROAD EQUIPMENT	JUNIOR ENTERPRISES, LLC	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C22382	32	REPLACEMENT OF 6 OFF-ROAD EQUIPMENT	MARTIN MORA	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C22403	32	OPERATE 2 OFF-ROAD EQUIPMENT	GREYSON HEAVY EQUIPMENT RENTALS	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C23066	79	REPLACEMENT OF 2 ON-ROAD CLASS 8 DRAYAGE TRUCKS	TRICON TRANSPORTATION INC.	\$0.00	6
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C23078	01	CONSULTING SERVICES (ZORIK PIRVEYSIAN)	INTEGRA ENVIRONMENTAL CONSULTING	\$100,000.00	0
43	MONITORING AND ANALYSIS	C23087	01	OPEN PATH REMOTE SENSING OF AIR TOXICS	UNIVERSITY OF CALIFORNIA-LOS ANGELES	\$64,211.00	3
50	ENGINEERING AND PERMITTING	C23098	01	CONSULTING SERVICES FOR REVIEW OF PERMIT APPLICATIONS	WILLIAM DANIEL WALTERS	\$75,000.00	0
44	TECHNOLOGY ADVANCEMENT OFFICE	C23133	77	REPOWER OF 3 ENGINES AND THE OPERATION OF 1 MARINE VESSEL	THANH H. NGUYEN	\$0.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C23138	01	LEGAL SERVICES FOR IMMIGRATION	FISHER & PHILLIPS, LLP	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C23230	79	REPLACEMENT OF 4 ON-ROAD CLASS 8 TRUCKS	CITY OF LONG BEACH	\$0.00	11
44	TECHNOLOGY ADVANCEMENT OFFICE	C24035	31	DEVELOP AND DEMONSTRATE HYDROGEN FUEL CELL MOBILE POWER GENERATION SYSTEM	ROCKETRUCK INC	\$0.00	11
44	TECHNOLOGY ADVANCEMENT OFFICE	C24038	79	REPLACEMENT OF 1 MAIN ENGINE FOR 1 TUGBOAT	CURTIN MARITIME CORP.	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C24094	17	CLASS 8 FUEL CELL ELECTRIC TRUCKS DEMONSTRATION PROJECT	HYUNDAI MOTOR COMPANY	\$0.00	11
35	LEGISLATIVE & PUBLIC AFFAIRS	C24096	01	STATE LEGISLATIVE REPRESENTATION	RESOLUTE	\$50,000.00	15
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C24124	01	PROVIDE HEALTH EFFECTS SUPPORT	KHADEEJA ABDULLAH	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C24200	32	REPOWER 17 OFF-ROAD ENGINES	COBURN EQUIPMENT	\$0.00	11
44	TECHNOLOGY ADVANCEMENT OFFICE	C24249	32	REPLACEMENT OF 2 OFF-ROAD, HEAVY-DUTY ENGINE/EQUIPMENT	TALLEY MEADOWS LAYUPS AND RETIREMENT INC	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	C24266	32	ZERO EMISSION INFRASTRUCTURE	GREENLANE INFRASTRUCTURE, LLC	\$0.00	11
16	ADMINISTRATIVE & HUMAN RESOURCES	C24296	01	HARASSMENT PREVENTION TRAINING	TRALIAN OPERATING LLC	\$8,100.00	15
35	LEGISLATIVE & PUBLIC AFFAIRS	C25033	01	LA GOLF CART RENTALS - 2024 EJ CONFERENCE	LA GOLF CART RENTALS LLC	\$273.24	15
44	TECHNOLOGY ADVANCEMENT OFFICE	G22207	80	PURCHASE OF 3 CNG SCHOOL BUSES WITH ASSOCIATED INFRASTRUCTURE	COLTON JOINT UNIFIED SCHOOL DISTRICT	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	G22222	80	REPLACEMENT OF 6 SCHOOL BUSES	MONTEBELLO UNIFIED SCHOOL DISTRICT	\$0.00	6

**South Coast AQMD
Contract Activity Report
July 1, 2024 - December 31, 2024**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOTNOTE
44	TECHNOLOGY ADVANCEMENT OFFICE	G22227	80	REPLACEMENT OF 8 SCHOOL BUSES	NORWALK-LA MIRADA UNIFIED SCHOOL DIST	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	G22232	80	REPLACEMENT OF 6 SCHOOL BUSES	REDLANDS UNIFIED SCHOOL DISTRICT	\$0.00	6
44	TECHNOLOGY ADVANCEMENT OFFICE	G22234	80	PURCHASE 2 TYPE C PROPANE SCHOOL BUSES	SAUGUS UNION SCHOOL DISTRICT	\$0.00	6
44	MSRC	ML16075	23	EXPAND CNG STATION AND MODIFY MAINTENANCE FACILITY	CITY OF SAN FERNANDO	\$0.00	6
44	MSRC	ML18050	23	PROCURE ONE ON-ROAD MEDIUM-DUTY ZERO EMISSION VEHICLE AND INSTALL 16 LEVEL II EV CHARGING STATIONS	CITY OF IRVINE	\$0.00	11
44	MSRC	ML18051	23	PROCURE 9 LIGHT-DUTY & 2 MEDIUM-DUTY ZEVS AND INSTALL 11 EV CHARGING AND 1 CNG FUELING STATION	CITY OF RANCHO CUCAMONGA	\$0.00	6
44	MSRC	ML18057	23	PROCURE 5 LIGHT-DUTY ZEVS AND INSTALL 3 EV CHARGING STATIONS	CITY OF CARSON	\$0.00	6
44	MSRC	ML18063	23	EXPAND EXISTING CNG STATION	CITY OF RIVERSIDE	\$0.00	6
44	MSRC	ML18068	23	PROCURE LIGHT-DUTY ZEVS, INSTALL EV CHARGING STATIONS & EXPAND CNG STATIONS	CITY OF MISSION VIEJO	\$0.00	6
44	MSRC	ML18082	23	PROCURE MEDIUM-DUTY ZERO-EMISSION VEHICLES AND INSTALL EV CHARGING STATIONS	CITY OF LOS ANGELES	\$0.00	0
44	MSRC	ML18094	23	INSTALL EV CHARGING STATION	CITY OF LAGUNA WOODS	\$0.00	4
44	MSRC	ML18148	23	BIKE SYSTEMS ON ARROW HIGHWAY	CITY OF SAN DIMAS	\$0.00	6
44	MSRC	MS18027	23	INSTALL CNG STATION, MODIFY MAINTENANCE FACILITY AND TRAIN MECHANICS	CITY OF GARDENA	\$0.00	6
44	MSRC	MS18182	23	INSTALL A NEW HYDROGEN FUELING STATION AT 14700 DOWNEY AVENUE, PARAMOUNT, CALIFORNIA ON PROPERTY OWNED BY WORLD ENERGY	AIR PRODUCTS AND CHEMICALS, INC	\$0.00	6
44	MSRC	MS21005	23	IMPLEMENT LAST MILE FREIGHT PROGRAM	SOUTHERN CALIFORNIA ASSOCIATION OF GOVTS	\$0.00	6
44	MSRC	MS21010	23	PROCURE DEPLOY 1 ZERO-EMISSION ELECTRIC OVERHEAD CRANE	MHX LLC	\$0.00	6
44	MSRC	MS21019	23	LEASE UP TO 14 ZERO-EMISSION TRUCKS AND PROVIDE ELECTRIC CHARGING INFRASTRUCTURE	VOLVO FINANCIAL SERVICES	\$0.00	6
44	MSRC	MS21023	23	INSTALL EV CHARGING STATION	BNSF RAILWAY COMPANY	\$0.00	6
					Subtotal	\$827,557.04	
V. TERMINATED CONTRACTS-PARTIAL/NO WORK PERFORMED							
44	MSRC	ML18135	23	PROCURE 3 LIGHT-DUTY ZERO EMISSION VEHICLE AND 1 HEAVY-DUTY NEAR-ZERO EMISSION VEHICLE	CITY OF AZUSA	-\$25,000.00	7
44	MSRC	ML18091	23	INSTALL 16 EV CHARGING STATIONS	CITY OF TEMECULA	-\$29,425.00	7
44	MSRC	ML18064	23	PROCURE LIGHT- & MEDIUM-DUTY ZERO EMISSION VEHICLES AND INSTALL EV CHARGING STATIONS	CITY OF EASTVALE	-\$18,937.00	7
44	MSRC	ML18084	23	INSTALL 2 EV CHARGING STATIONS	CITY OF SOUTH EL MONTE	-\$30,000.00	7
44	MSRC	ML16039	23	INSTALL EV CHARGING STATIONS	CITY OF TORRANCE	-\$4,608.00	7
44	MSRC	ML18178	23	PROCURE 1 HEAVY-DUTY NEAR-ZERO EMISSIONS VEHICLE	CITY OF LA PUENTE	-\$25,000.00	7
					Subtotal	-\$132,970.00	

**South Coast AQMD
Contract Activity Report
July 1, 2024 - December 31, 2024**

DEPT ID	DEPT NAME	CONTRACT NUMBER	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOTNOTE
	SPECIAL FUNDS				FOOTNOTES		
17	ADV. TECH, OUTREACH & EDU FUND				1 NO FIXED VALUE		
22	AIR QUALITY IMPROVEMENT FUND				2 RATES VARY - NO FIXED VALUE		
23	MSRC FUND				3 REVENUE CONTRACT - NO AMOUNT SHOWN		
27	AIR QUALITY INVESTMENT FUND				4 NO COST - COST REALLOCATION		
31	CLEAN FUELS FUND				5 CHANGED TO EMPLOYEE STATUS		
32	CARL MOYER FUND - SB1107 ACCOUNT				6 NO COST- TIME EXTENSION		
33	SCHOOL BUS REPLACEMENT PROGRAM				7 DE-OBLIGATION OF FUNDING		
35	AES SETTLEMENT FUND				8 COMPETITIVE SOLICITATION ISSUED BY ANOTHER GOV AGENCY		
36	RULE 1309.1 PRIORITY RESERVE FUND				9 NO COST - AIR MONITORING/LICENSE		
38	LADWP SETTLEMENT PROJECTS FUND				11 NO COST - CHANGE IN TERMS		
40	NATURAL GAS VEHICLE PARTNERSHIP FUND				12 FEDERAL GOVERNMENT PASS-THRU		
45	CBE/CBO SETTLEMENT AGREEMENT FUND				13 AT DIRECTION OF LEGISLATIVE COMMITTEE		
46	BP ARCO SETTLEMENT FUND				14 OPTIONAL YEAR RENEWAL/MULTI-YR CONTRACT		
48	HEALTH EFFECTS RESEARCH FUND				15 TRUCK GRANT PAID TO CASCADE SIERRA SOLUTIONS		
49	CEQA GHG MITIGATION FUND				16 AMOUNT UTILIZED MAY BE LESS THAN CONTRACT AMOUNT		
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						

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 11

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 14, 2025, Reviewed

RECOMMENDED ACTION:
Receive and file.

Wayne Natri
Executive Officer

RMM:XC:DD:HL:dc

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 7, 2025 Board Meeting
 Status Report on Ongoing and Upcoming Projects for
 Information Management

South Coast AQMD Mobile Application Phase 6	
Brief description:	The Phase 6 enhancement of the South Coast AQMD mobile app focuses on introducing the Open Burn Program and Check Before You Burn (CBYB) feature layers, enhancing user access to detailed environmental data and preparing the map component for future expansions.
Estimated project cost	\$54,785
Overall project status	In Progress
Percentage complete	85%
LAST 30 days	<ul style="list-style-type: none"> • System Development in Progress
NEXT 30 days	<ul style="list-style-type: none"> • User Acceptance Testing
Original estimated go-live date	12/20/24
Current estimated go-live date	4/25/25
Go-live date	N/A
Notes	Schedule extended to accommodate adjustments related to dependent software.

Agenda Tracking System	
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
Percentage complete	80%
LAST 30 days	<ul style="list-style-type: none"> • System Development in Progress
NEXT 30 days	<ul style="list-style-type: none"> • User Acceptance Testing and Training
Original estimated go-live date	11/15/24
Current estimated go-live date	5/9/25
Go-live date	N/A
Notes	Additional enhancements were requested by the users.

ATTACHMENT
 March 7, 2025 Board Meeting
 Status Report on Ongoing and Upcoming Projects for
 Information Management

Online Application Filing	
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
Percentage complete	90%
LAST 30 days	<ul style="list-style-type: none"> • User Acceptance Testing of Phase 1 of the project (first ten 400-E-XX forms) • User Acceptance Testing of next set of Rule 222 forms
NEXT 30 days	<ul style="list-style-type: none"> • User Acceptance Testing of Phase 1 of the project (first ten 400-E-XX forms) • User Acceptance Testing of next set of Rule 222 forms
Original estimated go-live date	1/17/25
Current estimated go-live date	6/27/25
Go-live date	N/A
Notes	IM Development Complete.

Permit Workflow Automation – Phase 1 & 2	
Brief description:	Automate application acceptance and engineering evaluation processes into paperless workflows
Estimated project cost	\$250,000
Overall project status	In Progress
Percentage complete	70%
LAST 30 days	<ul style="list-style-type: none"> • System Development in Progress
NEXT 30 days	<ul style="list-style-type: none"> • System Development in Progress
Original estimated go-live date	3/14/25
Current estimated go-live date	6/12/25
Go-live date	N/A
Notes	UAT for both phases to be conducted simultaneously.

ATTACHMENT
 March 7, 2025 Board Meeting
 Status Report on Ongoing and Upcoming Projects for
 Information Management

Website Upgrade	
Brief description:	Upgrade the Website Content Management System to latest version
Estimated project cost	\$100,000
Overall project status	In Progress
Percentage complete	80%
LAST 30 days	<ul style="list-style-type: none"> • User Acceptance Testing and Training
NEXT 30 days	<ul style="list-style-type: none"> • User Acceptance Testing and Training
Original estimated go-live date	10/11/24
Current estimated go-live date	5/30/25
Go-live date	N/A
Notes	Schedule extended due to automation issues with Content Management System.

Compliance System	
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
Percentage complete	70%
LAST 30 days	<ul style="list-style-type: none"> • System Development in progress
NEXT 30 days	<ul style="list-style-type: none"> • System Development in progress
Original estimated go-live date	2/28/25
Current estimated go-live date	7/25/25
Go-live date	N/A
Notes	The schedule has been extended to accommodate an additional phase for system integration and end-user adoption.

ATTACHMENT
 March 7, 2025 Board Meeting
 Status Report on Ongoing and Upcoming Projects for
 Information Management

Carl Moyer Program GMS Phase III	
Brief description:	Develop Contracting, Invoicing, and Annual Reporting modules for Carl Moyer Program web application. This system will include integration internal South Coast AQMD systems.
Estimated project cost	\$200,000
Overall project status	In Progress
Percentage complete	60%
LAST 30 days	<ul style="list-style-type: none"> • System Development in progress
NEXT 30 days	<ul style="list-style-type: none"> • System Development in progress
Original estimated go-live date	4/10/25
Current estimated go-live date	4/10/25
Go-live date	N/A
Notes	Project is on schedule.

AirNet Upgrade	
Brief description:	Upgrade AirNet (Intranet) to the latest version of SharePoint. This project will involve migrating existing content, custom web parts, and other components, while delivering a modern and refreshed design.
Estimated project cost	\$180,000
Overall project status	In Progress
Percentage complete	60%
LAST 30 days	<ul style="list-style-type: none"> • System Development in progress
NEXT 30 days	<ul style="list-style-type: none"> • System Development in progress
Original estimated go-live date	4/25/25
Current estimated go-live date	4/25/25
Go-live date	N/A
Notes	Project is on schedule.

ATTACHMENT
 March 7, 2025 Board Meeting
 Status Report on Ongoing and Upcoming Projects for
 Information Management

Projects that have been completed within the last 12 months are shown below	
COMPLETED PROJECTS	
PROJECT	DATE COMPLETED
AB2766 for reporting year 2024	December 31, 2024
Annual Emissions Reporting for reporting year 2024	December 31, 2024
Warehouse Indirect Source Rule Online Reporting Portal Phase 4	November 21, 2024
Rideshare Survey Enhancement	October 18, 2024
Source Test Tracking System (STTS)	September 20, 2024
IT Service Management	September 17, 2024
Rule 1180 System Enhancements	August 16, 2024
Rule 1415 System Enhancements	August 9, 2024
AQ-SPEC Cloud Platform Phase 2	July 10, 2024
AB2766 Version 2 Enhancements	May 9, 2024
PeopleSoft HCM Labor Agreement Implementation	April 30, 2024
PeopleSoft Electronic Requisition	April 30, 2024

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 12

REPORT: Administrative Committee

SYNOPSIS: The Administrative Committee held a hybrid meeting on Friday, February 14, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Vanessa Delgado, Chair
Administrative Committee

SN:cb

Committee Members

Present: Chair Vanessa Delgado, Committee Chair
Vice Chair Michael Cacciotti
Mayor Pro Tem Larry McCallon
Supervisor V. Manuel Perez

Absent: Board Member Gideon Kracov

Call to Order

Chair Vanessa 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:** No Board Members' concerns to report.
2. **Chair's Report of Approved Travel:** No travel was reported.
3. **Report of Approved Out-of-Country Travel:** No out-of-country travel was reported.

4. **Review March 7, 2025 Governing Board Agenda:** Executive Officer Wayne Nastri reported that there are no Set Hearing items and two Public Hearing items. One to approve and adopt the Technology Advancement Office Clean Fuels Program 2024 Annual Report and 2025 Plan Update and the second to approve the Annual Reclaim Audit Report for the 2023 compliance year. Staff will have a presentation in lieu of a board letter for the Permitting Enhancement Program Status Update and there will be a Technology Showcase with a number of vendors demonstrating their equipment.

Harvey Eder, Public Solar Power Coalition, provided public comment on not being able to see the agenda.

For additional information, please refer to the [Webcast at 3:41](#).

5. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):** This item was moved to Action Items as approval from the Administrative Committee is needed. For additional information please refer to the [Webcast at 5:31](#).
6. **Update on South Coast AQMD's Internal Engagement Activities:** Anissa Heard-Johnson, Deputy Executive Officer, Community Engagement and Air Programs, provided an update on agency efforts, seasonal events, cultural displays, Statewide Working Group, and discussed Dr. Mae Jemison for Fabulous Female Friday.

Mayor Pro Tem McCallon expressed objection to the slide for the Employee Resource Group Black Employees Resources of Change. Mayor Pro Tem McCallon inquired about the location of the Diversity, Equity, and Inclusion (DEI) office and if each of employee resource group has a dedicated email. Dr. Heard Johnson responded that the DEI Center is located on the ground floor and confirmed that each group does have a dedicated email.

Mr. Eder provided public comment on Black History Month events.

For additional information, please refer to the [Webcast at 6:09](#).

7. **Review Recommended Appointments of Members to South Coast AQMD's Young Leader's Advisory Council (YLAC) for 2025:** Dr. Heard-Johnson stated that the list has recommended appointments for the 2025 South Coast AQMD YLAC. There are nine returning members to the group and there is representation throughout the Basin. For additional information, please refer to the [Webcast at 16:25](#).

8. **South Coast AQMD's FY 2024-25 Second Quarter Ended December 31, 2024 Budget vs. Actual (Unaudited):** Sujata Jain, Chief Financial Officer, provided a presentation on the Budget versus Actual Results for the Second Quarter which ended on December 31, 2024 and provided the Budget Summary for FY 2024-25.

Mayor Pro Tem McCallon inquired about the debt South Coast AQMD was servicing. Ms. Jain stated that the debt was bonds related to pension obligations and that debt was paid off.

Vice Chair Cacciotti inquired how many people South Coast AQMD have on staff. Ms. Jain confirmed that there were approximately 887 with a 13 percent vacancy.

Supervisor Perez inquired about our reserves. Ms. Jain stated it was currently about 42 percent, but the fifth year is projected to be 13 percent. Supervisor Perez inquired about how many staff are writing grants. Executive Officer Nastri responded approximately 10-20 people.

Mr. Eder provided public comment regarding inflation.

For additional information, please refer to the [Webcast at 17:26](#).

9. **Status Report on Major Ongoing and Upcoming Projects for Information Management:** Ron Moskowitz, Chief Information Officer, reported on the status of various projects. For additional information, please refer to the [Webcast at 33:25](#).

ACTION ITEMS:

5. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):** There were two proposals for the compensation of Board Consultants, Samuel Kang and Jose Zavala for Vice Chair Cacciotti. The contracts will be effective from March 1, 2025 through June 30, 2025. For additional information, please refer to the [Webcast at 5:31](#).

Moved by Cacciotti; seconded by McCallon, unanimously approved.

Ayes: Cacciotti, Delgado, McCallon, Perez
Noes: None
Absent: Kracov

10. **Authorize Purchase of Hardware Maintenance and Support Services for Servers and Storage Devices:** Mr. Moskowitz reported that this action is to obtain approval for the purchase of hardware and software maintenance and support services for server and storage devices from Hewlett Packard Enterprise Company

for one year in the amount not to exceed \$190,000. Funds for these purchases are available in the budget. For additional information, please refer to the [Webcast at 35:40](#).

Moved by McCallon; seconded by Cacciotti, unanimously approved.

Ayes: Cacciotti, Delgado, McCallon, Perez
Noes: None
Absent: Kracov

11. **Authorize Purchase of Server Software, Database, and Microsoft Support Software under Microsoft Enterprise Agreement:** Mr. Moskowitz reported that this action is to authorize the purchase of Microsoft software and support for a period of three years in the amount not to exceed \$380,000. The funds for the first year are included in the current budget and provisions for subsequent years will be included in future budget requests. For additional information, please refer to the [Webcast at 36:33](#).

Moved by Cacciotti; seconded by McCallon, unanimously approved.

Ayes: Cacciotti, Delgado, McCallon, Perez
Noes: None
Absent: Kracov

WRITTEN REPORT:

12. **Local Government & Small Business Assistance Advisory Group Minutes for the November 8, 2024 Meeting:** The report was acknowledged and received.

OTHER MATTERS:

13. **Other Business:** There was no other business to report.
14. **Public Comment:** Mr. Eder provided public comment on the fires. For additional information, please refer to the [Webcast at 37:31](#).
15. **Next Meeting Date:** The next regular Administrative Committee meeting is scheduled for Friday, March 14, 2025 at 10:00 a.m.

Adjournment

The meeting was adjourned at 10:38 a.m.



South Coast Air Quality Management District

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

LOCAL GOVERNMENT & SMALL BUSINESS ASSISTANCE (LGSBA) ADVISORY GROUP FRIDAY, NOVEMBER 8, 2024 MEETING MINUTES

MEMBERS PRESENT:

South Coast AQMD Board Members:

Councilmember Carlos Rodriguez. LGSBA Chair
Supervisor Curt Hagman

Public Members:

Paul Avila, P.B.A. & Associates
Mayor Pro Tem James Breitling, City of Upland
Vice Mayor Ted Bui, City of Fountain Valley
LaVaughn Daniel, DancoEN
John DeWitt, JE DeWitt, Inc.
Bill LaMarr, California Small Business Alliance
Rita Loof, RadTech International
David Rothbart, Los Angeles County Sanitation Districts

MEMBERS ABSENT:

South Coast AQMD Board Members:

Mayor Patricia Lock Dawson
Mayor José Luis Solache

Public Members:

Felipe Aguirre
Rachelle Arizmendi
Geoffrey Blake, Metal Finishers of Southern California
Todd Campbell, Clean Energy
Eddie Marquez, Roofing Contractors Association
Mayor Pro Tem Blair Stewart, City of Brea

OTHERS PRESENT:

Harvey Eder
Andrew Silva, Board Member Consultant (*Lock Dawson*)
Mark Taylor, Board Member Consultant (*Rodriguez*)
Debra Mendelsohn, Board Member Consultant (*McCallon*)
Geoffrey Blake

SOUTH COAST AQMD STAFF:

Susan Nakamura, Chief Operating Officer
Sujata Jain, Chief Financial Officer
Jason Aspell, Deputy Executive Officer
Dr. Anissa Cessa Heard-Johnson, Deputy Executive Officer
Aaron Katzenstein, Deputy Executive Officer
Terrence Mann, Deputy Executive Officer
Lisa Tanaka, Deputy Executive Officer
Mei Wang, Assistant Deputy Executive Officer
Nicholas Sanchez, Assistant Chief Deputy Counsel
Daphne Hsu, Principal Deputy District Counsel
John Kampa, Financial Services Manager
Vasileios Papapostolou, Planning and Rules Manager
Denise Peralta Gailey, Public Affairs Manager
Elaine-Joy Hills, Senior Staff Specialist
De Groeneveld, Information Technology Supervisor
Chhai Chorn, Air Quality Engineer
Van Doan, Air Quality Specialist
Roupen Karakouzian, Financial Analyst
Debra Ashby, Sr. Public Affairs Specialist
Nydia Ibarra, Public Affairs Specialist
Cristina Lopez, Sr. Public Affairs Specialist
Aisha Reyes, Sr. Public Affairs Specialist.
Cindy Bustillos, Executive Secretary
Matthew Ceja, Legislative Analyst
Ghislain Muberwa, Information Technology Specialist I
Lara Brown, Sr. Administrative Assistant
Michelle Prince, Supervising Office Assistant

Agenda Item #1 – Roll Call/Call to Order/Opening Remarks

LGSBA Chair Carlos Rodriguez called the meeting to order at 11:30 a.m., roll call was taken, and a quorum was present.

For additional details of the LGSBA Advisory Group Meeting, please refer to the [Webcast](#).

Agenda Items #2 and #3 – Approval of June 14, 2024 and August 9, 2024 Meeting Minutes

LGSBA Chair Rodriguez called for approval of the June 14, 2024 and August 9, 2024 meeting minutes.

There were no public comments.

Motion to approve minutes made by Supervisor Curt Hagman; seconded by Paul Avila; approved.

Ayes: Avila, Bui, Daniel, DeWitt, Hagman, LaMarr, Loof, Rodriguez, Rothbart

Noes: None

Abstained: Breitling

Absent: Aguirre, Arizmendi, Blake, Campbell, Lock Dawson, Marquez, Solache, Stewart

For additional details, please refer to the [Webcast](#), beginning at 0:05:35.

Agenda Item #4 – Approval of Local Government & Small Business Assistance Advisory Group (LGSBA) 2024 Accomplishments and Seek Items for 2025 Goals & Objectives

LGSBA Chair Rodriguez called for approval of the 2024 LGSBA Accomplishments and input on 2025 Goals & Objectives. Members proposed 2025 priorities, including updates on the Clean Fuels Program and Compliance & Enforcement activities, focusing on non-emission-related NOVs, AB 617 progress and Monitoring and Analysis projects.

Harvey Eder made public comment on data collection, electric lawn equipment, heat pumps, and solar power. For additional details, please refer to the [Webcast](#), beginning at 51:15.

Motion to approve 2024 Accomplishments and amended list of items for 2025 Goals and Objectives made by Supervisor Hagman; seconded by Ted Bui; approved.

Ayes: Avila, Breitling, Bui, Daniel, DeWitt, Hagman, LaMarr, Loof, Rodriguez, Rothbart

Noes: None

Abstained: None

Absent: Aguirre, Arizmendi, Blake, Campbell, Lock Dawson, Marquez, Solache, Stewart

For additional details, please refer to the [Webcast](#), beginning at 6:50.

Agenda Items #5 – Review of Follow-up and Action Items

Lisa Tanaka, Deputy Executive Officer, Legislative, Public Affairs and Media, commented that the action item from the August 9, 2024 meeting regarding clarification on quorum and communicating recommendations by the advisory group to the Administrative Committee will be presented and discussed under Agenda Item #6.

Agenda Items #6 – Overview on LGSBA Procedures to Adopt a Formal Recommendation

Daphne Hsu, Principal Deputy District Counsel, presented LGSBA Procedures to Adopt a Formal Recommendation or Provide a Communication. Bill LaMarr commented that an item from December 2002 Board Meeting pointed out that Advisory Board members shall consist of no more than 15 members. David Rothbart suggested to take a closer look at attendance of members.

There were no public comments.

For additional details, please refer to the [Webcast](#), beginning at 1:17:45.

Agenda Item #7 – Fiscal Year 2024-25 General Fund Budget

Sujata Jain, Chief Financial Officer, provided an overview of the General Fund Budget, highlighting key aspects such as staffing levels, expenditures, and revenues required to maintain current program commitments.

There were no public comments.

For additional details on the presentation and discussions, please refer to the [Webcast](#), beginning at 2:02:15.

Agenda Item #8 – Overview of South Coast AQMD INVEST CLEAN

Aaron Katzenstein, Deputy Executive Officer of Technology Advancement Office, presented an overview on South Coast AQMD's INVEST CLEAN grant. The project aims to achieve several key objectives, including reducing air pollution and greenhouse gas (GHG) emissions, supporting job creation, leveraging funding opportunities, addressing environmental justice concerns, and improving goods movement, among others. Paul Avila raised questions about job prospects, and Ted Bui expressed concerns about road damage from heavier electric vehicles.

There were no public comments.

For additional details on the presentation and discussions, please refer to the [Webcast](#), beginning at 0:58:15.

Agenda Item #9 – Update on Permitting Enhancement Program

Jason Aspell, Deputy Executive Officer of Engineering and Permitting, presented an update on the Permitting Enhancement Program and other permit streamlining efforts. Mr. LaMarr asked

about permit inventory and unrealized funds. Mr. Aspell explained the various portions of the flow chart represent the number of applications received and completed and there is a constant stream of revenue being realized. Rita Loof asked if the Engineering & Permitting would be processing the Rule 1151 emissions reports and how it would impact the workload. Jason Aspell explained that those reports are provided to the Planning, Rule Development & Implementation Division. Supervisor Hagman inquired about application follow-up processes. Mr. Aspell highlighted the Facility Information Detail (FIND) tool available on South Coast AQMD's website.

There were no public comments.

For additional details on the presentation and discussions, please refer to the [Webcast](#), beginning at 1:37:25.

Agenda Item #11 – Public Comment

There were no public comments.

Agenda Item #12 – Next Meeting Date

The next regular LGSBA Advisory Group meeting is scheduled for Friday, January 17, 2025, at 11:30 a.m.

Adjournment

The meeting was adjourned at 1:40 p.m.

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 13

REPORT: Legislative Committee

SYNOPSIS: The Legislative Committee held a hybrid meeting on Friday, February 14, 2025. The following is a summary of the meeting.

Agenda Item	Recommendation/Action
2025 South Coast AQMD Sponsored State Legislative Proposal for Emergency Response	Approve

Receive and file this report and approve agenda items as specified in this letter.

Michael A. Cacciotti, Committee Chair
Legislative Committee

LTO:PFC:DPG:EV:MC:mc

Committee Members

Present: Vice Chair Michael A. Cacciotti, Committee Chair
Supervisor Curt Hagman
Supervisor V. Manuel Perez
Absent: Mayor Patricia Lock Dawson
Councilmember Nithya Raman

Call to Order

Committee Chair Michael Cacciotti called the meeting to order at 9:05 a.m. Executive Officer Wayne Nastri suggested that the Committee proceed with non-voting items first to allow time for a quorum for action items.

DISCUSSION ITEMS:

This item was taken out of order.

2. Update and Discussion on Federal Legislative Issues

South Coast AQMD's federal legislative consultants (Kadesh & Associates, Carmen Group, and Cassidy & Associates) provided written reports on key Washington, D.C. issues.

Mark Kadesh, Kadesh & Associates, reported on the President's Executive Orders related to federal grants. For additional information, please refer to the [Webcast](#) beginning at 7:28.

Committee Chair Cacciotti asked about the \$20 billion in Inflation Reduction Act funds referenced in a video with U.S. EPA Administrator Lee Zeldin. Gary Hoitsma, Carmen Group, explained that the statement referenced the Greenhouse Gas Reduction Fund. These funds were allocated before the transition of the Biden Administration to Trump and would largely be under the control of non-governmental organizations. For more information, please refer to [Webcast](#) beginning at 12:30.

Mr. Hoitsma, reported on the U.S. Senate confirmation hearings for Lee Zeldin for Administrator of U.S. EPA, Sean Duffy for Secretary of U.S. Department of Transportation, Chris Wright for Secretary of the U.S. Department of Energy, and Russell Vought for Director of the Office of Management and Budget. For additional information, please refer to the [Webcast](#) beginning at 13:07.

Virgilio Barrera, Cassidy & Associates, reported on the status of the budget reconciliation process in both the U.S. House of Representatives and Senate and the continuing resolution. For additional information, please refer to the [Webcast](#) beginning at 16:53.

Harvey Eder, Public Solar Power Coalition, provided public comments on solar energy.

This item was taken out of order.

3. Update and Discussion on State Legislative Issues

South Coast AQMD's state legislative consultants (Joe A. Gonsalves & Son, Resolute, and Buckley Government Affairs, LLC) provided written reports on key issues in Sacramento.

Paul Gonsalves, Joe A. Gonsalves & Son, informed the Committee that, as part of its Special Session, the Legislature passed SBx1-1 and SBx1-2 to provide \$50 million in funding for legal defense and challenges relating to actions by the federal Administration. For additional information, please refer to the [Webcast](#) beginning at 24:48.

Alfredo Arredondo, Resolute, reported that Assemblymember Phillip Chen has agreed to author the South Coast AQMD sponsored bill that would provide compensation to air district representatives serving on the CARB Board. For additional information, please refer to the [Webcast](#) beginning at 27:50.

Ross Buckley, Buckley Government Affairs, LLC, provided an update regarding the legislative session, including the budget process. The bill introduction deadline is February 21. Legislation introduced thus far in both houses has included numerous bills focused on wildfire response. For additional information, please refer to the [Webcast](#) beginning at 30:15.

Mr. Eder provided public comment regarding state funding for defense against the Trump Administration.

Supervisor Perez joined meeting and quorum was established.

ACTION/DISCUSSION ITEM:

This item was taken out of order.

1. .Concept for 2025 South Coast AQMD Sponsored State Legislative Proposal

Lisa Tanaka, Deputy Executive Officer, Legislative, Public Affairs & Media, presented a concept for a South Coast AQMD sponsored state bill to enhance the existing CARB Air Quality Incident Response program and provide support to local air districts for monitoring and other necessary equipment, emergency response coordinators, and training as well as other aspects to facilitate emergency response for future wildfires and other crises.

Moved by Hagman; Seconded by Perez

Ayes: Cacciotti, Hagman, Perez

Noes: None

Abstain: None

Absent: Lock Dawson, Raman

For additional information, please refer to the [Webcast](#) beginning at 32:45.

Mr. Eder provided public comment regarding the need for fire safety plans.

OTHER MATTERS:

4. Other Business

There was no other business to report.

5. Public Comment Period

Mr. Eder provided public comment regarding preparation for future earthquakes.

6. Next Meeting Date

The next regular Legislative Committee meeting is scheduled for Friday, March 14, 2025 at 9:00 a.m.

Adjournment

The meeting was adjourned at 9:49 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 14, 2025

Council Member Michael Cacciotti	South Coast AQMD Board Member
Supervisor V. Manuel Perez	South Coast AQMD Board Member
Supervisor Curt Hagman	South Coast AQMD Board Member
Ken Chawkins	Board Consultant (Cacciotti)
Guillermo Gonzalez	Board Consultant (Perez)
Katherine Kolcheva	Board Consultant (Hagman)
Ben Wong	Board Consultant (Cacciotti)
Ross Buckley	Buckley Government Affairs, LLC
Gary Hoitsma	Carmen Group, Inc.
Lio Barrera	Cassidy & Associates
Paul Gonsalves	Joe A. Gonsalves & Son
Mark Kadesh	Kadesh & Associates
Alfredo Arredondo	Resolute
Harvey Eder	Public Member
Sam Emmersen	Public Member
L. Fernandez	Public Member
Grace Garner	Public Member
Altie Holcomb	Public Member
Moses Huerta	Public Member
Bill La Marr	Public Member
Bill Quinn	Public Member
David Rothbart	Public Member
Mark Taylor	Public Member
Peter Whittingham	Public Member
Debra Ashby	South Coast AQMD Staff
Jason Aspell	South Coast AQMD Staff
Barbara Baird	South Coast AQMD Staff
Cathy Bartels	South Coast AQMD Staff
Cindy Bustillos	South Coast AQMD Staff
Lara Brown	South Coast AQMD Staff
Matthew Ceja	South Coast AQMD Staff
Maria Corralejo	South Coast AQMD Staff
Philip Crabbe	South Coast AQMD Staff
Scott Gallegos	South Coast AQMD Staff
Denise Gailey	South Coast AQMD Staff
Bayron Gilchrist	South Coast AQMD Staff
De Groeneveld	South Coast AQMD Staff
Alex Han	South Coast AQMD Staff
Lauren Henninger	South Coast AQMD Staff
Anissa Cessa Heard-Johnson	South Coast AQMD Staff
Nydia Ibarra	South Coast AQMD Staff
Aaron Katzenstein	South Coast AQMD Staff
Angela Kim	South Coast AQMD Staff
Howard Lee	South Coast AQMD Staff

Alicia LizarragaSouth Coast AQMD Staff
Brisa Lopez South Coast AQMD Staff
Jason LowSouth Coast AQMD Staff
Terrence Mann South Coast AQMD Staff
Ian McMillanSouth Coast AQMD Staff
Nahal MogharabiSouth Coast AQMD Staff
Ron Moskowitz South Coast AQMD Staff
Susan NakamuraSouth Coast AQMD Staff
Wayne NastriSouth Coast AQMD Staff
Robert PaudSouth Coast AQMD Staff
Sarah Rees South Coast AQMD Staff
Danielle SotoSouth Coast AQMD Staff
Lisa Tanaka South Coast AQMD Staff
Brian Tomasovic South Coast AQMD Staff
Mei WangSouth Coast AQMD Staff
Victor YipSouth Coast AQMD Staff
Chris Yu South Coast AQMD Staff

ATTACHMENT 2A

KADESH & ASSOCIATES

South Coast AQMD Report for the February 2025
Legislative Meeting covering January 2025
Kadesh & Associates

It has been a very busy January, as the new administration has swiftly implemented President Trump's vision for the federal government following a flurry of executive orders and presidential directives, while the Senate has moved to quickly confirm President Trump's cabinet.

Federal agency employees: the President has made far-reaching changes to the federal workforce in his first week in office, including removing more than a dozen internal agency watchdogs, including the Inspectors General for DOT, DOE, and EPA, and reassigning and potentially reclassifying thousands of employees. The White House also directed federal agencies to compile lists of recently hired employees whose positions can be terminated without appeal, and to place employees on administrative leave who worked on DEI or EJ issues. Federal employees at multiple agencies also reported that they had been directed to cease communicating with outside entities.

As of this writing, the White House has issued a memo offering a "deferred resignation" to federal employees who do not wish to return to their offices from remote work. According to news reports, the White House is expecting as many as one in ten federal employees to respond, which would mean the potential departure of hundreds of thousands of agency employees at the end of the fiscal year.

Federal funding: Several early directives have targeted federal grants and other funding spurring widespread concerns in Congress as well as litigation. Notably, the President issued an Executive Order on January 20 entitled "Unleashing American Energy" which contained a directive to pause the disbursement of Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) funds. This was followed by an OMB Memo (M-25-11) indicating that this "pause" was specifically intended to carry out the Presidential directive "Terminating the Green New Deal."

This first-week pause on BIL and IRA funding was superseded by a memo issued on January 28 by OMB that ordered a halt to disbursement of grants and other funding already approved by Congress. If carried out, this unprecedented federal funding freeze would block the disbursement of hundreds of billions of dollars, affecting everything from health care to clean water to road construction. A federal judge has already issued a temporary administrative stay, in advance of a court hearing in early February.

Nominations: The Senate has moved quickly on President Trump's cabinet nominees, approving Transportation Secretary Duffy this week, and queuing up several others for votes as well, including EPA Administrator Zeldin.

Other activities in Congress: Both California Senators will serve on the Environment and Public Works Committee in this session and have been assigned positions on its

KADESH & ASSOCIATES

Transportation and Infrastructure subcommittee as well as its Clean Air subcommittee. The House Republican Conference has been holding its annual retreat in Florida this week, with the intent of reaching intra-party agreement on a plan to use the budget reconciliation process to implement significant policy changes. If they can reach agreement, Speaker Johnson has said that he wants the Budget Committee to kick off the process the first week of February.

Kadesh & Associates Activity Summary-

-Worked with South Coast AQMD and the congressional delegation on funding implications of Executive Orders and agency directives.

Contacts: Contacts included staff and Members throughout the CA delegation, Senate offices, and members of key committees.

ATTACHMENT 2B



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 28, 2025
Re: Federal Update -- Executive Branch

Trump Administration: The first days of the new Trump Administration following the January 20th Inauguration included a series of executive actions affecting or reversing relevant Biden Administration actions and policies related to energy, environment, climate, clean air, and wildfires. Copies of several of these significant presidential actions related to these topics are linked below:

Key Relevant Executive Actions

[Initial Rescissions of Harmful Executive Orders and Actions](#)

[Unleashing American Energy](#)

[Declaring a National Energy Emergency](#)

[Putting People Over Fish: Stopping Radical Environmentalism to Provide Water to Southern California](#)

[Emergency Measures to Provide Water Resources in California and Improve Disaster Response in Certain Areas](#)

Freeze on Grants and Funds: On January 27, the Office of Management and Budget (OMB) instructed federal agencies to temporarily pause grant, loan and other financial assistance programs pending a review to determine compliance with presidential policies and executive orders. The memo followed several days of confusion surrounding how certain executive orders, including the energy orders targeting unspent funds from the Inflation Reduction Act and the Bipartisan Infrastructure Law were to be interpreted and implemented. Democrats asserted the OMB memo constituted an unconstitutional impoundment of appropriated funds. As of January 28, a federal judge had issued an order temporarily blocking the funding freeze.

Environmental Protection Agency

(Trump Admin.) Zeldin Approved in Committee: On January 23, Lee Zeldin's nomination to be Administrator of the Environmental Protection Agency was approved in the Senate Environment & Public Works Committee by a vote of 11-8.

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(Trump Admin.) Notable Appointments: **Eric Amidon**, *Chief of Staff*. Former COS to Rep. Zeldin; **Alex Dominguez**, *OAD Deputy Assistant Admin. For Mobile Sources*. Former advisor in in OAR office in first Trump Admin.

(Biden Admin.) EPA Issues Permits for Carbon Sequestration in California: On December 30, the Environmental Protection Agency (EPA) issued the first ever underground injection permits to inject carbon dioxide into deep rock formations at a Kern County site for permanent underground storage using technology called carbon capture and storage or geologic sequestration, designed to reduce CO2 emissions and mitigate climate change.

(Biden Admin.) EPA and DOE Announce Support for Biofuels Development: On January 8, the EPA and the Department of Energy (DOE) announced \$6 million from the Inflation Reduction Act for three projects that will advance biofuel development. The projects are designed to help provide new technologies to reduce emissions and reduce dependence on imported transportation fuel, heating oil, and jet fuel.

(Biden Admin.) EPA Finalizes Protections from Ethylene Oxide Pollution: On January 14, the EPA released its Interim Decision for the hazardous cancer-causing pesticide air pollutant Ethylene Oxide (EtO). The Decision, reached after a 75-day public comment period, includes mitigation measures that will reduce exposure to workers and communities that live or work near facilities that use EtO and that are at risk to breathe in emissions at dangerous levels.

Department of Energy

(Trump Admin.) Wright Approved in Committee: On January 23, Chris Wright's nomination to be Secretary of Energy was approved in the Senate Energy & Natural Resources Committee by a vote of 15-5.

(Trump Admin.) Notable Appointment: **John Sneed** will head the DOE Loan Programs Office, returning to a job he had in the first Trump Administration. He was also previously chief of staff to former Energy Secretary Rick Perry.

(Trump Admin.) DOE Takes Steps to Promote LNG Exports: On January 21, the DOE announced an end to the Liquefied Natural Gas (LNG) pause imposed by the Biden Administration and directed a resumption of the consideration of all applications for LNG exports to happen concurrently with the consideration of public comment on the Department's LNG study (announced in December), while extending the comment period deadline from Feb. 18 to March 20, 2025.

(Biden Admin.) DOE Announces Progress on IRA and BIL Funding Commitments: On January 17, the DOE summarized that during the Biden Administration, the Department had committed over \$170 billion for grants and loans under the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA), which included 94 percent the DOE IRA money and 70 percent of the DOE BIL money.

(Biden Admin.) DOE Announces Projects to Reduce Methane Emissions: On December 20, the Department of Energy (DOE) announced \$850 million for 43 projects

designed to reduce methane emissions as part of the Administration’s aggressive push under the Inflation Reduction Act to reduce oil and gas emissions by 80 percent between 2024 and 2038.

Department of Transportation

(Trump Admin.) Duffy Confirmed: On January 28, the US Senate confirmed Sean Duffy to be Secretary of Transportation by a vote of 77-22.

(Biden Admin.) DOT Announces Grants for EV Charging/Fueling Infrastructure: On January 10, the Federal Highway Administration announced \$635 million in new grants for electric vehicle (EV) charging and alternative fueling infrastructure in 27 states with funding from the Bipartisan Infrastructure Law. Among six projects in California was \$14.1 million for the City of San Bernardino to create its first public charging network by installing 101 EV chargers at 15 municipally-owned locations, including parks, community centers, a library, City Hall, the Police Department, and several downtown core parking locations.

(Biden Admin.) DOT Announces Grants for Reconnecting Communities: On January 10, The Department of Transportation (DOT) announced \$544 million for 81 projects in 31 states under the Reconnecting Communities Pilot discretionary grant program funded by the Bipartisan Infrastructure Law. Among 13 project grants in California was \$26.6 million for the Housing Authority of Los Angeles for “resolving inequitable pedestrian and safety infrastructure in Watts.”

(Biden Admin.) DOT Announces Rail/Highway Crossing Safety Grants: On January 10, the Federal Railroad Administration announced more than \$1.1 billion in funding for 123 projects in 41 states under the Railroad Crossing Elimination Grant Program. Among seven projects in California was a \$1.8 million planning grant for the San Gabriel Valley Council of Government to prepare a feasibility study of needed grade separations at four Union Pacific grade crossings as part of the Alameda Corridor-East Phase III Project in eastern Los Angeles County.

(Biden Admin.) DOT Releases Transportation Statistics Report: On December 31, the DOT released its [Transportation Statistics Annual Report 2024](#).

Outreach: During January, Carmen Group was in touch with staff and advisors on the Trump transition team and on Capitol Hill, as well as sources in the news media to gather intelligence on relevant transition, administration and appropriations matters.

###

ATTACHMENT 2C



To: South Coast Air Quality Management District
From: Cassidy & Associates
Date: January 27, 2025
Re: January Report

HOUSE/SENATE

Congress

Donald Trump was inaugurated as the 47th President of the United States on January 20. Soon after, he signed a variety of Executive Orders, including declaring an energy emergency, withdrawing the U.S. from the Paris climate agreement and the World Health Organization, declaring an emergency at the U.S.-Mexico border, and more. The orders encourage the production of oil and natural gas, eliminate the electric vehicle mandate, and require the Environmental Protection Agency to consider issuing emergency fuel waivers for the year-round sale of E15 gasoline. One of the orders instituted a pause on disbursement of funds appropriated through the Inflation Reduction Act and the Infrastructure Investment and Jobs Act, including funding for electric vehicle charging stations.

The Senate is in session this week and will continue to consider President Trump's cabinet nominees throughout the week. Last week, the Senate Environment and Public Works Committee favorably reported Lee Zeldin as the Administrator of the Environmental Protection Agency, and the Energy and Natural Resources Committee favorably reported the nominations of Chris Wright as Secretary of Energy and Doug Burgum as Secretary of the Interior. The three nominations will be considered on the Senate floor for confirmation. Additionally, Congress passed the Laken Riley Act, which will make it easier for law enforcement to detain undocumented immigrants accused of crimes. The legislation heads to President Trump's desk as the first bill he will sign into law.

EPA

On January 14, the Environmental Protection Agency (EPA) released a draft risk assessment of health risks associated with per- and polyfluoroalkyl substances (PFAS) chemicals in biosolids. The three methods of disposing of biosolids were all found to potentially pose human health risks through exposure to PFAS. Biosolids are disposed of through land application, surface disposal in landfills or incineration. The assessment utilized scientific models to determine exposure risks for people who live near disposal sites. The risks of exposure vary based on geography, climate, soil conditions, and types of crops on farms that land-apply biosolids. EPA will use the assessment for future risk management actions, including technology-based limits of discharges from PFAS manufacturers, electro- and chrome-platers and landfills. Read more [here](#).

On January 14, the EPA finalized the Interim Decision for Ethylene Oxide (EtO). EtO, a pesticide used on sterilized medical devices and dried spices, is known to cause cancer and poses a health risk for workers exposed to it. It is often the only available option for sterilization of medical devices. The Interim Decision requires increased worker protection, bans EtO use in certain facilities and for certain materials, and implements monitoring and data requirements. Companies will be required to submit label amendments based on the changes within 60 days of publication. Read more [here](#).

On January 8, the EPA awarded \$6 million from Inflation Reduction Act (IRA) funding to three projects for biofuel development. Biofuels utilize sustainable biomass and waste feedstocks to create a renewable fuel source. A Department of Energy report in 2023 found that the U.S. can sustainably produce 134 million tons of agricultural residues and 32 million tons of wet waste. The funding will advance domestic biofuel production and reduce greenhouse gas emissions from the fuels sector. Erg Bio Inc., based in Dublin, California, will use the funding for a pre-pilot scale demonstration of a feedstock flexible biomass deconstruction and conversion technology. Read more [here](#).

On January 3, nine per- and polyfluoroalkyl substances (PFAS) were automatically added to the Toxics Release Inventory (TRI). With their inclusion, facilities that manufacture, process or use the chemicals will be required to report data to the Environmental Protection Agency (EPA) on the quantities released into the environment. The 2020 NDAA included a provision to automatically add PFAS to the list after EPA finalizes a toxicity value. EPA finalized the toxicity value for the nine substances in 2024: ammonium perfluorodecanoate, sodium perfluorodecanoate, perfluoro-3-methoxypropanoic acid, 6:2 Fluorotelomer sulfonate acid, 6:2 Fluorotelomer sulfonate anion, 6:2 Fluorotelomer sulfonate potassium salt, 6:2 Fluorotelomer

sulfonate ammonium salt, 6:2 Fluorotelomer sulfonate sodium salt, and acetic acid. Read more [here](#).

On December 31, the EPA issued Underground Injection Control (UIC) Class VI well permits to Carbon TerraVault JV Storage Company Sub 1, LLC (CTV), the first permitted Class VI injection wells in California. CTV, a subsidiary of California Resources Corporation (CRC) will construct four wells for permanent underground storage of carbon dioxide in the Elk Hills Oil Field near Bakersfield, California. CTV aims to inject 1.5 million metric tons of carbon dioxide annually for 26 years, reducing carbon dioxide emissions in California. The permits include requirements to monitor and plug wells for the life of the project. Read more [here](#).

Cassidy and Associates support in January:

- Worked with SCAQMD staff to strategize on future DC outreach.
- Advised SCAQMD on contacts within incoming Trump Administration.
- Advised SCAQMD on funding pause and potential impact to SCAQMD priorities
- Advised SCAQMD throughout appropriations cycle to identify and pursue funding opportunities.
- Participated in weekly strategy sessions with SCAQMD staff.

IMPORTANT LEGISLATIVE DATES

March 14, 2025: Deadline to fund the federal government. In September, Congress passed a Continuing Resolution providing Congress with more time to complete its consideration and pass FY 2025 funding.

September 30, 2025: The Farm Bill, an omnibus package of legislation that supports US agriculture and food industries, expired in 2023. The bill is reauthorized on a five-year cycle.

December 31, 2025: National Defense Authorization Act, which authorizes and funds specialized Department of Defense (DoD) programs and sets the DoD's policy agenda each year.

ATTACHMENT 3A



Joe A. Gonsalves & Son

Anthony D. Gonsalves

Jason A. Gonsalves

Paul A. Gonsalves

PROFESSIONAL LEGISLATIVE REPRESENTATION

925 L ST. · SUITE 250 · SACRAMENTO, CA 95814-5766

916 441-8597 · FAX 916 441-5061

Email: gonsalves@gonsalvi.com

TO: South Coast Air Quality Management District

FROM: Anthony, Jason & Paul Gonsalves

SUBJECT: Legislative Update – January 2025

DATE: Tuesday, January 28, 2025

The Legislature reconvened for the 2025-26 Legislative Session on January 6, 2025, which is running concurrently with the special session called by the Governor to prepare the State for lawsuits against the Trump Administration. The Legislature and Governor reached an agreement to allocate \$50 million for this effort, \$25 million for the Department of Justice for litigation and \$25 million for legal aid services related to immigration. Additionally, the Governor and Legislature added the affordability crisis to the focus of the special session in an effort to lower the cost of living for Californians. On January 13, 2025, the Governor added wildfire recovery to the special session in response to the devastating wildfires in Los Angeles. On January 23, 2025, Governor Newsom and the Legislature took action to allocate \$2.5 billion in disaster relief.

The following will provide you with updates of interest to the District:

\$50 Million to Protect CA

Governor Newsom and Democratic leaders reached an agreement to set aside \$50 million in state funds to cover legal expenses in anticipated battles with President-elect Donald Trump's administration. The agreement comes two months after Governor Newsom convened a special legislative session to determine the state's response to Trump's presidency. Under the plan, the Assembly will consider a bill that allocates \$25 million to the California Department of Justice for proactive litigation efforts. State officials expect legal clashes over environmental regulations, reproductive rights, protections for LGBTQ+ students, and other key policy areas.

Additionally, Democratic leaders are preparing to push back against potential mass deportations, which advocates warn could destabilize families and severely impact California's economy. A Senate proposal would direct \$25 million to local initiatives providing legal aid for immigration defense, as well as cases involving wage theft, evictions, and workplace protections.

Both bills, SBx1-1 (Wiener) and SBx1-2 (Wiener) are both on the Assembly Floor and a vote could take place any time.

During Trump's first term, California spent at least \$41 million on legal actions against his administration, primarily to cover attorney fees, legal staff salaries, and other related expenses.

\$2.5 Billion Wildfire Disaster Relief Package

In an effort to continue to support those affected by the devastating Los Angeles wildfires, on January 23, 2025 Governor Newsom joined community, city, county, and legislative leaders near the fire-damaged area of Altadena to sign legislation allocating over \$2.5 billion in disaster relief. This funding will provide immediate support for emergency response efforts and accelerate the recovery process.

The special session legislation—ABx1-4 by Assemblymember Gabriel and SBx1-3 by Senator Wiener aims to fast-track firestorm response and recovery, streamline rebuilding efforts, and support the reconstruction of fire-damaged school facilities. The following will provide you with a summary of the legislation:

Immediate Funding for Recovery

- **\$2.5 Billion for Emergency Response and Recovery.** This funding will accelerate initial firestorm response efforts, including:
 - Emergency protective measures
 - Evacuations and sheltering for displaced residents
 - Debris removal and cleanup
 - Post-fire hazard assessments (e.g., flash flooding and debris flow risks)
 - Traffic control and other critical emergency operations

\$4 Million to Expedite Rebuilding

- The Department of Housing and Community Development will distribute these funds to affected local governments to enhance planning reviews and building inspections, expediting approvals during the recovery process.

\$1 Million for School Reconstruction

- This funding will provide technical assistance to affected local education agencies, including the Los Angeles Unified School District, Pasadena Unified School District, and impacted charter schools, to support the rebuilding of fire-damaged facilities.

Governor Gavin Newsom has issued multiple executive orders to facilitate recovery efforts, create temporary housing solutions, and safeguard survivors from exploitation. Key actions include:

- Economic Relief for Fire-Affected Residents and Businesses
- Tax Relief:
 - Individual tax filing deadlines for Los Angeles County residents extended to October 15, 2025.
 - Sales and use tax filing deadline postponed from January 31, 2025, to April 30, 2025, offering financial relief to impacted businesses.
- Accelerating the Rebuilding Process & Streamlining Construction Approvals:
 - An executive order suspends certain California Environmental Quality Act (CEQA) and California Coastal Act requirements to expedite reconstruction efforts for homes and businesses.
- Emergency Housing and Tenant Protections & Fast-Tracking Temporary Housing:
 - Measures to streamline accessory dwelling unit (ADU) construction.
 - Expansion of temporary housing solutions, including mobile home parks and emergency trailers.
 - Waivers for certain housing-related fees to support displaced residents.

- Tenant and Homeowner Protections:
 - Landlords in Los Angeles County cannot evict tenants for offering shelter to firestorm survivors.
 - The state has worked with five major mortgage lenders to provide relief options for impacted homeowners.
- Debris Removal and Hazard Mitigation & Debris Cleanup and Flood Risk Reduction:
 - Federal hazardous materials (hazmat) teams deployed to safely clear properties.
 - Accelerated efforts to remove debris, stabilize hillsides, and reinforce flood protections in fire-damaged areas.
- Preventing Exploitation, Price Gouging, and Consumer Protections:
 - Expanded restrictions to prevent illegal price hikes on rent, hotel stays, construction materials, and essential goods.
 - Reports of violations can be submitted to the Office of the Attorney General.
- Shielding Homeowners from Predatory Speculators:
 - Executive order prohibits aggressive real estate speculation targeting fire victims with unsolicited cash offers.
- Helping Displaced Students Return to School:
 - An executive order provides assistance to Los Angeles-area schools to support students affected by the firestorm and ensure minimal disruption to their education.

These comprehensive efforts are designed to provide immediate relief, accelerate rebuilding, and protect firestorm survivors as communities recover.

HINO MOTORS SETTLEMENT

On January 15, 2025, California Attorney General Rob Bonta and the California Air Resources Board (CARB) announced a landmark \$236.5 million settlement with Hino Motors. The settlement is part of a broader \$1.5 billion federal resolution addressing emissions violations by the heavy-duty engine manufacturer, a subsidiary of Toyota Motor Corporation.

The agreement includes approximately \$30.3 million earmarked for CARB's Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). This component of the settlement resolves claims that Hino unlawfully accessed California's clean vehicle incentives by submitting fraudulent emissions data. Hino's actions were found to violate the state's False Claims Act and Unfair Competition Law.

Additionally, \$206 million will be directed to CARB for civil penalties and mitigation programs aimed at reducing nitrogen oxide (NOx) emissions. Hino has also agreed to provide free emissions system fixes for certain affected vehicles.

CARB's investigation into Hino began in 2019 after inconsistencies were identified in emissions data submitted with the company's certification applications. Further testing, conducted in partnership with the U.S. Environmental Protection Agency (EPA), revealed that Hino had installed undisclosed and unapproved auxiliary emission control devices on certain 2010–2019 heavy-duty engines used in trucks and off-road equipment. These engines were found to emit significantly more Nox than allowed by state and federal standards.

The Attorney General's Office determined that Hino manipulated data to fraudulently qualify its vehicles for HVIP funding, a program that incentivizes the purchase of hybrid and zero-emission vehicles through point-of-sale discounts. Beginning in 2012, Hino falsely claimed its trucks met California's strict

emissions standards, enabling the company to secure state funding for these vehicles. Over the next eight years, Hino's fraudulent practices led to the approval of 1,606 vouchers, with individual amounts ranging from \$7,500 to \$37,000.

Hino's deception included altering emissions test results, improperly conducting tests, and, in some cases, fabricating data altogether. The company also failed to disclose software functions in its engines that reduced the effectiveness of emissions control systems, leading to increased harmful emissions.

STATE RAIL PLAN

On January 7, 2025, Governor Newsom announced the release of the State Rail Plan, a comprehensive long-term strategy aimed at transforming California's transportation network. The plan outlines investments that will generate up to 900,000 jobs while developing a fully interconnected, zero-emission rail and transit system by 2050. The announcement follows the Governor's visit with local leaders and workers to mark a major milestone in the California high-speed rail project, which is the start of track-laying operations and will serve as the foundation of the state's expanding rail network.

The plan envisions a seamless, world-class transportation system that integrates intercity, regional, and local transit, ensuring mobility options for every part of the state. By providing reliable, frequent, and clean rail service, California aims to make train travel a competitive alternative to driving or flying.

As a key component of the Governor's "Build More, Faster" infrastructure agenda, the plan not only accelerates rail development but also expands economic opportunities, particularly in historically underserved communities. With passenger rail and transit currently accounting for just 2% of total miles traveled in California, the goal is to increase this share to 20% by 2050. This will be achieved through a zero-emission fleet that will divert nearly 200 million daily passenger miles from highways to rail, easing congestion and cutting carbon emissions.

In addition to enhancing passenger mobility, the plan prioritizes freight efficiency by shifting more goods movement to rail, reducing truck traffic and emissions. California has already begun the transition toward this cleaner, modernized rail network paving the way for a more sustainable and connected future.

GOVERNOR'S APPOINTMENT TO CARB

On January 28, 2025, Governor Newsom appointed former Assemblymember Todd Gloria, of San Diego, to the California Air Resources Board. Gloria has been the Mayor of the City of San Diego since 2020. He was an Assemblymember with the California State Assembly from 2016 to 2020. Gloria was a Councilmember, District 3 in the City of San Diego from 2008 to 2016. He was a District Director in the Office of Congresswoman Susan A. Davis from 2001 to 2008. Gloria was a San Diego Housing Commissioner on the San Diego Housing Commission from 2005 to 2008. He was Board Chair at San Diego LGBT Community Center from 2002 to 2007. Gloria earned his Bachelor of the Arts degree in Political Science and History from the University of San Diego. This position requires Senate confirmation, and the compensation is \$100 per diem.

2025 LEGISLATIVE DEADLINES

Jan. 6: Legislature reconvenes

Jan. 10: Budget bill must be submitted by Governor

Jan. 24: Last day to submit bill requests to the Office of Legislative Counsel.

Feb. 21: Last day for bills to be introduced

May 2: Last day for policy committees to hear and report to fiscal committees' fiscal bills introduced in their house

May 9: Last day for policy committees to hear and report to the Floor nonfiscal bills introduced in their house

May 16: Last day for policy committees to meet prior to June 9

May 23: 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 June 9

June 2-6: Floor Session only. No committee may meet for any purpose except Rules Committee, bills referred pursuant to A.R. 77.2, and Conference Committees

June 6: Last day for each house to pass bills introduced in that house

June 9: Committee meetings may resume

June 15: Budget bill must be passed by midnight

July 18: Last day for policy committees to hear and report bills

Aug. 29: Last day for fiscal committees to hear and report bills to the Floor

Sept. 2-12: Floor session only. No committees may meet for any purpose, except Rules Committee, bills referred pursuant to Assembly Rule 77.2, and Conference Committees

Sept. 5: Last day to amend on the Floor

Sept. 12: Last day for each house to pass bills. Interim Recess begins upon adjournment

South Coast Air Quality Management District Legislative and Regulatory Update –January 2025

❖ Important Upcoming Dates

February 21, 2025 – Last Day for Bills to be Introduced

❖ RESOLUTE Actions on Behalf of South Coast AQMD. RESOLUTE partners David Quintana, and Alfredo Arredondo continued their representation of SCAQMD before the State’s Legislative and the Executive branch. Selected highlights of our recent advocacy include:

- Provided ongoing updates as the new legislative session began.
- Followed up on bills from the 2024 legislative session, including for SCAQMD sponsored legislation for the 2025 legislative session.

❖ Governor’s Budget Proposal. The 2025-2026 Proposed Budget was released by the Governor’s Office on January 10. This proposal was released prior to the LA County wildfires and therefore does not account for the costs incurred to contain the fires and for the recovery efforts to come.

The Summary Document of the Proposed Budget is available here: <https://ebudget.ca.gov/2025-26/pdf/BudgetSummary/FullBudgetSummary.pdf>

❖ LA County Wildfires. As a result of the LA County wildfires that ignited in January, the Legislature and Governor passed two budget proposals for wildfire response. These budget bills were passed by the Legislature and signed on January 23rd.

On January 20th, (at exactly 8am) the legislature put into print two budget bills (4 bills total given simultaneous introduction in both chambers) responding to the LA County wildfires as part of the First Extraordinary Session. Given their introduction timestamp, these bills were eligible to be passed by the legislature on Thursday morning in order to be compliant with the 72-Hour Rule. The legislature passed the bills Thursday morning and the Governor signed the bills that afternoon.

- **ABX1 4: \$1.5 Billion for Immediate Response**
 - Gives the Department of Finance (DoF) authority to augment any related wildfire response appropriations up to \$1.5 billion. DoF has full discretion on the amounts and which Departments would receive the funding. Up to \$1 billion can be made immediately available once DoF submits a letter to the Joint Budget Committee stating what the funding will be used for; the remainder would only be made available 3 days after the letter is submitted to the Joint Budget Committee.
 - Funding may be used for the following: emergency protective measures, evacuations, sheltering for survivors, household hazardous waste removal, assessment and remediation of post-fire hazards such as flash flooding and debris flows, traffic control, air quality and water and other environmental testing, and other actions to protect health, protect the safety of persons or property, and expedite recovery.
 - DoF will have flexibility to use this authority with no clear sunset.
- **SBX1 3: Additional \$1 Billion for Immediate Response**
 - Gives DoF authority to make another \$1 billion available for wildfire response, in addition to the \$1.5 billion made available in ABX 14/SBX1 4. This funding is to be used for the same purposes

discussed above, however all \$1 billion is subject to the three day delay after DoF informs the Joint Budget Committee of its augmentation.

- DoF authority to make these augmentations will expire on April 30, 2025, unless extended by the legislature.
 - Specifies the intent of the Legislature to appropriate Prop 4 Funding related to wildfire and forest resilience towards the end of April, once budget committee hearings have taken place.
 - Requires posting of summaries related to these appropriations on the DoF website by February 7th, with additional reporting intervals for February 28th, March 31st, and April 30th.
 - Appropriates \$1 million to Department of General Services to help expedite the planning to rebuild schools impacted by the fires.
 - Appropriates \$4 million to Department of Housing and Community Development to expedite building permit review for residential homeowners.
- **Funding Source:**
 - **General Fund:** Language in both budget bills provides broad authority for DoF to source funding from any relevant source of funding. Currently the cash reserves in the General Fund's Special Fund for Economic Uncertainty (not to be confused with the Rainy Day Fund) stand at \$4.5 billion, making the SFEU the most likely source of funding. Provisions in the budget bill prioritize that the State seek as much reimbursement for these dollars from the Federal Government as possible.
 - **Proposition 4:** While the possibility of the Wildfire Chapter (totaling \$1.5 billion across many agencies) being accelerated and appropriated was reported in the press and confirmed as being discussed by the Legislature, these budget bills do not make any appropriations from Proposition 4. It is telling that legislative intent to act on this at a later time is articulated in the budget bill; expect more to come during budget subcommittee hearings leading up to April 30.

ATTACHMENT 3C

South Coast AQMD, Legislative Committee Report
Buckley Government Affairs LLC
February 14, 2025

Legislative Session Update

The California Legislature reconvened in Sacramento on January 6th to begin the 2025 legislative session. The initial attention centered on responding to federal policy shifts under the Trump administration through the special session called by the Governor. However, priorities quickly shifted to the response and recovery efforts for the devastating Southern California wildfires that have impacted communities across the region. Governor Newsom has issued several executive orders aimed at expediting relief and rebuilding efforts, while legislators are already introducing bills to address both immediate recovery needs and long-term wildfire prevention and mitigation measures.

Special Session Update

Shortly after the November election, Governor Newsom called a special session of the California Legislature with the goal of "Trump-proofing" the state against anticipated federal policy changes under the new administration. The session was designed to protect California's values and ensure there were funds for any potential lawsuits. However, in the wake of the wildfires in Southern California, the scope of the session was expanded to address the recovery efforts.

The Legislature passed \$2.5 billion in relief funds to address the wildfire-stricken areas, and the Governor signed the legislation into law. These funds are aimed at providing housing assistance, debris removal, and infrastructure repairs, while also supporting long-term resilience measures to prevent future disasters.

Budget Update

On January 6th, Governor Newsom delivered a topline briefing on his proposed California State Budget, emphasizing the state's fiscal stability and key priorities. While the Governor traveled to Southern California to address wildfire recovery efforts, his Department of Finance Director

provided a detailed budget briefing on January 10th. The Governor's proposal highlighted that the state anticipates \$16.45 billion in higher revenues than originally projected. However, due to obligations tied to Proposition 98 for education funding, contributions to the state's Rainy-Day Fund, and other programmatic commitments, the surplus available for discretionary spending amounts to just \$363 million.

This proposal marks only the beginning of the budget process, with significant discussions ahead as the Legislature works toward a finalized budget in June. The Department of Finance Director acknowledged the potential for uncertainty in revenue projections, especially since tax reporting is often delayed during natural disasters. This uncertainty underscores the challenge of developing a comprehensive budget, particularly as the state grapples with ongoing recovery needs from the wildfires. Conversations in the Capitol have already begun regarding a potential additional round of funding to support impacted communities, which could further impact the final budget plan.

Both the Senate and Assembly Budget Committees have scheduled hearings to review the Governor's proposal. These hearings will allow lawmakers to examine the Governor's fiscal plan and weigh their own spending priorities. The Budget Sub Committees in each house will continue to meet throughout the next several months to begin crafting the State's final budget.

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 14

REPORT: Mobile Source Committee

SYNOPSIS: The Mobile Source Committee held on Friday, February 21, 2025.
The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Larry McCallon, Acting Committee Chair
Mobile Source Committee

SLR:ja

Committee Members

Present: Mayor Pro Tem Larry McCallon, Acting Committee Chair
Councilmember Nithya Raman
Mayor Pro Tem Carlos Rodriguez

Absent: Board Member Gideon Kracov, Committee Chair
Supervisor Holly J. Mitchell, Vice Chair
Supervisor V. Manuel Perez

Call to Order

Mayor Pro Tem McCallon called the meeting to order at 9:00 a.m.

For additional details, please refer to the [Webcast](#).

ROLL CALL

INFORMATIONAL ITEM (Item 1):

1. Upcoming State Implementation Plan (SIP) Actions

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 3:21.

Mike McCarthy, Radical Research, LLC, noted that ozone levels have not improved since 2009 and questioned how the region will meet ozone standards with CARB's regulations withdrawn from U.S. EPA's consideration for waiver. He advocated for slowing warehouse and freight growth to help meet air quality standards. For additional details, please refer to the [webcast](#) beginning at 19:59.

Mayor Pro Tem Rodriguez requested clarification on federal sanctions, contingency measures, and upcoming rulemaking. Sarah Rees, Deputy Executive Officer, Planning, Rule Development and Implementation, explained that federal sanctions include an increase of offset ratio for stationary source permits from the current 1.2:1 to 2:1 and loss of potentially \$27 billion in federal highway funding. Additionally, the federal government could impose a federal implementation plan for the Basin with draconian measures. Dr. Rees clarified that contingency measures in the SIP is an administrative process, but not directly related with attainment. For additional details, please refer to the [webcast](#) beginning at 22:35.

Mayor Pro Tem McCallon asked when sanctions kick in. Dr. Rees stated that the first sanction takes effect in 18 months after an applicable finding and the second occurs after 24 months. For additional details, please refer to the [webcast](#) beginning at 25:50.

Mayor Pro Tem Rodriguez asked about the impact of losing federal highway funding and its effect on upcoming rulemaking. Executive Officer Wayne Nastri responded that the Clean Air Act (CAA) mandates implementation of all feasible measures and CARB's withdrawal of waivers increases the burden on South Coast AQMD to make up the foregone reductions. For additional details, please refer to the [webcast](#) beginning at 26:16.

Councilmember Raman requested clarification on SIP items that will be brought before the Board to address sanction clocks and an update on the CAA 182(e)(5) "black box" measures in the 2022 AQMP. Dr. Rees provided examples of rules applying to residential wood burning and leak detection and repairs for storage tanks and chemical plants and explained that while technology is advancing, the black box primarily accounts for necessary reductions from federal sources. For additional details, please refer to the [webcast](#) beginning at 30:45.

Councilmember Raman asked about the impact of CARB's waiver withdrawal of the In-Use Locomotive Regulation on South Coast AQMD's Railyard ISR. Executive Officer Nastri responded that staff is working with CARB and will report back to the Board in a few months. For additional details, please refer to the [webcast](#) beginning at 32:36.

Mayor Pro Tem McCallon inquired about the impact of CARB's regulations and waivers specifically on passenger rail operations. Ian MacMillan, Assistant Deputy Executive Officer, Planning, Rule Development and Implementation responded that the regulations with approved or partially approved waivers will be implemented, but there is uncertainty due to ongoing litigation. Executive Officer Nastri added that staff will seek clarification from CARB regarding the effect of the waivers on passenger rail. For additional details, please refer to the [webcast](#) beginning at 34:37.

Mayor Pro Tem McCallon questioned why ozone levels have not decreased despite ongoing NOx reductions and asked about Pacific High oscillations. Dr. Rees cited complex atmospheric chemistry and adverse weather as contributing factors and emphasized that sufficient NOx reductions are essential for meeting ozone standards. For additional details, please refer to the [webcast](#) beginning at 36:39.

Mayor Pro Tem Rodriguez inquired about air quality data affected by recent wildfires and asked about emissions from federal sources. Dr. Rees explained that such data are classified as exceptional events and will not impact air quality attainment. Executive Officer Nastri commented that staff is urging U.S. EPA to regulate federal sources. For additional details, please refer to the [webcast](#) beginning at 38:34.

WRITTEN REPORTS (Items 2-4):

2. Rule 2305 Implementation Status Report: Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program

This item was received and filed. Mayor Pro Tem McCallon noted a recent workshop that mentioned spending WAIRE Mitigation funds and also inquired about emission reductions achieved so far with the WAIRE Program. Mr. MacMillan reported that there is close to one ton per day in NOx reductions through the first two years of implementing the rule, and mitigation fees make up only about 3-5 percent of all WAIRE points earned. For additional details, please refer to the [webcast](#) beginning at 42:10.

Mr. McCarthy provided public comment stating that warehousing is growing faster than population and more local control should be imposed. He also inquired about enforcement of the WAIRE Program. For additional details, please refer to the [webcast](#) beginning at 44:57.

3. Rule 2202 Activity Report: Rule 2202 Summary Status Report

This item was received and filed.

4. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects

This item was received and filed.

OTHER MATTERS:

5. Other Business

There was no other business to report.

6. Public Comment Period

There was no Public Comment

7. Next Meeting Date

The next regular Mobile Source Committee meeting is scheduled for Friday, March 21, 2025 at 9:00 a.m.

Adjournment

The meeting adjourned at 9:44 a.m.

Attachments

1. Attendance Record
2. Rule 2305 Implementation Status Report: Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program
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 21, 2025

Mayor Pro Tem Larry McCallon	South Coast AQMD Board Member
Councilmember Nithya Raman	South Coast AQMD Board Member
Mayor Pro Tem Carlos Rodriguez	South Coast AQMD Board Member
Guillermo Gonzalez	Board Consultant (Perez)
Jackson Guze	Board Consultant (Raman)
Debra Mendelsohn	Board Consultant (McCallon/Rodriguez)
James Arriola	Public Member
Julie Brooks	Public Member
Chris Chavez	Coalition for Clean Air
Curtis Coleman	Southern CA Air Quality Alliance
Natalie Delgado-Carrillo	Central California Environmental Justice Network
Thomas Jelenic	PMSA
Bill LaMarr	CSBA
Mike McCarthy	Radical Research, LLC
Peter Whittingham	Whittingham Public Affairs Advisors
Jacob Allen	South Coast AQMD Staff
Debra Ashby	South Coast AQMD Staff
Jason Aspell	South Coast AQMD Staff
Barbara Baird	South Coast AQMD Staff
Rachel Ballon	South Coast AQMD Staff
Elham Baranzadeh	South Coast AQMD Staff
Cathy Bartels	South Coast AQMD Staff
Laurence Brown	South Coast AQMD Staff
Cindy Bustillos	South Coast AQMD Staff
Marc Carreras-Sospedra	South Coast AQMD Staff
Matthew Ceja	South Coast AQMD Staff
Maria Corralejo	South Coast AQMD Staff
Monica Fernandez-Neild	South Coast AQMD Staff
Britney Gallivan	South Coast AQMD Staff
Scott Gallegos	South Coast AQMD Staff
Bayron Gilchrist	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
Lauren Henninger	South Coast AQMD Staff
Calvin Howes	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
Jonathan Liu South Coast AQMD Staff
Jason Low South Coast AQMD Staff
Ian MacMillan South Coast AQMD Staff
Terrence Mann South Coast AQMD Staff
Rosalee Mason South Coast AQMD Staff
Ron Moskowitz South Coast AQMD Staff
Ghislain Muberwa South Coast AQMD Staff
Susan Nakamura South Coast AQMD Staff
Wayne Nastri South Coast AQMD Staff
Marissa Poon South Coast AQMD Staff
Eric Praske South Coast AQMD Staff
Sarah Rees South Coast AQMD Staff
Melissa Sanchez South Coast AQMD Staff
Zafiro Sanchez South Coast AQMD Staff
Masoud Shorshani South Coast AQMD Staff
Lisa Tanaka O'Malley South Coast AQMD Staff
Alexis Thrower South Coast AQMD Staff
Brian Tomasovic South Coast AQMD Staff
Kristina Voorhees South Coast AQMD Staff
Mei Wang South Coast AQMD Staff
Vicki White South Coast AQMD Staff
Victor Yip South Coast AQMD Staff



South Coast
Air Quality Management District
 21865 Copley Drive, Diamond Bar, CA 91765
 (909) 396-2000, www.aqmd.gov

Rule 2305 Implementation Status Report:
Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program

August 1, 2024 to January 31, 2025

1. Implementation and Outreach Activities:

Activity	Since Last Report	Since Rule Adoption
Calls and Emails to WAIRE Program Hotline (909-396-3140) and Helpdesk (waire-program@aqmd.gov)	3,644	~14,842
Views of Compliance Training Videos (outside of webinars)	7,800	~15,426
Notices Sent to Email Subscribers with Information About WAIRE Program Resources	24,657	~108,449
Visits to www.aqmd.gov/waire	17,610	~88,780
Warehouse Locations Visited In-Person	1,108	~3,176
Presentations to Stakeholders*	2	~149

**Colorado Regional Air Quality Council Technical Work, and 2nd Annual Supply Chain Summit & Expo*

2. Highlights of Recent Implementation and Enforcement Activities

- A total of 1,626 Annual WAIRE Reports (AWRs) were submitted by warehouse operators for the first two compliance periods (2022 and 2023) as of January 31, 2025. Of the submitted reports, 31 warehouse operators still need to submit the required fees (including mitigation fees, as applicable). The warehouse operators who submitted an AWR reported earning a total of about 606,440 WAIRE Points across all options in the two compliance periods, far exceeding the total WAIRE Points Compliance Obligation of about 153,885 Points reported by these entities. The excess points may be banked by the warehouse operators for future compliance.
- As of January 31, 2025, warehouse operators reported approximately \$30.6 million in mitigation fees (approximately 30,649 WAIRE Points earned), of which about \$29.6 million has been received in payments. Remaining payments are expected soon, and non-payments will be pursued through appropriate enforcement actions.
- On October 11, 2024, staff approved the fourth Custom WAIRE Plan ever for the WAIRE Program for United Airlines, Inc., for three battery electric tow tractors and use of onsite zero emission charging infrastructure. This Custom WAIRE Plan is publicly available [here](#).
- The 2nd Annual Report, which was presented to the Mobile Source Committee in October 2024, was posted to our website and is publicly available [here](#).

- The WAIRE Program Online Portal (WAIRE POP) was upgraded in early December with a new AWR amendment feature that can be used to amend previously submitted AWRs following staff review and approval.
- On December 20, 2024, WAIRE Program staff sent an email notice to warehouse owners and operators reminding them of the upcoming January 31, 2025 AWR deadline. The notice was sent to approximately 8,200 email addresses. A second reminder was sent on January 17, 2025. On January 23, 2025, staff issued a notice to approximately 8,200 email addresses extending the AWR deadline for the 2024 compliance period from January 31, 2025 to February 14, 2025 due to the impacts from wildfires in Los Angeles County. This notice is publicly available [here](#). The WAIRE POP reporting system was updated to include a pop-up notification of the reporting deadline extension.
- On January 10, 2025, the Governing Board approved the establishment of a Rule 2305 Penalty Special Revenue Fund to hold penalty funds from Rule 2305 violations received on or after January 1, 2025, including interest earnings from these penalties. This action was in response to Assembly Bill 98, approved by the Governor on September 29, 2024, that requires South Coast AQMD to receive community input on how penalties assessed and collected for violations of the Warehouse Indirect Source Rule (Rule 2305) are spent. Staff will setup a process to receive community input before returning to the Board with expenditure recommendations for fees collected after January 1, 2025.
- The WAIRE Program has received a high volume of calls and email inquiries during August 2024 through January 2025, primarily due to the annual reporting deadline. In this six-month period, the WAIRE Program received at least 3,644 unique inquiries, or approximately 25% of all inquiries received by the WAIRE Program since rule adoption. 1,436 of those inquiries were received in January 2025 alone. WAIRE Program staff continued to work to address all inquiries received.
- Since December 2023, over 475 Notice of Violations (NOVs) have been issued to warehouse operators for failure to submit required reports by the due date. Approximately 155 warehouses have contacted South Coast AQMD directly in response to the NOVs issued, and staff are providing compliance assistance as needed. Approximately 190 facilities have subsequently filed the required reports and fees. An additional 10 facilities have submitted the required reports but have not yet submitted the associated fees. Staff are also evaluating additional documentation provided by a small number of operators who assert that the rule may not apply to their facility.

3. Key Anticipated Activities in February

- Staff will continue to prioritize responses to inquiries received by warehouse owners and operators in response to the upcoming reporting deadline on February 14, 2025. Staff will continue to assist warehouse operators with reporting requirements and resolving NOVs.
- Staff will continue to work with IM to develop enhancements to the WAIRE POP to facilitate reporting and compliance with rule requirements.

4. Summary of Reporting Rates

The table below includes estimates of the reporting rates for the AWRs received by warehouse operators in the first two phases of rule implementation¹. This table shows “anticipated reports”, which is an estimate of AWRs based on warehouse operators identified through Rule 2305

¹ Subject to auditing by South Coast AQMD.

reporting and CoStar data through August 2024². Based on reported information, we estimate about 81% of entities with at least 100,000 square feet of indoor floor space need to earn WAIRE Points and submit an AWR, with the remaining 19% only required to submit limited information in an Initial Site Information Report. As additional reports are received, this estimate is subject to change. The table shows the number of warehouse operators that are anticipated to earn points. Reporting rates will increase through time in response to ongoing staff outreach and enforcement efforts.

AWR Reporting Rate Summary*

Phase	Phase 1		Phase 2
Compliance Year	2022	2023	2023
Reports Received	627	611	388
Anticipated Reports	1,408	1,408	1,287
Reporting Rate	45%	43%	30%

* Reporting rates as of January 2025. The reports received totals do not include the following: operators not subject to AWR reporting, voluntary AWRs submitted by warehouse facility owners, warehouse operators who submitted an early action AWR prior to their first AWR due date, and a small number of AWRs submitted in error.

² These numbers exclude those operators that are not required to earn WAIRE Points.



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, 2025 – January 31, 2025

Employee Commute Reduction Program (ECRP)	
# of Submittals:	49

Emission Reduction Strategies (ERS)	
# of Submittals:	1

Air Quality Investment Program (AQIP) Exclusively		
County	# of Facilities	\$ Amount
Los Angeles	0	\$ 0
Orange	0	\$ 0
Riverside	0	\$ 0
San Bernardino	0	\$ 0
TOTAL:	0	\$ 0

ECRP w/AQIP Combination		
County	# of Facilities	\$ Amount
Los Angeles	0	\$ 0
Orange	0	\$ 0
Riverside	0	\$ 0
San Bernardino	0	\$ 0
TOTAL:	0	\$ 0

Total Active Sites as of January 31, 2025

ECRP (AVR Surveys)			TOTAL Submittals w/Surveys	AQIP	ERS	TOTAL
ECRP ¹	AQIP ²	ERS ³				
479	9	11	499	100	723	1,322
36.5%	0.7%	0.8%	38.0%	7.6%	54.4%	100% ⁴

Total Peak Window Employees as of January 31, 2025

ECRP (AVR Surveys)			TOTAL Submittals w/Surveys	AQIP	ERS	TOTAL
ECRP ¹	AQIP ²	ERS ³				
379,961	2,391	1,774	384,126	14,393	289,126	687,645
55.3%	0.4%	0.3%	56.0%	2.0%	42.0%	100% ⁴

- 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 VERSION

BOARD MEETING DATE: March 7, 2025

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, 2025 and January 31, 2025, and proposed projects for which South Coast AQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, February 21, 2025, Reviewed

RECOMMENDED ACTION:
Receive and file.

Wayne Natri
Executive Officer

SR:MK:BR:SW:ET:DC

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 review¹ of environmental documents for the current reporting period for Attachments A and B combined²:

¹ 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.

² 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>.

Statistics for Reporting Period from January 1, 2025 to January 31, 2025	
Attachment A: Environmental Documents Prepared by Other Public Agencies and Status of Review	52
Attachment B: Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies (which were previously identified in the November and December 2024 reports)	6
Total Environmental Documents Listed in Attachments A & B	58
<i>Comment letters sent</i>	6
<i>Environmental documents reviewed, but no comments were made</i>	38
<i>Environmental documents currently undergoing review</i>	14

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 2025.

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, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Industrial and Commercial</i> LAC250114-08 1450 Artesia Specific Plan Project#	The project consists of constructing a 268,000 square foot warehouse on 6.3 acres. The project is located near the southwest corner of Artesia Boulevard and Normandie Avenue in Gardena, within the designated AB 617 Wilmington, Carson, and West Long Beach community. Reference: LAC230613-08 Comment Period: N/A Public Hearing: 2/4/2025	Other	City of Gardena	Document reviewed - No comments sent
<i>Industrial and Commercial</i> RVC250107-01 Bloomington Truck & Trailer Maintenance Facility PROJ-2021-00021	The project consists of a zoning amendment from single residential to industrial and a conditional use permit to construct and operate a 15,000 square foot truck and trailer maintenance facility on 2.4 acres. The project is located at 11317 Lilac Avenue on the southeast corner of Lilac Avenue and Jurupa Avenue in Bloomington. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/january-2025/rvc250107-01-mnd-bloomington-truck-amp-trailer-maintenance-facility-project.pdf Comment Period: 12/23/2024- 1/21/2025 Public Hearing: 2/20/2025	Notice of Intent to adopt a Mitigated Declaration	County of San Bernardino	Comment letter sent on 1/21/2025
<i>Industrial and Commercial</i> RVC250114-02 Galway Downs	The project consists of updating Conditional Use Permits and Change of Zone on an existing events facility, which includes construction of buildings and expansion of facility uses on 241.6 acres. The project is located at 38801 Los Corralitos Road in Temecula. Comment Period: 1/14/2025-2/13/2025 Public Hearing: N/A	Notice of Preparation of a Draft Environmental Impact Report	County of Riverside	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, SBC = San Bernardino County, and 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, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Industrial and Commercial</i> RVC250117-01 Moreno Valley Business Park Building 5	The project consists of constructing a 220,309 square foot industrial tilt-up building on 9.98 acres. The project is located near the southeast corner of Ironwood Avenue at Heacock Street in Moreno Valley. References: RVC230823-10, RVC210623-06 Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/september-2023/RVC230823-10.pdf . Comment Period: 1/16/2025 - 3/3/2025 Public Hearing: N/A	Draft Environmental Impact Report	City of Moreno Valley	Under review, may submit comments
<i>Industrial and Commercial</i> SBC250117-02 AMKO Recycling Facility Project	The project consists of expanding and operating a recycling facility on 2.73 acres which includes the following: 1) requesting a General Plan Amendment to change the land use designation from General Commercial to Light Industrial; 2) zone changing to bring the facility into conformance with the City's General Plan and Municipal Code; 3) constructing a 7,670 square-foot warehouse; 4) improving an existing facility located on 340 West Valley Boulevard; 4) constructing a 10,000 square-foot storage space; and 5) rehabilitating and reusing an existing building located at 157 North Pennsylvania Avenue as a warehouse and storage facility. The project is located on the southeast corner of North 4 th Street and West Valley Boulevard in Colton. Comment Period: 1/19/2025 - 2/19/2025 Public Hearing: 3/11/2025	Draft Mitigated Negative Declaration	City of Colton	Under review, may submit comments
<i>Industrial and Commercial</i> SBC250122-02 Kaiser Permanente Medical Center Project	The project consists of constructing a 120,000 square foot medical building and parking for Kaiser Permanente Redlands. The project is located at 1301 California Street in Redlands, near the northwest corner of California Street to the east and West Lugonia Avenue. Comment Period: 1/22/2025 - 2/21/2025 Public Hearing: N/A	Notice of Preparation of Environmental Impact Report	City of Redlands	Under review, may submit comments

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ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW
January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Waste and Water-related</i> LAC250129-03 Approval of Complete Site Assessment Report for North Posse Site	The project consists of a complete site assessment report for the North Posse Site in Torrance, which includes contaminants of concern above applicable screening levels for risk to human health in commercial and industrial scenario. The project is located at 3041 Del Amo Boulevard. Comment Period: N/A Public Hearing: N/A	Other	California Regional Water Quality Control Board, Los Angeles Region	Document reviewed - No comments sent
<i>Waste and Water-related</i> ODP250122-06 Community Survey - Santa Susana Field Laboratory (SSFL)	The project consists of seeking public input and gaining insight from interested individuals about Department of Toxic Substances Control (DTSC) oversight of cleanup at the Santa Susana Field Laboratory (SSFL). The SSFL is a 2,850 acre site, located on the southeast corner of Service Area Road and Woolsey Canyon Road in Ventura County. References: ODP240201-08, ODP240103-06, 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: 1/20/2025 - 3/31/2025 Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent
<i>Waste and Water-related</i> SBC250128-07 Crestline-Lake Arrowhead Water Agency and San Bernardino Valley Municipal Water District Proposed Multi Year Water Exchange Project	The project consists of implementing a water exchange project, which allows for flexibility in management and use of allocated excess State Water Project (SWP) water by Crestline-Lake Arrowhead Water Agency (CLAWA). The project is located within the San Bernardino County in the San Bernardino Mountains. Comment Period: 1/30/2025 - 2/28/2025 Public Hearing: 4/4/2025	Initial Study/Negative Declaration	Crestline-Lake Arrowhead Water Agency (CLAWA)	Document reviewed - No comments sent

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 Project Notes:
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ATTACHMENT A
ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW
January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Utilities</i> LAC250106-03 Glenarm BESS Project	The project consists of installing a 25-megawatt (MW) utility-scale Battery Energy Storage System (BESS) on approximately 0.59 acre. The project is located at 72 East Glenarm Street in Pasadena. Comment Period: 1/6/2025 - 2/4/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Pasadena	Document reviewed - No comments sent
<i>Utilities</i> ODP250114-06 Grace Solar Energy Center	The project consists of requesting a 40-year Conditional Use Permit (CUP), Public Use Permit (PUP), Development Agreement (DA) amendment for construction, operation, and decommissioning of a solar facility on 3,838 acres. The project will include a solar photovoltaic (PV) generating facility that would generate and store up to 500 megawatts (MW) of renewable electricity, battery energy storage systems (BESS), 230-kV generation-tie (gen-tie), access roads, appurtenant facilities, and coordinated efforts with Bureau of Land Management (BLM). The project is located approximately 2.8 miles north of Interstate 10 and west of Blythe, which includes Riverside County, unincorporated Riverside County, and land administered by the BLM. Comment Period: 1/10/2025 - 2/8/2025 Public Hearing: N/A	Draft Supplemental Environmental Impact Report	County of Riverside	Under review, may submit comments
<i>Utilities</i> SBC250107-02 CSI Revision (PRAA-2023-00021)	The project consists of revising an application to construct a new galvanizing line within an existing structure and an expansion of approximately 9,000 square feet to accommodate new equipment. The project also includes constructing new push pull pickle line wholly within an existing structure at the existing California Steel Industries Site in Fontana. The project is located at 14000 San Bernardino Avenue, in unincorporated San Bernardino County. Comment Period: 1/6/2025 - 2/6/2025 Public Hearing: N/A	Notice of Intent to Adopt an Initial Study/Negative Declaration	County of San Bernardino	Under review, may submit comments

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ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW
January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>Utilities</i> SBC250121-01 Inland Valley Infrastructure Corridor (IVIC)#	The project consists of improving the following infrastructure systems: water; wastewater/sewer; dry utilities, including communications; drainage; roads; and other future utility integration. The project is bounded by San Bernardino International Airport to the north, State Route 210 to the east, and Tippecanoe Avenue to the west. The project is also within the AB 617 San Bernardino, Muscoy community. Reference: SBC231206-03 Comment Period: N/A	Notice of Availability of a Final Environmental Impact Report	Inland Valley Development Agency	Document reviewed - No comments sent
<i>Transportation</i> LAC250123-03 Eastside Transit Corridor Phase 2 Project#	The project consists of seeking federal funding opportunities under the National Environmental Policy Act (NEPA) for the first phase of the 4.7-mile E Line extension to Greenwood Station in Montebello. The project is located within the designated AB 617 Southeast Los Angeles community. References: LAC240501-04, LAC220809-01, LAC140819-04, LAC100518-02, and LAC100305-02 Comment Period: N/A	Other	Los Angeles County Metropolitan Transportation Authority (LACMTA)	Document reviewed - No comments sent
<i>Transportation</i> SBC250107-03 SBC 127 Near Baker Pavement Rehabilitation	The project consists of preserving, repairing, and extending the life of the existing pavement on State Route 127 (SR-127). The limits of work for this project are along SR-127 at post mile L0.0 to 3.0 and post mile 10.5 to 37.7 in San Bernardino County. Comment Period: N/A	Finding of No Significant Impact	California Department of Transportation (Caltrans)	Document reviewed - No comments sent

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 Project Notes:
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ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW
January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>Institutional (schools, government, etc.)</i> RVC250128-01 La Sierra High School Track and Field Project	The project consists of renovating an existing track and field; adding field lighting, public address system, scoreboard, bleachers to accommodate 2,800 spectators; constructing a 5,500 square foot field house that would include restrooms, ticket office, storage, concessions stand, and team room; relocating existing tennis courts; and repaving and restriping a 134,000 square foot parking lot. The project would reduce the number of parking spaces by 136 parking stalls. The project encompasses 10.52 acres and is located at 4145 La Sierra Avenue, in the La Sierra Neighborhood of Riverside. Reference: RVC241105-07 Comment Period: 2/3/2025- 3/20/2025 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	Alvord Unified School District	Document reviewed - No comments sent
<i>Medical Facility</i> LAC250106-01 Cudahy Seniors Site#	The project consists of requesting a community survey on the clean-up activity at the Cudahy Seniors (Site). Environmental investigations conducted at the 1.33-acre site found contamination in soil vapor, including chloroform, benzene, tetrachloroethene and trichloroethene above regulatory screening levels. The project is located at 4610 Santa Ana Street in Cudahy and is within the designated AB 617 Southeast Los Angeles community. Reference: LAC241016-01 Comment Period: 1/6/2025- 2/10/2025 Public Hearing: N/A	Draft Remediation Plan	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent

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ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW
January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Retail</i> ORC250128-02 Shaffer Plaza	The project consists of seeking public input for the cleanup at Shaffer Plaza, a 2.9 acre site contaminated with elevated concentrations of volatile organic compounds (VOCs), specifically tetrachloroethylene (PCE), in the soil and soil vapor. The project is located at 301-349 East Grove Avenue and 1997 North Orange Olive Road in the City of Orange. Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control (DTSC)	Document reviewed - No comments sent
<i>Retail</i> RVC250109-02 Nexus Hotel and Residential Project	The project consists of redeveloping an existing parking lot and constructing a nine-story resort hotel and residential building consisting of 125 hotel rooms and 132 residential condo units. The project also consists of constructing a 6,040 square foot stand-alone restaurant. The project is located at the southeast corner of North Calle El Segundo and East Andreas Road in Palm Springs. Comment Period: 1/13/2025 - 2/3/2025 Public Hearing: N/A	Notice of Intent to adopt a Mitigated Negative Declaration	City of Palm Springs	Document reviewed - No comments sent

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ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW
January 1, 2025 to January 31, 2025

<u>SOUTH COAST AQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Retail</i> RVC250114-01 Sun Community Bank	The project consists of constructing a 2,895 square foot free standing bank with a drive-through ATM and 19 on-site parking stalls. The project is located on the southeast corner of Ramon Road and Calle Santa Cruz in Palm Springs. Comment Period: 1/14/2025 - 2/3/2025 Public Hearing: 2/26/2025	Notice of Availability of a Draft Mitigated Negative Declaration	City of Palm Springs	Document reviewed - No comments sent
<i>Retail</i> RVC250114-03 Bedford Court Coffee Shop and Car Wash	The project consists of constructing two structures totaling approximately 4,546 square feet. Anticipated uses include a car wash and coffees shop, and a drive-thru. The project is located approximately 160 feet south of the Temecula Parkway and Bedford Court intersection in Temecula. Comment Period: 1/14/2025 - 2/13/2025 Public Hearing: N/A	Mitigated Negative Declaration	City of Temecula	Document reviewed - No comments sent
<i>Retail</i> RVC250123-01 Plot Plan No 26225, Revised Permit No. 1 Akash Winery Project	The project consists of expanding an existing wine tasting and production building by constructing an additional 10,926 square feet indoor and outdoor wine amenities and parking spaces on 19.34 acres. The project is located at 39730 Calle Contenido in Temecula. Comment Period: 1/28/2025 - 2/27/2025 Public Hearing: N/A	Draft Initial Study/Mitigated Negative Declaration	County of Riverside	Document reviewed - No comments sent

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January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
Retail RVC250128-05 Ethanac Travel Center Development Project	The project consists of considering an appeal adopting a Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program, and approving Conditional Use Permit for a 13,980 square foot travel center and Variance 24-05022 for a Freeway Oriented Sign. The project is located on the northwest corner of Ethanac and Trumble Road. References: RVC241004-02, RVC240926-05, RVC240709-06, and RVC240201-03 Comment Period: N/A Public Hearing: 2/11/2025	Other	City of Perris	Document reviewed - No comments sent
General Land Use (residential, etc.) LAC250123-02 2830 Prewett Project (ENV-2023-5352-MND)	The proposed project consists of constructing a 3,938 square foot residential unit on 9,536-square foot project site. The project is located at 2824 - 2830 North Prewett Street in Los Angeles, near the northwest corner of North Thomas Street and Two Tree Avenue. Comment Period: 1/23/2025 - 2/24/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Los Angeles	Document reviewed - No comments sent
General Land Use (residential, etc.) LAC250128-04 1000 North La Brea Avenue Project	The project consists of demolishing existing structures and constructing 514 residential units, 30,000 square feet of retail use, 27,976 square feet of common open space, and 32,420 square feet of private open space on 0.99 acre. The project is located at the northwest corner of La Brea Avenue and Romaine Street at 1000 through 1028 North La Brea Avenue in West Hollywood. Reference: LAC231201-14 Comment Period: 1/23/2025 - 3/10/2025 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of West Hollywood	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
<i>General Land Use (residential, etc.)</i> ODP250115-01 Project No. PM071006	The project consists of constructing three single-family residential lots on 18.04 acres. The project is located near the southeast corner of Listie Avenue and Galloping Way within the Antelope Valley Zoned District. Comment Period: 1/15/2025- 2/13/2025 Public Hearing: N/A	Notice of Intent to adopt a Mitigated Negative Declaration	Los Angeles County Department of Regional Planning	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> ORC250115-03 Hive Live	The project consists of demolishing the existing Hive Creative Office Campus and the Los Angeles Chargers practice field and constructing a new multi-phased master planned residential development on 14.25 acres. The project includes three multi-family residential structures with up to 1,050 dwelling units, 3,692 square feet of retail uses, and 335,958 square feet of open space. The project is located at 3333 Susan Street in Costa Mesa. Reference: ORC240611-04 Comment Period: 1/21/2025- 3/6/2025 Public Hearing: N/A	Notice of Availability of a Draft Environmental Impact Report	City of Costa Mesa	Document reviewed - No comments sent

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January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> ORC250127-01 2021 – 2029 Housing Element Implementation Project	The project consists of an update to the City’s 2021-2029 6th Cycle Housing Element Update, which includes land use, zoning, and policy changes that would facilitate housing development throughout the City and allow future construction of 318 residential units. The project would include two candidate housing sites: 1) the 17.8-acre Smith Basin and 2) the 1.5-acre Town Centre Site. The Smith Basin project is located at the City’s southeastern boundary, in the north-central portion of the Smith Basin. The Town Centre Site is located in the City’s east- central portion in Villa Park Town Centre at 17855 and 17871 Santiago Boulevard. Comment Period: 1/24/2025 - 2/24/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Villa Park	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> ORC250127-04 385 Nyes Place (DR-2023-0971/CDP-2023-0970) Project	The project consists of constructing a 4,231 square foot residence on an existing vacant lot and reconstructing the existing curb to allow driveway access to the project site. The project is located at 385 Nyes Place in Laguna Beach. Comment Period: 1/29/2025 - 2/28/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Laguna Beach	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> ORC250128-03 Santa Barbara Towns	The project consists of constructing 26 residential units and associated improvements, including a total of 80 parking spaces and seven entitlements on 3.02 acres. The project is located at 5802 Santa Catalina Avenue in Garden Grove. Comment Period: 1/23/2025 - 2/11/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Garden Grove	Document reviewed - No comments sent

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 Project Notes:
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ATTACHMENT A
ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW
January 1, 2025 to January 31, 2025

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>General Land Use (residential, etc.)</i> RVC250123-05 Xenia Avenue & 6th Street Apartments (PP2024-0017)	The project consists of constructing 66 residential units, including community amenities, childcare center, and 93 parking spaces on approximately 1.51 acres. The project is located at the northeast corner of Xenia Avenue and Sixth Street. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Beaumont	Under review, may submit comments
<i>General Land Use (residential, etc.)</i> SBC250117-03 Housing Element Program 10 & 11 General Plan Amendment and Rezone	The project consists of rezoning and a General Plan amendment as part of the 2021-2029 General Plan Housing Element Update to accommodate the development of housing needs in the area. One rezoning project parcel is located near the northeast corner of North Mount Vernon Avenue and Interstate 10 in Colton. The second rezoning project parcel is located near the northwest corner of South 8 th Street and West Congress Street in Colton. Comment Period: 1/20/2025 - 2/21/2025 Public Hearing: N/A	Notice of Preparation of Draft Environmental Impact Report	City of Colton	Under review, may submit comments
<i>General Land Use (residential, etc.)</i> SBC250127-02 Foothill and Macy Route 66 Residential Development#	The project consists of requesting a change to the General Plan land use designation from Commercial to Residential Medium, and subdividing 15 lots of approximately 15.71 acres into 134 single family lots. The project is located on the northwest corner of West Foothill Boulevard and Macy Street in San Bernardino. The project is also within the AB 617 San Bernardino, Muscoy community. Comment Period: 1/25/2025 - 2/24/2025 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of San Bernardino	Document reviewed - No comments sent

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SOUTH COAST AQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>Plans and Regulations</i>	<p>The project consists of amendments to the Clearwater Specific Plan and future development through a project horizon year of 2045. The project includes construction of 100,000 square foot of vendor space, 1,386,169 square foot of non-residential buildings, and 2,000 residential units on 71 acres. The project is located on the northwest corner of Somerset Boulevard and Paramount Boulevard.</p> <p style="text-align: center;">Comment Period: 1/7/2025 - 2/6/2025 Public Hearing: N/A</p>	Notice of Preparation	City of Paramount	Under review, may submit comments
LAC250106-02 City of Paramount Clearwater Specific Plan				
<i>Plans and Regulations</i>	<p>The project consists of demolishing existing temporary and permanent buildings, totaling approximately 360,100 gross square feet (gsf) of building area, and the constructing new buildings consisting of 265,216 gsf of new floor area in five main new buildings on 43.98 acres. The project also includes approximately 207,073 gsf of building renovations to two existing buildings (the Physical and Life Science Complex and the Library and Media Center). The project is located at 1900 Pico Boulevard in Santa Monica.</p> <p>Reference: LAC100422-02</p> <p style="text-align: center;">Comment Period: 1/9/2025-2/10/2025 Public Hearing: N/A</p>	Notice of Preparation	Santa Monica Community College District	Document reviewed - No comments sent
LAC250109-03 Santa Monica College 2024 Main Campus Master Plan Update				

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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> RVC250129-04 Site Plan #PA25-0034	The project consists of developing the Tierra Vista Road Townhouses DP, which is approximately 56,841 square feet. The project is located approximately 120 feet west of the Ynez Road and Tierra Vista Road Intersection in Temecula. Comment Period: N/A Public Hearing: N/A	Site Plan	City of Temecula	Under review, may submit comments
<i>Plans and Regulations</i> ORC250114-04 City of Anaheim General Plan Focused Update	The project consists of updating the City of Anaheim's adopted General Plan to reflect the zoning and land use updates resulting from the 2021-2029 Housing Element, which include: 1)addressing the City's Regional Housing Needs Assessment (RHNA); 2) including a growth allocation of 17,453 housing units; and 3)completing the actions identified in the Center City Corridors Implementation Plan. The project encompasses over 34,000 acres with an additional 2,431 acres and is located in Anaheim. Reference: ORC241224-03 Comment Period: 12/20/2024 - 2/3/2025 Public Hearing: N/A	Notice of Availability of Draft Programmatic Environmental Impact Report	City of Anaheim	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
<i>Plans and Regulations</i> RVC250123-04 PP2024-52	The project consists of an amendment to Plot Plan No 04-PP-18 to construct a 457,444 square foot warehouse. The project is located at 1022 Prosperity Way. Reference: RVC241002-09 Comment Period: N/A Public Hearing: N/A	Site Plan	City of Beaumont	Under review, may submit comments
<i>Plans and Regulations</i> RVC250128-06 Planned Development Overlay (PDO) 23-05029 Tentative Parcel Map 38739; Development Plan Review 22-00031 (March Plaza Project)	The project consists of entitlements to facilitate the construction of a business park with three buildings totaling 66,686 square feet on 4.37 acres. The property is located at the northwest corner of Perris Boulevard and Harley Knox Boulevard. Reference: RVC241127-02 Comment Period: N/A Public Hearing: 2/19/2025	Other	City of Perris	Document reviewed - No comments sent
<i>Plans and Regulations</i> SBC250122-01 General Plan and Zoning Map/Code Update	The proposed project consists of updating the General Plan and Zoning Maps to implement the certified Housing Element which includes the following: Land Use, Circulation, Conservation, Parks, Recreation, Open Space, Noise, and Economic Development. The project has a city-wide applicability and is bounded by State Route 60 to the north, Chino to the east, Anaheim Hills to the south, and Diamond Bar and Yorba Linda to the west. Reference: SBC140729-02 Comment Period: 1/13/2025 - 3/3/2025 Public Hearing: N/A	Notice of Availability of a Draft Subsequent Environmental Impact Report	City of Chino Hills	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
<p><i>Plans and Regulations</i></p> <p>SBC250122-03 Redlands RHNA Rezone Project</p>	<p>The project consists of rezoning 24 sites within the city to allow residential development of 2,436 housing units and implementation of residential development within the project sites through 2035. The project is bounded by Citrus Avenue to the north, Kansas Street to the east, Orange Avenue to the south, and New Jersey Street to the west. Reference: SBC240710-17</p> <p align="center">Comment Period: 1/22/2025 - 3/7/2025 Public Hearing: N/A</p>	<p>Notice of Availability of a Draft Subsequent Environmental Impact Report</p>	<p>City of Redlands</p>	<p>Document reviewed - No comments sent</p>
<p><i>Plans and Regulations</i></p> <p>SBC250129-01 Plot Plan No PLN24-0251 (Boulders II/Boulders East)</p>	<p>The project consists of the following: 1) General Plan Amendment to change the project site's land use designation and modifying the dwelling units per acre; 2) Changing the zoning classification of the project site from Low Medium Density Residential (LMDR) to High Density Residential (HRD); and 3) Constructing 240 residential units on 10.14 acres which includes 380 parking spaces, a 795 square foot maintenance building and recreational amenities, and 5,025 square foot clubhouse, pool, fitness center, business center, tot lot, barbeque area, dog park, and pickle ball court. The project is located near the northeast corner Berea Road and Normandy Road.</p> <p align="center">Comment Period: N/A Public Hearing: N/A</p>	<p>Site Plan</p>	<p>City of Menifee</p>	<p>Document reviewed - No comments sent</p>
<p><i>Plans and Regulations</i></p> <p>SBC250129-02 Proj-2024-000134</p>	<p>The project consists of constructing a 7,800 square foot grocery store building to replace an existing 4,941 square foot grocery store building. The project is located at 31987 Hilltop Boulevard in Running Springs.</p> <p align="center">Comment Period: N/A Public Hearing: N/A</p>	<p>Other</p>	<p>County of San Bernardino</p>	<p>Document reviewed - No comments sent</p>

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DRAFT VERSION
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
Utilities LAC241101-17 Scattergood Generating Stations Units 1 and 2 Green Hydrogen-Ready Modernization Project	The project consists of replacing existing conventional natural gas fired steam boiler generators with a combustion turbine generator and steam turbine generator. The project is located near the northwest corner of Vista Del Mar and West Grand Avenue in Playa del Rey. Reference LAC240522-03 and LAC230524-02 https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/january-2025/lac241101-17-deir-scattergood-generating-stations-units-1-and-2-green-hydrogen-ready-modernization-project.pdf	Draft Environmental Impact Report	Los Angeles Department of Water and Power	Comment letter sent on 1/23/2025
	Comment Period: 10/31/2024- 1/29/2025 Public Hearing: N/A			
Institutional (schools, government, etc.) ODP241231-07 Hawaii-California Training and Testing	The project consists of the analysis of the potential environmental effects associated with conducting at-sea training and testing activities and modernization and sustainment of ranges (collectively referred to as “military readiness activities”) within the HCTT Study Area to ensure U.S. Military services are able to organize, train and equip service members and personally, needed to equip service members and personnel, needed to meet their respective national defense missions. The project also includes updated acoustic analysis, updated marine mammal density data, and evolving and emergent best available science. Training and testing that includes the use of active sonar, explosives, and other sources of underwater sound would employ mitigation measure to reduce or avoid adverse effects on marine species. The project includes new special use airspace in Southern California, installation and maintenance of underwater ranges in Southern California and Hawaii, deployment of seafloor cables and connected instrumentation south and west of San Clemente Island in California and north east of Oahu and west of Kauai in Hawaii, installation and maintenance of mine warfare and other training areas offshore of Hawaii and Southern California, and installation and maintenance of underwater platforms in Hawaii and Southern California. The location of the project consists primarily of the Hawaii Study Area, the California Study area, and the transit corridor connecting the two and at the at sea components of the range complexes, Navy and Coast Guard Pierside locations and port transit channels, bays, harbors, inshore waterways, amphibious approach lanes and civilian ports where training and testing activities occur.	Notice of Availability of a Draft Environmental Impact Statement	United States Department of the Navy/Other	Under review, may submit comments
	Comment Period: 12/31/2024- 2/11/2025 Public Hearing: N/A			

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SOUTH COAST AQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>General Land Use (residential, etc.)</i>	The project consists of reducing 151 residential units and increasing 280,000 square feet of commercial floor area (Modified Project). The Modified Project also includes enhanced environmental protections within each Planning Area. Within the Entrada South Planning Area, the Modified Project would increase environmental protections to jurisdictional waters and related biological resources as compared to the 2017 Project. In the Valencia Commerce Center (VCC) Planning Area, the Modified Project would provide increased environmental protection to wetlands and related biological resources by reducing permanent impacts to Hasley Creek and Castaic Creek. The project encompasses 703 acres and is located within the planning boundary of the State-approved Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan (RMDP/SCP). The Entrada South Planning Area consists of approximately 382.3 acres located predominantly south of Six Flags Magic Mountain theme park and west of Interstate (I-5) and The Old Road. The VCC Planning Area consists of approximately 328.5 acres of an undeveloped portion of the partially completed VCC non-residential center located north of State Route 126 and west of I-5 Reference LAC211102-01, LAC161201-01, LAC150430-08, LAC100810-01, and LAC100618-02	Supplemental Environmental Impact Report	County of Los Angeles	Under review, may submit comments
LAC241224-04 Entrada South and Valencia Commerce Center (VCC) Project	Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2021/november/LAC211102-01.pdf .			
	Comment Period: 12/20/2024- 2/18/2025		Public Hearing: N/A	

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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 DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
Warehouse & Distribution Centers LAC241204-02 Northwest Corner of Telegraph and Santa Fe Springs	<p>The project consists of subdividing an approximately 26.77-acre parcel into two parcels that would be approximately 13.45 acres and 13.09 acres. The project would consist of demolishing an existing building and other structures onsite, ceasing an existing oil well activity and abandoning the existing on-site oil wells to construct two new warehouse buildings. Building 1 would be approximately 298,373 square feet and Building 2 would be approximately 286,305 square feet. Additional improvements include two proposed underground on site infiltration trenches, parking, loading docks, decorative landscaping, associated on-site infrastructure, and construction of a cul-de-sac driveway. The project is located at the northwest corner of Santa Fe Springs Road and Telegraph Road. Reference LAC240522-08</p> <p>Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/june-2024/lac240522-08-nop-nwc-telegraph-and-santa-fe-springs-project.pdf. https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/january-2025/lac241204-02-draft-eir-for-the-northwest-corner-of-telegraph-and-santa-fe-springs-project.pdf</p> <p align="center">Comment Period: 11/27/2024- 1/13/2025 Public Hearing: N/A</p>	Draft Environmental Impact Report	City of Santa Fe Springs	Comment letter sent on 1/10/2025
Industrial and Commercial SBC241224-07 Lime Avenue Annexation & Quarry Commerce Center	<p>The project consists of annexing 62 acres currently located in the unincorporated area of San Bernardino County into the City of Fontana’s Sphere of Influence. The project also consists of The Quarry Commerce Center, which involves the development of a 59-acre site with an 827,752 square feet industrial commerce center with 202 dock doors. The Lime Avenue Annexation area is located north of the Burlington Northern Santa Fe (BNSF) Railroad, east of Lime Avenue, south of Arrow Boulevard, and approximately 625 feet west of Tokay Avenue. The Quarry Commerce Center is located approximately north of the BNSF Railroad, east of Lime Avenue, 300 feet south of Arrow Boulevard, and west of Tokay Avenue</p> <p>https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/january-2025/sbc241224-07-nop-lime-avenue-annexation-amp-quarry-commerce-center.pdf</p> <p align="center">Comment Period: 1/21/2025 - 1/21/2025 Public Hearing: N/A</p>	Notice of Preparation	City of Fontana	Comment letter sent on 1/21/2025
Retail RVC241219-03 Beyond Food Mart at Ethanac and Trumble (CUP22-05292)	<p>The project consists of requesting approval for a Condition Use Permit to construct and operate an eight-island passenger car fueling station with a 4,205-square-foot canopy, a 1,673-square-foot drive-thru carwash, and a 7,250-square-foot convenience store with a drive-thru for pick-up of pre-packaged food on 2.54 acres. The project is located at the northeast corner of Trumble Road and Ethanac Road at 27278 Ethanac Road.</p> <p>https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2025/january-2025/rvc241219-03-mnd-beyond-food-mart-at-ethanac-and-trumble-cup22-052.pdf</p> <p align="center">Comment Period: 12/20/2024 - 1/21/2025 Public Hearing: N/A</p>	Mitigated Negative Declaration	City of Perris	Comment letter sent on 1/21/2025

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DRAFT VERSION

**ATTACHMENT C PROPOSED AIR PERMIT PROJECTS FOR
WHICH SOUTH COAST AQMD IS CEQA LEAD AGENCY
THROUGH JANUARY 31, 2025**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
<p>Quemetco is proposing to modify its 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 landfill gas collection system.</p>	<p>Sunshine Canyon Landfill</p>	<p>Subsequent Environmental Impact Report (SEIR)</p>	<p>The consultant is working on a Draft SEIR which South Coast AQMD staff is reviewing.</p>	<p>Castle Environmental Consulting</p>

**ATTACHMENT C PROPOSED AIR PERMIT PROJECTS FOR
WHICH SOUTH COAST AQMD IS CEQA LEAD AGENCY
THROUGH JANUARY 31, 2025**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
<p>SoCalGas is proposing to modify their Title V permit for the Honor Rancho Natural Gas Storage Field to: 1) replace five compressor engines with four new natural gas-fueled compressor engines (each rated at 5,000 horsepower (hp)), new selective catalytic reduction systems and a new aqueous urea storage tank; 2) install two new electric compressors (each rated at 5,500 hp) with associated ancillary equipment; 3) construct a new building to house the new compressors; 4) install an advanced renewable energy system, which will include hydrogen electrolyzers, hydrogen storage, and fuel blending equipment to mix hydrogen with natural gas which will fuel the compressor engines; 5) install a hydrogen vehicle fueling station; 6) install an electric microgrid with an energy storage system and a natural gas fuel cell system; and 7) install one new electricity transmission line which will connect to Southern California Edison.</p>	<p>Southern California Gas Company (SoCalGas)</p>	<p>Addendum to the Final Subsequent Environmental Assessment for Rule 1110.2 and Rule 1100, and the Final Program EIR for the 2016 Air Quality Management Plan</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>Dudek</p>

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 15

REPORT: Stationary Source Committee

SYNOPSIS: The Stationary Source Committee held a hybrid meeting on Friday, February 21, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Larry McCallon,
Committee Chair
Stationary Source Committee

JA:reh

Committee Members

Present: Mayor Pro Tem Larry McCallon, Committee Chair
Chair Vanessa Delgado
Vice Chair Michael A. Cacciotti
Board Member Veronica Padilla-Campos

Absent: Supervisor Holly J. Mitchell, Committee Vice Chair
Supervisor Curt Hagman

Call to Order

Committee 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. Annual RECLAIM Audit Report for 2023 Compliance Year

David Ono, Senior Engineering Manager, Engineering and Permitting, presented an overview of the RECLAIM NO_x and SO_x Annual Report for Compliance Year 2023, and the actions required under Rule 2015 - Backstop Provisions resulting from NO_x RECLAIM Trading Credits (RTC) price threshold exceedances.

Vice Chair Cacciotti asked for the type of facilities that are in the RECLAIM program. Staff replied these include large emission sources of NO_x and SO_x, such as refineries and manufacturing facilities, and noted that a list of facilities is included in the final RECLAIM Audit Report. For additional details, please refer to the [Webcast](#) beginning at 03:08.

There were no comments received from the public.

2. Update on Proposed Amended Rule 1111 – Reduction of NO_x Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_x Emissions from Small Natural Gas-Fired Water Heaters

Heather Farr, Planning and Rules Manager, Planning, Rule Development and Implementation provided updates on Proposed Amended Rules 1111 and 1121, including the new rule concept for the manufacturer alternative compliance option with compliance target that addresses concerns regarding affordability, consumer choice, and technology readiness.

For additional details please refer to the [Webcast](#) beginning at 11:29.

Vice Chair Cacciotti asked for clarification on the mitigation fee and suggested that staff conduct periodic technology check-ins to assess the readiness and affordability of the technology and to monitor the Go Zero incentive program. Staff responded that updates could be provided annually and mentioned the previous commitment to provide an update six months after the program launch.

Committee Chair McCallon asked if staff knows the number of current sales into South Coast AQMD and the percentage of zero-NO_x emission units by each manufacturer. Staff responded that specific sales data from individual appliance manufacturers is business confidential, and the agency will be able to obtain that information with the alternative compliance option.

Board Member Padilla-Campos asked for if the manufacturers will be self-reporting information, and staff affirmed that manufacturers will self-report information and staff can verify through sales records.

Chair Delgado requested that staff consider establishing the mitigation fee based on the dollar amount that would affect consumer behavior. Executive Officer Wayne Natri responded that staff can look into that approach and update Stationary Source Committee. For additional details please refer to the [Webcast](#) beginning at 21:11.

There were 48 public comments, 41 supported the rules and 7 expressed opposition or concern about the proposed amended rules.

The following commenters generally supported moving forward with the proposed amended rules, requested no further delay, emphasized the importance of emission reduction for public health, and urged staff to strengthen the manufacturer alternative compliance targets and to increase the mitigation fee.

Fernando Gayton, Earthjustice
Kyler Chen, Sunrise Movement
Obed Leon, Anaheim resident
Leeza Bondarchuk, Sunrise Movement
Ayn Craciul, Climate Action Campaign
Tomas Castro, Climate Action Campaign
David Martinez, Climate Action Campaign
Chris Chavez, Coalition for Clean Air
Andrew Reich, Earthjustice
Jeff Reich, Earthjustice
Paulette Light, resident
Jennifer Cardenas, Sierra Club
Helen Eigenburg, Hancock Park resident
Stacey Byrnes, Santa Monica resident
Francis Yang, Los Angeles resident
Michael Rochmes, Green Buildings Committee, Los Angeles Climate Reality Project
Pete Marsh, Carbon Zero Buildings
Maryanne Hartford, Sierra Club
Candance Youngblood, Earthjustice
Shannon Toma, Los Angeles resident
Sandy Krasner, Altadena resident
Al Sattler, Sierra Club
Florentina H., Pomona College student
Topher Mathers, Active San Gabriel Valley
Kimberley Orbe, Sierra Club
Mariela Ruacho, American Lung Association
Amri Gussenhoven, Pomona College student
Dylan Plummer, Sierra Club
Nihal Shrinath, Sierra Club
Vanessa Villanueva, Sierra Club

Jed Holtzman, RMI
Ramen Borsellino, Hollywood resident
Marie Luebbers, Tustin resident
David Holtzman, Burbank resident
John McKenna, resident
Anne Pernick, Safe Cities at Standout Earth
Nicole Lugo, San Juan Capistrano resident
Vi Nguyen, American Academy Pediatrics California
David Marrett, Environmental Scientist
Wayne Mai, student
Tony Sirna, Evergreen Action
Matt Vespa, Earthjustice
Laura, Communities for a Better Environment

For additional details please refer to the [Webcast](#) beginning at 31:04.

The following commenters generally expressed concerns on the new rule concept due to the limited allowance of gas units, impact of the mitigation fee which would increase the cost of gas units, and suggested that the mitigation fee collected be directed to consumers through incentives and public outreach.

Jessilyn Davis, SoCalGas
Wendy Strack, Association of California Cities, Orange County
Michael Corbett, Bradford White
Mike, M&M Mechanical
Bill LaMarr, California Alliance of Small Business Association
Harvey Eder, Public Solar Power Coalition

For additional details please refer to the [Webcast](#) beginning at 31:04.

Peter Whittingham, LA County Business Federation, urged staff to be consistent with the 2029 compliance date and the manufacturer compliance target, keep the 2026 technology check-in schedule, and add a 2029 check-in. For additional details please refer to the [Webcast](#) beginning at 58:13.

Committee Chair McCallon expressed support for the new rule concept and using the mitigation fee to continue to fund the Go Zero. Committee Chair McCallon encouraged staff to continue to conduct outreach for the revised proposed rule language, inquired about the outreach plan, and verified with staff that the proposed rules do not apply to large apartment buildings with central appliances. Executive Officer Nastri explained ongoing outreach activities will include meeting with stakeholders, presenting to Council of Governments, and noted that staff will provide an update to the Committee in March. For additional details please refer to the [Webcast](#) beginning at 01:25:09.

Board Member Padilla-Campos asked about the amount of funds expected to be collected from the proposed mitigation fee and if the fund is adequate to mitigate emissions or is it only to provide incentive funding. Board Member Padilla-Campos also inquired about the basis of the manufacturer compliant target and suggested the need for more public outreach and education for consumers to make the right choice for their installations. Executive Officer Nastri explained that fees collected will have both purposes of mitigating emissions and providing incentive funding. Vice Chair Cacciotti supported the new rule concept and agreed with other Board Members for more outreach. For additional details please refer to the [Webcast](#) beginning at 01:29:17.

Chair Delgado supported the new rule concept. Chair Delgado and Committee Chair McCallon suggested that the rule amendments stay on schedule for a Public Hearing in May. For additional details please refer to the [Webcast](#) beginning at 01:37:54.

WRITTEN REPORTS:

3. Monthly Permitting Enhancement Program (PEP) Update

The report was acknowledged by the committee.

4. 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.

5. Notice of Violation Penalty Summary

The report was acknowledged by the committee.

OTHER MATTERS:

6. Other Business

There was no other business to report.

7. Public Comment Period

Al Sattler, Sierra Club, commented on the recent wildfires, and the actions that can be done to make houses safe from fires. For additional details please refer to the [Webcast](#) beginning at 1:39:27.

Mr. Eder expressed concern for health problems caused by air pollution and asbestos insulation exposure. For additional details please refer to the [Webcast](#) beginning at 1:40:40.

Sven Thesen, community member, shared his experience as a chemical engineer and working on natural gas power plants. For additional details please refer to the [Webcast](#) beginning at 1:41:53.

8. Next Meeting Date

The next Stationary Source Committee meeting is scheduled for Friday, March 21, 2025.

Adjournment

The meeting was adjourned at 12:13 p.m.

Attachments

1. Attendance Record
2. Monthly Permitting Enhancement Program (PEP) Update
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
4. Notice of Violation Penalty Summary

ATTACHMENT 1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT STATIONARY SOURCE COMMITTEE

Attendance – February 21, 2025

Councilmember 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
Board Member Veronica Padilla-Campos	South Coast AQMD Board Member
Loraine Lundquist	Board Consultant (Mitchell)
Leeza Bondarchuk	Sunrise Movement
Ramen Borsellino	Hollywood resident
Stacey Byrnes	Santa Monica resident
Jennifer Cardenas	Sierra Club
Tomas Castro	Climate Action Campaign
Kyler Chen	resident
Chris Chavez	Coalition for Clean Air
Michael Corbett	Bradford White
Ayn Craciul	Climate Action Campaign
Jessilyn Davis	SoCalGas
Harvey Eder	Public Solar Power Coalition
Helen Eigenburg	Hancock Park Resident
Fernando Gayton	Earthjustice
Amri Gussenhoven	Pomona College student
Florentina H	Pomona College student
Maryanne Hartford	Sierra Club
David Holtzman	Burbank resident
Jed Holtzman	RMI
Sandy Krasner	Altadena resident
Bill LaMarr	California Alliance of Small Business Association
Laura	Communities for a Better Environment
Obed Leon	Anaheim resident
Paulette Light	resident
Marie Luebbbers	Tustin resident
Nicole Lugo	San Juan Capistrano resident
Wayne Mai	student
David Marrett	Environmental Scientist
Pete Marsh	Carbon Zero Buildings
David Martinez	Climate Action Campaign
Topher Mathers	Active San Gabriel Valley
John McKenna	resident
Mike	M&M Mechanical
Vi Nguyen	American Academy Pediatrics California
Kimberly Orbe	Sierra Club
Anne Pernick	Safe Cities at Standout Earth
Dylan Plummer	Sierra Club
Andrew Reich	Earthjustice
Jeff Reich	Earthjustice
Michael Rochmes	Green Buildings Committee, Los Angeles Climate
Mariela Ruacho	American Lung Association

ATTACHMENT 1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT STATIONARY SOURCE COMMITTEE

Attendance – February 21, 2025

Al Sattler	Sierra Club
Nihal Shrinath	Sierra Club
Tony Sirna	Evergreen Action
Wendy Strack	Association of California Cities, Orange County
Sven Thesen	Community member
Shannon Toma	Los Angeles resident
Matt Vespa	Earthjustice
Vanessa Villanueva	Sierra Club
Peter Whittingham	Bizfed
Francis Yang	Los Angeles resident
Candance Youngblood	Earthjustice

Jason Aspell	South Coast AQMD staff
Barbara Baird	South Coast AQMD staff
Cindy Bustillos	South Coast AQMD staff
Roula El Hajal	South Coast AQMD staff
Heather Farr	South Coast AQMD staff
Scott Gallegos	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
Aaron Katzenstein	South Coast AQMD staff
Angela Kim	South Coast AQMD staff
Howard Lee	South Coast AQMD staff
Jason Low	South Coast AQMD staff
Terrence Mann	South Coast AQMD staff
Ron Moskowitz	South Coast AQMD staff
Ghislain Muberwa	South Coast AQMD staff
Susan Nakamura	South Coast AQMD staff
Wayne Nastri	South Coast AQMD staff
Sarah Rees	South Coast AQMD staff
Walter Shen	South Coast AQMD staff
Alberto Silva	South Coast AQMD staff
Lisa Tanaka	South Coast AQMD staff
Brian Tomasovic	South Coast AQMD staff
Mei Wang	South Coast AQMD staff
Jillian Wong	South Coast AQMD staff

Monthly Permitting Enhancement Program (PEP) Update
South Coast AQMD
Stationary Source Committee – February 21, 2025

Background

At the February 2, 2024 Board meeting, the Board directed staff to provide monthly updates to the Stationary Source Committee to report progress made under the Permitting Enhancement Program (PEP). The Chair's PEP initiative was developed to enhance the permitting program and improve permitting inventory and timelines. This report provides a summary of the pending permit application inventory, monthly production, and other PEP related activities.

Summary

Pending Permit Application Inventory

The permitting process consists of a constant stream of incoming applications and outgoing application issuances, rejections, and denials. The remainder of the applications are considered the pending application inventory. The inventory consists of applications that are being prescreened prior to being accepted, workable applications, and non-workable applications. Non-workable means that staff are unable to proceed with processing an application because it is awaiting actions to address various regulatory requirements or deficiencies. As an example, after staff issues a Permit to Construct to a facility, staff must wait for the facility to construct and test the equipment prior to issuing a final Permit to Operate. Once a final Permit to Operate is issued, the permit application is removed from the pending application inventory. Other examples include facilities that may be in violation of rules and cannot be permitted until a facility achieves compliance, staff awaiting additional information from facilities, or facilities that have not completed the CEQA process for their project. During the life of an application, it may switch several times between being workable and non-workable as actions are taken by facilities and staff. Attachment 1 contains more detailed descriptions of the categories of non-workable permit applications. Figure 1 below provides a monthly snapshot of the pending application inventory, including the change in inventory from the prior month.

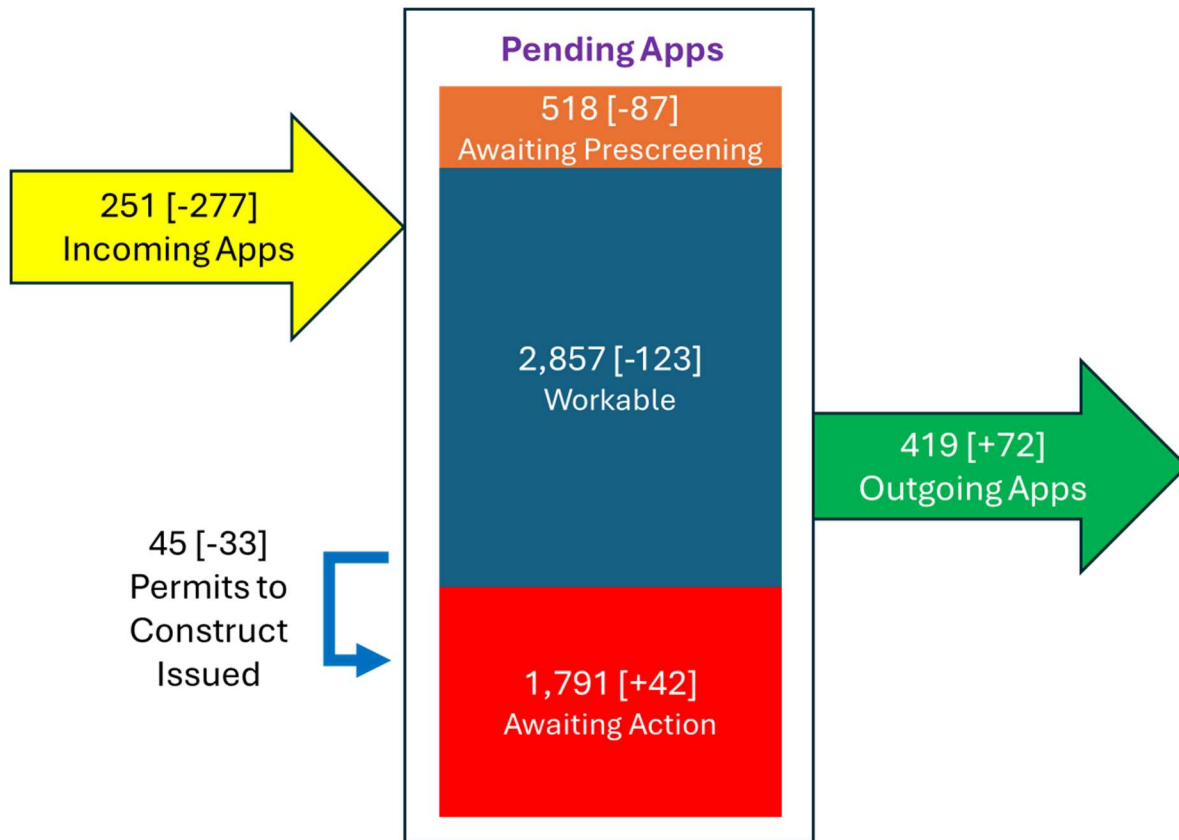


Figure 1: Application Processing Workflow – January 2025

Table 1 below lists the categories included in Awaiting Action (Non-Workable) for the last month. Please note that Table 1 provides a snapshot of data and applications may change status several times before final action. Multiple categories may apply to a single application.

Table 1: Awaiting Action (Non-Workable) Applications Summary

Awaiting Action (Non-Workable) Categories	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Dec 2024	Jan 2025
Additional Information from Facility	265	286	294	288	314	321
CEQA Completion	32	34	34	34	34	32
Completion of Construction	983	1,015	1,034	1,078	1,107	1,119
Facility Compliance Resolution	36	37	36	37	30	27
Facility Draft Permit Review	74	43	56	51	35	75
Fee Payment Resolution	4	6	5	6	6	5
Other Agency Review	45	37	36	46	42	54
Other Facility Action	10	21	21	21	20	26
Other South Coast AQMD Review	0	0	0	0	0	0
Public Notice Completion	23	24	25	20	15	16
Source Test Completion	137	169	169	154	156	154

Please see Attachment 1 for more information on these categories.

In January, staff continued to complete applications at a rate higher than the targeted month to month average, raising the overall annual average. Not reflected in Figure 1 are an additional 25 permits issued through the online permitting system which did not impact the permit application inventory. Staff has automated the permitting process for certain equipment allowing staff to focus their efforts on other permit applications. These 25 permit completions are reflected in Figure 2 below.

Since outgoing applications (green arrow) were greater than incoming applications (yellow arrow) this month, the pending application inventory decreased slightly. The numbers in brackets represent the increase or decrease since the past Monthly PEP Update. For more detailed information the past twelve Monthly PEP Updates may be accessed in Attachment 2.

The inventory of Awaiting Action applications has recently increased. Most of the Awaiting Action applications have a Completion of Construction status. From March 2024 to January 2025, staff issued many Permits to Construct, thereby increasing the Completion of Construction status from 770 to 1,119, including 45 Permits to Construct issued in January. Staff must wait for construction of the equipment to be completed prior to moving forward on these applications.

The rate of incoming applications is unpredictable and is dependent on business demands and the economic climate, as well as South Coast AQMD rule requirements. Maintaining the average production rate of outgoing applications greater than average rate of incoming applications is key to reducing the pending application inventory until a manageable working inventory is established. As stated above, the spike in incoming applications occurred in June as expected, and this typically results in a swell in the inventory as time is needed to address the surge of permit applications.

Maintaining a low vacancy rate with trained and experienced permitting staff is the biggest factor in maintaining high production and reducing the pending application inventory. In addition, data and analysis showed that addressing vacancies at the Senior and Supervising AQ Engineers was vital since these positions are the review and approval stages of the permitting process.

Production

Prior to staff retirements, permit production levels in 2020 were typically above 500 completions per month. Prior to PEP implementation, high vacancy rates resulted in decreased permit completions. Lower production rates nearing 400 completions per month occurred as the vacancy rate peaked. As the vacancies have been reduced and staff have been trained, production has increased. Figure 2 below shows a rolling 12-month average of application completions and the monthly production for the last six months. Recently, increased monthly production levels (orange circles) are raising the rolling 12-month production averages (black line) in the chart below as compared to the period before PEP. The rolling 12-month average includes the monthly totals from the last year to visualize the trend over time, as production in

individual months often fluctuates (in addition to fluctuations in incoming application submittals). The current rolling 12-month average production rate slightly decreased slightly to 501 completions per month. A higher rolling 12-month average will indicate sustained higher production levels. These higher production levels will begin to reduce the pending application inventory and improve permit processing times. A new fiscal year (FY) goal was set to increase production by 500 completions as compared to 2023. This equates to a soft target of 489 completions per month. The red line in Figure 2 shows this new fiscal year goal. It should be noted that the annual average is expected to decrease next month because very high production in February 2024 will be dropped from the average. Staff will continue to balance production to meet the FY goal as well as address aged applications awaiting Permits to Construct.

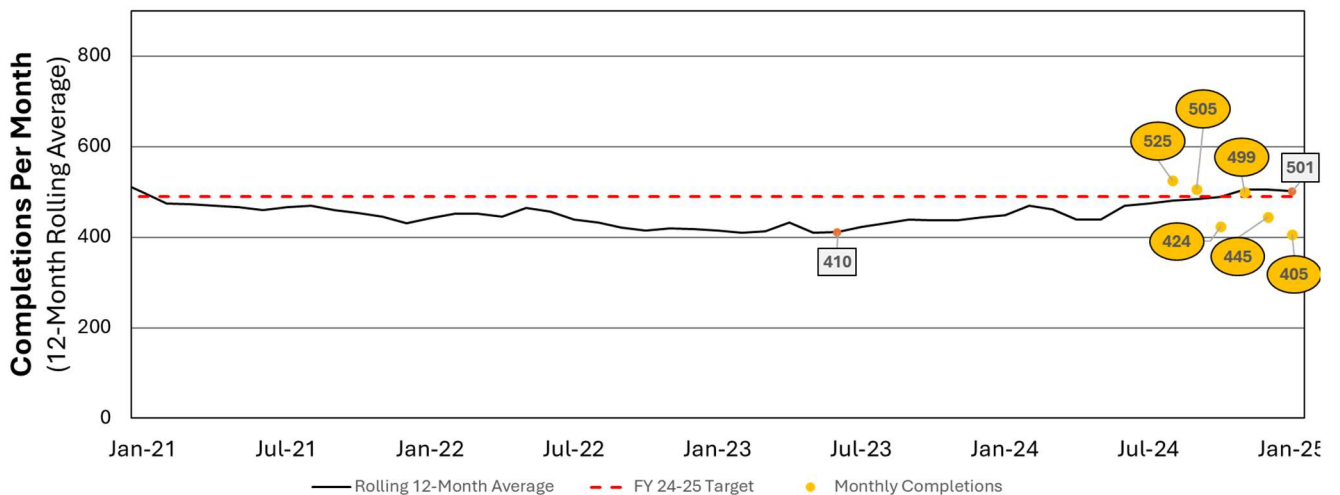


Figure 2: Application Completions - Rolling 12-Month Average and Recent Six Months

Production began to increase in the second half of 2023 as substantial promotions and hiring occurred. New engineering staff are currently being trained and production is expected to increase over the coming months and years as they become more experienced in their duties and can process more complex projects.

Engineering & Permitting (E&P) Vacancy Rate

The current E&P vacancy rate was maintained at 10.2%. The minimum target vacancy rate for PEP is 10%. When PEP was first announced, the E&P vacancy rate was greater than 20%. Hiring of new engineers is targeted for the first quarter of 2025 and the recruitment is in process. The promotion process for two vacant senior engineer positions is in progress and hiring interviews were conducted on January 29-30.

Key Activities

- In January, staff started a focused initiative for aged permit applications that are awaiting Permits to Construct. This effort is planned through February. These applications

typically have complex permitting situations causing them to become aged. Overall permitting production may slightly decrease during this time as this effort is more resource intensive.

- Staff identified a process bottleneck in the Waste Management team and staff is targeting to address it over the next three months.
- Staff is developing an upcoming initiative related to the Title V permitting program. Staff will initiate the plan in late February or early March.
- Staff viewed a demonstration of third party permitting software. Under PEP, E&P is exploring off-the-shelf software solutions to expedite modernization and efficiency efforts.

Upcoming Meetings:

- Staff will present a PEP update to the Board in first quarter of 2025.
- Staff will conduct a Permitting Working Group meeting in March 2025.
- Staff will present crematory permitting on February 28 in response to an Environmental Justice Advisory Group member request.
- Staff is targeting to conduct at least six public meetings regarding permitting in Fiscal Year 2024-2025. Staff has reached 75% of this target.

Attachment 1

Explanation of Non-Workable Application Statuses

Workable applications are those applications where staff have the required information to process the permit application.

Non-workable applications are those applications where the application process has been paused while staff are awaiting the resolution of one or more related tasks or where the permit cannot be issued.

Description of Non-Workable/Awaiting Action Terms

Additional Information from Facility

During permit processing staff may need additional information from a facility that was not included in the original permit application package or a change of scope of the proposed project. Additional information may include items regarding materials used in the equipment (such as toxics), equipment information, or other items to perform emission calculations or determine compliance for the proposal in the application.

CEQA Completion

Prior to issuing permits, CEQA requirements are required to be evaluated and completed. South Coast AQMD can either be the Lead Agency that certifies or approves the CEQA document or the Responsible Agency that consults with the Lead Agency (typically a land use agency) on the CEQA document.

Completion of Construction

After a Permit to Construct is issued, the permit application file remains in the pending application inventory. Staff must wait for the facility to complete construction prior to completing other compliance determination steps before the permitting process can continue. Typically, a Permit to Construct is valid for one year, but it may be extended for various reasons if the facility demonstrates they are making increments of progress. For some large projects, construction may take years while the permit application remains in the pending application inventory.

Facility Compliance Resolution

Prior to issuing permits the affected facility must demonstrate compliance with all rules and regulations [Rule 1303(b)(4)]. Prior to the issuance of a Permit to Construct, all major stationary sources that are owned or operated by, controlled by, or under common control in the State of California are subject to emission limitations must demonstrate that they are in compliance or on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act. [Rule 1303(b)(2)(5)].

Facility Draft Permit Review

If a facility requests to review their draft permit, staff provides the facility a review period prior to proceeding with issuance. During the review period, staff do not perform any additional evaluation until feedback from the facility is received. Some projects include several permits or large facility permit documents which may take a substantial time to review.

Fee Payment Resolution

Prior to issuing permits, all fees must be remitted, including any outstanding fees from associated facility activities including, but not limited to, annual operating and emission fees, modeling or source testing fees, and permit reinstatement fees.

Other Agency Review

The Title V permitting program requires a 45-day review of proposed permitting actions by U.S. EPA prior to many permitting actions. During the review period, staff are unable to proceed with permit issuance. If U.S. EPA has comments or requests additional information, the review stage may add weeks or months to the process before staff can proceed with the project.

For Electricity Generating Facilities (Power Plants), CEC may provide a review of proposed permits prior to issuance.

Other Facility Action

Prior to issuing a permit, a facility may need to take action to address deficiencies or take steps to meet regulatory requirements. This may include acquiring Emission Reduction Credits after staff notifies a facility the project requires emissions to be offset, performing an analysis for Best Available Control Technology requirements, or conducting air dispersion modeling.

Other South Coast AQMD Review

Prior to proceeding with a permit evaluation, permit engineering staff may require assistance and support from other South Coast AQMD departments. For example, IM support for electronic processing due to unique or long-term project considerations or to complete concurrent review of separate phases or integrated processes for multi-phase projects is routinely needed.

Public Notice Completion

There are several South Coast AQMD requirements that may require public noticing and a public participation process prior to permit issuance. Rule 212 and Regulation XXX both detail public noticing thresholds and requirements which include equipment located near schools, high-emitting equipment, equipment above certain health risk thresholds, or significant projects or permit renewals in the Title V program. The public notice period is typically 30 days, and staff are required to respond to all public comments in writing prior to proceeding with the permitting process. Other delays in the public notice process may include delays in distribution of the notice by the facility, incomplete distribution which may require restarting the 30-day period, or requests for extension from the public.

Source Test Completion

Many rules require source testing prior to permit issuance. Source testing is the measurement of actual emissions from a source that may be used to determine compliance with emission limits, or measurements of toxic emissions may be used to perform a health risk assessment. Lab analysis of an air sample is often required as part of the process. The testing is performed by third party contractors who prepare a source test protocol to detail the testing program, and a source test report with the results of the testing and equipment operation. Both the protocol and report need to be reviewed and approved by South Coast AQMD staff.

Attachment 2

Links to Previous Monthly PEP Updates

2024

[April 19, 2024](#) – First Monthly PEP Update

[May 17, 2024](#)

[June 21, 2024](#)

July 2024 – No Stationary Source Committee meeting

[August 16, 2024](#)

[September 20, 2024 - canceled](#)

[October 18, 2024](#)

[November 15, 2024](#)

[December 20, 2024](#)

2025

[January 24, 2025](#)

February 2025 Update on Work with U.S. EPA and California Air Resources Board 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 is not planned for February
- The RECLAIM/NSR Working Group will be reconvened when there is information to report

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
General Counsel's Office
Settlement Penalty Report (01/01/2025 - 01/31/2025)

Total Penalties

Civil Settlement: \$1,270,061.95
Hearing Board Settlement: \$1,000.00
MSPAP Settlement: \$122,803.00

Total Cash Settlements: \$1,393,864.95

Total SEP Value: \$0.00

Fiscal Year through 01/31/2025 Cash Total: \$5,752,146.60

Fiscal Year through 01/31/2025 SEP Value Only Total: \$0.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
Civil						
148236	AIR LIQUIDE LARGE INDUSTRIES U.S. LP	1118, 1173, 3002	01/09/2025	NS	P65631, P65632, P67830, P67832, P67834, P67838, P67840, P75104	\$48,360.00
153367	ARCO AM/PM	461, H&S 41960.2	01/14/2025	VB	P78673	\$2,218.00
183832	AST TEXTILE GROUP INC	2004, 2005	01/24/2025	SH	P76075, P76082, P76083, P78711, P78714	\$90,000.00
800016	BAKER COMMODITIES INC	415, 2004, 3002	01/16/2025	DH	P63824, P65291, P65293, P67318, P67319, P67321, P72855, P72866, P72871, P72872	\$15,000.00
118589	CROWLEY PETROLEUM TRANSPORT INC	1142	01/15/2025	KCM	P75080, P78225	\$33,000.00
198838	DOLLSKILL	2305	01/15/2025	JL	O15133	\$1,500.00
201776	FOREVER 21	2305	01/16/2025	JL	O15016	\$18,100.00
140961	GKN AEROSPACE TRANSPARENCY SYS INC	109, 203, 222, 1146, 1147	01/09/2025	EC	P68777	\$909,935.95
9163	INLAND EMPIRE UTILITIES AGENCY	1470, 3002	01/21/2025	KER	P79541	\$2,418.00
201871	LEE'S HVAC INC	1111	01/23/2025	MR	P80104	\$850.00
202591	MAERSK	2305	01/15/2025	ND	O15203	\$7,000.00
82419	NEW WAVE CONVERTING INC	109, 202, 203, 442, 1147	01/09/2025	MR	P61449, P62002, P62005, P63962, P65506	\$2,780.00
195532	REDU HOLDINGS LLC	203, 463, 1173, 2004	01/10/2025	KER	P73318, P73329, P74363, P74385	\$39,398.00
172857	ROOP CORPORATION	461	01/15/2025	JJ	P70242, P70244, P75705	\$3,000.00
191415	SIERRA ALUMINUM A DIVISION OF SAMUEL SON & CO	1147.2, 2004, 2012	01/21/2025	KER	P63840, P63841, P78911, P79210	\$20,802.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
121304	SOUTHWEST AIRLINES CO	461	01/16/2025	KCM	P71653, P76793	\$2,000.00
14966	VA GREATER LOS ANGELES HEALTHCARE	1146, 1415, 3002	01/22/2025	JL	P73565, P73567, P76305, P76309, P80056	\$73,700.00
Total Civil Settlements: \$1,270,061.95						
Hearing Board						
146536	WALNUT CREEK ENERGY LLC	203, 2004, 3002	01/16/2025	KCM	6230-6	\$1,000.00
Total Hearing Board Settlements: \$1,000.00						
MSPAP						
175232	7-ELEVEN INC (#26216)	461, H&S 41960.2	01/23/2025	VB	P74688	\$1,513.00
197504	7-ELEVEN INC (#43119)	461, H&S 41960.2	01/23/2025	VB	P79384	\$2,422.00
163286	A&P COMPLIANCE TESTING LLC	461	01/10/2025	VB	P80615	\$3,627.00
157047	AIR CLEAN ENVIRONMENTAL INC	1403	01/17/2025	CL	P78982	\$3,177.00
177956	APRO LLC (DBA "UNITED OIL #150")	461, H&S 41960.2	01/17/2025	VB	P74683	\$1,722.00
174685	ARCO TREASURE FRANCHISE CO (#42056)	461, H&S 41960.2	01/10/2025	VB	P79378	\$1,286.00
152859	ARCO AM/PM (#82649)	461, H&S 41960.2	01/10/2025	VB	P80966	\$1,813.00
74094	ARCO DLR	461	01/10/2025	SW	P74682	\$4,100.00
201897	BERKSHIRE HATHAWAY HOME SERVICES CALIFORNIA PROPERTIES	1403	01/17/2025	CL	P77754	\$2,397.00
140512	BLS LIMOUSINE SERVICE OF LOS ANGELES	461	01/03/2025	SW	P75476	\$3,627.00
124094	CALTRANS BATAVIA MAINTENANCE STATION	203	01/10/2025	VB	P80268	\$21,588.00
169564	CIRCLE K STORES INC (#2709421)	203, 461	01/17/2025	CL	P79612	\$1,588.00
169352	CIRCLE K STORES INC (#2211137)	461	01/17/2025	CL	P74696	\$1,588.00
102141	CIRCLE K STORES INC	461	01/17/2025	CL	P79373	\$1,813.00
169286	CIRCLE K STORES INC (#2211182)	461	01/17/2025	CL	P80634	\$1,663.00
150455	CONOCOPHILLIPS (#255146) (DBA "SINACO OIL 2")	461	01/10/2025	VB	P77748	\$1,269.00
109794	CULVER STUDIOS OFFICE - SONY PICTURE	203	01/23/2025	VB	P73577	\$1,009.00
74060	ENGINEERED POLYMER SOLUTIONS INC	1147	01/17/2025	CL	P74885	\$2,647.00
202576	EUROPEAN IMPORTS A SYSCO COMPANY	2305	01/24/2025	CM	O15192	\$1,500.00
127964	G&M OIL CO LLC (#107)	203	01/10/2025	VB	P74694	\$3,627.00
121685	G&M OIL CO LLC (#90)	201	01/03/2025	SW	P79390	\$2,418.00
28042	GLENDORA COUNTRY CLUB	203, 461	01/17/2025	CM	P73183	\$2,012.00
194517	GOLDEN OIL LLC	201, 203, 461	01/17/2025	VB	P79355	\$3,531.00
201741	HOME LEGEND	2305	01/23/2025	CM	O15179	\$9,000.00
181652	INDIAN SPRINGS GOLF CLUB	461	01/24/2025	CM	P79348	\$3,834.00
195032	JAHEYONG ILC	203	01/23/2025	SW	P80922	\$1,148.00
184584	JLM DEVELOPMENT INC	1403	01/17/2025	CL	P77753	\$2,397.00

Fac ID	Company Name	Rule Number	Settled Date	Init	Notice Nbrs	Total Settlement
196009	MB COLLISION	203	01/10/2025	CM	P74664	\$2,018.00
165640	NEW CINGULAR WIRELESS	203	01/23/2025	VB	P79713	\$1,009.00
196669	PCH FUEL INC	461	01/17/2025	SW	P79387	\$1,513.00
20375	PRUDENTIAL OVERALL SUPPLY	1146	01/17/2025	CL	P75439	\$2,552.00
19167	R J NOBLE COMPANY	461	01/03/2025	SW	P80274	\$1,109.00
98145	RANCHO SANTIAGO COMMUNITY COLLEGE	461	01/10/2025	CM	P80275	\$1,294.00
145972	RECHE CANYON CONVALESCENT CENTER	203	01/23/2025	VB	P79704	\$1,367.00
205540	RP LANDSCAPE & IRRIGATION	403	01/17/2025	CL	P78466	\$2,877.00
186678	SAPPHIRE CHANDELIER LLC	203	01/17/2025	VB	P75610	\$4,450.00
190508	SOCAL COLLISION LLC	109, 203	01/10/2025	VB	P77602	\$1,125.00
180588	SUNSTATE EQUIPMENT CO LLC	461	01/10/2025	VB	P79716	\$1,209.00
181807	UNITED PACIFIC (#5625)	201	01/17/2025	VB	P80633	\$908.00
188380	VALENCE SURFACE TECHNOLOGIES LYNWOOD	3002	01/10/2025	VB	P75802	\$995.00
144249	VINTNERS DISTRIBUTORS INC	461	01/23/2025	SW	P74691	\$1,209.00
104531	VONS (#6765)	203, 1147	01/24/2025	CM	P74869, P74883	\$2,918.00
203135	W.L. BUTLER CONSTRUCTION INC	1401, 40 CFR 61.145	01/17/2025	CL	P75758	\$1,059.00
140294	W.L. BUTLER CONSTRUCTION INC	403	01/17/2025	CL	P79346	\$5,295.00
184882	WEST ADAMS PETROLEUM INC	461	01/23/2025	VB	P78664	\$1,580.00
Total MSPAP Settlements: \$122,803.00						

**SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX
FOR JANUARY 2025 PENALTY REPORT**

REGULATION I - GENERAL PROVISIONS

Rule 109 Recordkeeping for Volatile Organic Compound Emissions

REGULATION II - PERMITS

Rule 201 Permit to Construct

Rule 202 Temporary Permit to Operate

Rule 203 Permit to Operate

Rule 222 Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II

REGULATION IV - PROHIBITIONS

Rule 403 Fugitive Dust

Rule 415 Odors from Rendering Facilities

Rule 442 Usage of Solvents

Rule 461 Gasoline Transfer and Dispensing

Rule 463 Storage of Organic Liquids

REGULATION XI - SOURCE SPECIFIC STANDARDS

Rule 1111 NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces

Rule 1118 Emissions from Refinery Flares

Rule 1142 Marine Tank Vessel Operations

Rule 1146 Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters

Rule 1147 NOx Reductions from Miscellaneous Sources

Rule 1147.2 NOx Reductions from Metal Melting and Heating Furnaces

Rule 1151 Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations

Rule 1171 Solvent Cleaning Operations

Rule 1173 Fugitive Emissions of Volatile Organic Compounds

REGULATION XIV - TOXICS

Rule 1401 New Source Review of Toxic Air Contaminants

Rule 1403 Asbestos Emissions from Demolition/Renovation Activities

Rule 1415 Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems

Rule 1415.1 Reduction of Refrigerant Emissions from Stationary Refrigeration Systems

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

**SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX
FOR JANUARY 2025 PENALTY REPORT**

REGULATION XX - REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)

- Rule 2004 Requirements
- Rule 2005 New Source Review for RECLAIM
- Rule 2012 Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions

REGULATION XXIII - FACILITY BASED MOBILE SOURCE MEASURES

- Rule 2305 Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (Waire) Program

REGULATION XXX - TITLE V PERMITS

- Rule 3002 Requirements

CODE OF FEDERAL REGULATIONS

- 40 CFR 61.145 Standards for Demolition and Renovation

CALIFORNIA HEALTH AND SAFETY CODE

- 41960.2 Gasoline Vapor Recovery
- 42402 Violation of Emission Limitations – Civil Penalty

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 16

REPORT: Technology Committee

SYNOPSIS: The Technology Committee held a hybrid meeting on Friday, February 21, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Carlos Rodriguez, Chair
Technology Committee

AK:kr

Committee Members

Present: Mayor Pro Tem Larry McCallon
Board Member Veronica Padilla-Campos
Mayor Pro Tem Carlos Rodriguez, Committee Chair

Absent: Supervisor Curt Hagman
Mayor Patricia Lock Dawson

Call to Order

Committee Chair Carlos Rodriguez called the meeting to order at 12:17 p.m

For additional details of the Technology Committee Meeting, please refer to the [Webcast](#).

ACTION ITEMS:

1. Adopt Resolution Recognizing Funds for FY 2024-25 Carl Moyer Program, Issue Program Announcements, and Execute and Modify Agreements for Carl Moyer, and Surplus Off-Road Opt-in for NOx Programs

Krystle Martinez, Program Supervisor, Technology Advancement Office, presented this item. These actions are to: 1) adopt a Resolution recognizing up to \$47,159,728 in Carl Moyer Program grant funds from CARB into the Carl Moyer Program SB 1107 Fund (32) and authorize the Executive Officer to accept the terms and conditions for FY 2024-25 award; 2) issue two Program Announcements for “Year

27” of the Carl Moyer Program and the SOON Provision to solicit applications; 3) authorize the Executive Officer to execute or amend agreements for eligible zero and low-emitting on- and off-road vehicles and equipment, including marine vessels, locomotives, and supporting infrastructure projects; and, 4) modify three no-cost agreements to extend their milestone dates for the zero-emission infrastructure projects from a prior year Carl Moyer solicitation. For additional details, please refer to the [Webcast](#) beginning at 1:58.

Board Member Padilla-Campos inquired about the number of applications received under the Carl Moyer Program and asked if the three fast-tracked zero-emission projects are requesting a no cost extension. Ms. Martinez responded that during previous solicitations, the Carl Moyer program was oversubscribed, and the zero-emission projects are no cost extensions. For additional details, please refer to the [Webcast](#) beginning at 6:38

Harvey Eder, Public Solar Power Coalition, commented on the importance of equity on incentive programs and working with different coalitions. For additional details, please refer to the [Webcast](#) beginning at 7:55.

Moved by McCallon; seconded by Padilla-Campos; unanimously approved.

Ayes: McCallon, Padilla-Campos, Rodriguez

Noes: None

Abstain: None

Absent: Hagman, Lock Dawson

2. Approve and Adopt Technology Advancement Office Clean Fuels Program 2024 Annual Report and 2025 Plan Update, Resolution and Membership Changes for Clean Fuels Advisory Group

Vasileios Papapostolou, Planning and Rules Manager, Technology Advancement Office, presented on the Clean Fuels Program 2024 Annual Report and 2025 Plan Update. 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 2024 and 2025 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. For additional details, please refer to the [Webcast](#) beginning at 10:20.

Mayor Pro Tem McCallon requested clarification regarding 2024 Clean Fuels contracts, specifically the reasoning regarding the total Clean Fuels funding

percentage for health impact studies and how that percentage correlates to the total cost of contracts executed in 2024. Dr. Papapostolou stated most of the funding from the health impact studies category was allocated to MATES VI, an emissions study for brake and tire wear. In response to questions from Mayor Pro Tem McCallon and Board Member Padilla-Campos, Aaron Katzenstein, Deputy Executive Officer, Technology Advancement Office, stated that tire rubber encompasses all sizes of particulate matter and the tire wear will represent an aggregate of all brake and tire wear emissions, including aircraft. For additional details, please refer to the [Webcast](#) beginning at 17:15.

Ranji George, public member, requested clarification regarding types of projects that the Clean Fuels Program supports and 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 29:01.

Mr. Eder commented that solar thermal projects, including thermal storage, should also be supported through this program. For additional details, please refer to the [Webcast](#) beginning at 32:20.

Committee Chair Rodriguez asked if future projects anticipated for 2025 Clean Fuels Program could include a new hydrogen fueling station or if that project could be funded through another program. Dr. Katzenstein stated that the Clean Fuels Program would focus on new types of hydrogen fueling stations, but the Carl Moyer Program is better suited to support existing hydrogen stations. For additional details, please refer to the [Webcast](#) beginning at 34:35.

Committee Chair Rodriguez requested that the media be invited to attend South Coast AQMD's Technology Showcase to be held on March 7, 2025. Executive Officer Wayne Nastri confirmed the media was invited. Committee Chair Rodriguez requested that a social media video of the showcase be filmed in case someone could not attend. Mr. Nastri stated he would look into that request and will follow up. Board Member Padilla Campos agreed with the Chair's request and commented that it would be nice if staff could host a technology showcase at other locations, such as the Northeast Valley. For additional details, please refer to the [Webcast](#) beginning at 37:27.

Moved by Rodriguez; seconded by McCallon; unanimously approved.

Ayes: McCallon, Padilla-Campos, Rodriguez
Noes: None
Abstain: None
Absent: Hagman, Lock Dawson

INFORMATIONAL ITEM:

3. Practical Electrification of Heavy-Duty Fleets with Range Energy's eTrailer System

Jason Chua, Chief Product Officer, Range Energy, presented an overview of the development and implementation of Range Energy's electric trailer system that reduces diesel fuel consumption for a multitude of trailer operating conditions. For additional details, please refer to the [Webcast](#) beginning at 40:00.

Mayor Pro Tem McCallon asked if the Range Energy trailer is eligible for the Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. Ian MacMillan, Assistant Deputy Executive Officer, Planning, Rule Development and Implementation, responded that staff is having discussions about alternative pathways for their technology. For additional details, please refer to the [Webcast](#) beginning at 50:01.

Committee Chair Rodriguez asked for the timing of completing such a pathway, challenges, and unit costs. Mr. Chua responded that pilot delivery will start at the end of 2025 and that Range Energy is minimizing fleet changes to address fleet challenges. Regarding costs, Mr. Chua explained that the current payback is 6-7 years, but Range is aiming at a 5-year payback. Other programs like WAIRE will further reduce the payback period.. For additional details, please refer to the [Webcast](#) beginning at 51:00.

Committee Chair Rodriguez asked how many Range Energy units have been deployed to date. Mr. Chua said there are two pilot units including the unit that is under South Coast AQMD's funded project and one will be at the March 7th Technology showcase event. The second transport refrigeration unit is currently being demonstrated with various customers. For additional details, please refer to the [Webcast](#) beginning at 55:50.

Mayor Pro Tem McCallon asked if there are other product offerings and inquired about Range Energy's Headquarters office location. Mr. Chua responded the Range trailer is their only product and that Range Energy's Headquarters is located in Mountain View, California. For additional details, please refer to the [Webcast](#) beginning at 1:00:25.

Committee Chair Rodriguez commented that the Committee would like an update of this program in the future. For additional details, please refer to the [Webcast](#) beginning at 1:01:05.

OTHER MATTERS:

4. Other Business

There was no other business to report.

5. Public Comment Period

Mr. George inquired about the \$500M CPRG award, stating that he is hopeful that 50 percent of the award goes to hydrogen projects. For additional details, please refer to the [Webcast](#) beginning at 1:02:35.

6. Next Meeting Date

The next regular Technology Committee meeting is scheduled for Friday, March 21, 2025, at noon.

Adjournment

The meeting adjourned at 1:25 p.m.

Attachment

Attendance Record

ATTACHMENT

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
TECHNOLOGY COMMITTEE MEETING
Attendance Record – February 21, 2025**

Mayor Pro Tem Larry McCallon	South Coast AQMD Board Member
Board Member Veronica Padilla-Campos	South Coast AQMD Board Member
Mayor Pro Tem Carlos Rodriguez	South Coast AQMD Board Member
Debra Mendelsohn	Board Consultant/Assistant (McCallon)
Fred Minassian	Board Consultant/Assistant (Padilla-Campos)
Andy Silva	Board Consultant/Assistant (Lock Dawson)
Naveen Berry	Public Member
Jason Chua	Public Member
Harvey Eder	Public Solar Power Coalition
Ranji George	Public Member
Alex Han	Public Member
Joonsik Maing	Public Member
Keith Ranade	Public Member
Mark Vargas	Public Member
Maria Allen	South Coast AQMD Staff
Debra Ashby	South Coast AQMD Staff
Cindy Bustillos	South Coast AQMD Staff
Sam Cao	South Coast AQMD Staff
Penny Shaw Cedillo	South Coast AQMD Staff
Berj Der Boghossian	South Coast AQMD Staff
Scott Gallegos	South Coast AQMD Staff
Britney Gallivan	South Coast AQMD Staff
Sheri Hanizavareh	South Coast AQMD Staff
Anissa Heard-Johnson	South Coast AQMD Staff
Aaron Katzenstein	South Coast AQMD Staff
Angela Kim	South Coast AQMD Staff
Howard Lee	South Coast AQMD Staff
Tom Lee	South Coast AQMD Staff
Hay Lo	South Coast AQMD Staff
Ian MacMillan	South Coast AQMD Staff
Krystle Martinez	South Coast AQMD Staff
Ron Moskowitz	South Coast AQMD Staff
Ghislain Muberwa	South Coast AQMD Staff
Susan Nakamura	South Coast AQMD Staff
Wayne Nastri	South Coast AQMD Staff
Vasileios Papapostolou	South Coast AQMD Staff

Robert Paud South Coast AQMD Staff
Cynthia Ravenstein South Coast AQMD Staff
Sarah Rees South Coast AQMD Staff
Kristin Remy South Coast AQMD Staff
Yuh Jiun Tan South Coast AQMD Staff
Lisa Tanaka South Coast AQMD Staff
Alexis Thrower South Coast AQMD Staff
Mei Wang South Coast AQMD Staff

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BOARD MEETING DATE: March 7, 2025

AGENDA NO. 17

REPORT: California Air Resources Board Monthly Meeting

SYNOPSIS: The California Air Resources Board held a public Board meeting on January 23, 2025. The following is a summary of the meeting.

RECOMMENDED ACTION:
Receive and file.

Gideon Kracov, Member
South Coast AQMD Governing Board

ft

The January 23, 2025 Board meeting was held in Sacramento, California at the California Environmental Protection Agency Headquarters Building. The key items presented are summarized below.

DISCUSSION ITEMS

25-1-1 Public Meeting to Consider Proposed Research Contract with the University of California, Berkeley titled “Assessing Health Impacts of Brake and Tire Wear Emissions in Overburdened Communities of the San Joaquin Valley”

The Board approved funding of the proposed research contract with the University of California, Berkeley titled “Assessing Health Impacts of Brake and Tire Wear Emissions in Overburdened Communities of the San Joaquin Valley.” This research will provide information about non-tailpipe emissions, including from brake and tire wear. Brake and tire wear are becoming the dominant source for direct particulate matter traffic-related emissions as tailpipe emissions are reduced due to CARB’s regulations and deployment of clean vehicle technology. The brake and tire wear emissions potentially pose health concerns, particularly for communities near roadways with high traffic exposures. The information provided by this study will inform policies and programs including mitigation strategies to reduce traffic pollution impacts in regions with vulnerable communities in California.

25-1-2 Public Meeting to Consider a Research Contract with University of California, Berkeley, titled “Reducing Exposure with Air Cleaners and Technology (REACT) in At-Risk Communities”

The Board approved funding of the proposed research contract titled “Reducing Exposure with Air Cleaners and Technology (REACT) in At-Risk Communities.” The research will evaluate how input from low-cost PM2.5 sensors and technical assistance can impact the use and effectiveness of air filtration devices for reducing levels of indoor fine particulate matter exposures and respiratory health outcomes in the Bayview Hunters Point community in San Francisco. CARB expects to leverage the results from this research to inform communities on best practices to reduce exposures to pollutants in the indoor environment.

25-1-3 Public Hearing to Consider Proposed 2024 Amendments to Area Designations for State Ambient Air Quality Standards

The Board approved amendments to the regulations designating areas of California as attainment, nonattainment, nonattainment-transitional, or unclassified for pollutants for the State ambient air quality standards. Based on 2021 to 2023 air quality data, staff proposed area designations for ozone, suspended particulate matter (PM10) and fine particulate matter (PM2.5) air quality standards. For the State ozone standard, the Board changed the designation of Shasta County in the Sacramento Valley Air Basin from nonattainment to nonattainment-transitional. For PM10, the Board changed the designation of Nevada, Plumas, and Sierra Counties in the Mountain Counties Air Basin from nonattainment to unclassified. For PM2.5, CARB staff recommends the Board change the designation of the San Francisco Bay Area Air Basin from nonattainment to attainment.

25-1-4 Public Meeting to Consider PM2.5 Area Designation Recommendations for the Revised Federal Annual PM2.5 Standard

The Board directed the Executive Officer to forward staff’s recommended PM2.5 designations to the U.S. EPA for the 9.0 µg/m³ annual PM2.5 standard. On February 7, 2024, U.S. EPA strengthened the annual fine particulate matter (PM2.5) standard from 12.0 µg/m³ to 9.0 µg/m³. States are required to submit area designation recommendations to U.S. EPA based on recent air quality monitoring data and include boundary descriptions of the areas. CARB staff recommended nine nonattainment areas for the 9.0 µg/m³ annual PM2.5 standard including Mendocino County, Plumas County, Yuba City-Marysville, Sacramento County, San Francisco Bay Area, San Joaquin Valley, South Coast Air Basin, San Diego County, and Imperial County. These recommendations were developed using U.S. EPA guidance in consultation with local air districts.

25-1-5 Public Meeting to Hear a Report on the California Air Resources Board's Program Priorities for 2025

Executive Officer Dr. Steven Cliff presented an overview of the CARB's program priorities for 2025. The presentation highlighted expected challenges and key activities that CARB plans to undertake in 2025.

Attachment

CARB January 23, 2025 Meeting Agenda

Public Meeting Agenda

Thursday, January 23, 2025 @ 10:00 a.m.

Zoom Webinar: [Register](#)
Phone Number: (669) 900-6833
Webinar ID: 898 8534 7028



ww2.arb.ca.gov/ma012325

California Environmental Protection Agency

1001 I Street, Sacramento, California 95814

Byron Sher Auditorium, 2nd Floor

[Webcast](#) (Livestream/Watch Only)

The January 23, 2025, meeting of the California Air Resources Board (CARB or Board) will be held at 1001 I Street in Sacramento, with remote participation also available. This facility is accessible to persons with disabilities and by public transit. For transit information, call (916) 321-BUSS (2877) or visit <http://sacrt.com/>.

To only watch the Board Meeting and not provide verbal comments, please view the [webcast](#). If you do not wish to provide oral comments, we strongly recommend watching the webcast as this will free up space on the webinar for those who are providing oral comments. Please do not view the webcast and then switch over to the webinar to comment as the webcast will have a time delay; instead, register to participate via the Zoom webinar.

Public Comment Guidelines and Information

- [In-Person Public Testimony](#)
- [Remote Public Participation](#)

The Board will set a two-minute time limit on oral comments; however, the amount of time could change at the Chair's discretion. In-person speakers signed up to comment will be called upon first, followed by public Zoom and phone participants wishing to comment. The Chair may close speaker sign-ups 30 minutes after the public comment portion of an item has begun.

Please note that under the California Public Records Act (Gov. Code, § 7920.000 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

Spanish interpretation will be available for the January 23 Board Meeting

- [Agenda de la Reunión Pública](#)
- [Spanish Webcast](#)

Thursday, January 23, 2025 @ 10:00 a.m.

The following agenda items may be heard in a different order at the Board Meeting.

Hard copies of the Public Agenda and Proposed Resolutions (when applicable) will be provided at the meeting; copies of all other documents linked below will only be available upon request.

Consent Items:

25-1-1: Public Meeting to Consider Proposed Research Contract with the University of California, Berkeley titled "Assessing Health Impacts of Brake and Tire Wear Emissions in Overburdened Communities of the San Joaquin Valley"

The Board will consider approval of the research proposal. This item is added to the agenda to satisfy Board approval requirements in Government Code section 1091 because one or more Board members are affiliated with the University of California, Berkeley.

- [More Information](#)
- [Item Summary](#)
- [Submit Written Comments](#)
- [View Public Comments](#)

25-1-2: Public Meeting to Consider a Research Contract with University of California, Berkeley, titled "Reducing Exposure with Air Cleaners and Technology (REACT) in At-Risk Communities"

The Board will consider approval of a research contract to evaluate how input from low-cost PM2.5 sensors and technical assistance can impact the use and effectiveness of air filtration devices (cleaners) for reducing levels of indoor fine particulate matter exposures and respiratory health outcomes in the Bayview Hunters Point community in San Francisco. This item is added to the agenda to satisfy Board approval requirements in Government Code section 1091 because one or more Board members are affiliated with the University of California, San Francisco, a subcontractor for this project.

- [More Information](#)
- [Item Summary](#)
- [Submit Written Comments](#)
- [View Public Comments](#)

25-1-3: Public Hearing to Consider Proposed 2024 Amendments to Area Designations for State Ambient Air Quality Standards

The Board will consider the proposed amendments to the regulations designating areas of California as attainment, nonattainment, nonattainment-transitional, or unclassified for pollutants for the State ambient air quality standards. Based on 2021 to 2023 air quality data, area designations are proposed for ozone, suspended particulate matter (PM10) and fine particulate matter (PM2.5) air quality standards.

- [Formal Rulemaking Page](#)
 - [Public Hearing Notice](#)
 - [Staff Report](#)
- [More Information](#)
- [Item Summary](#)
- [Proposed Resolution](#)
- [Submit Written Comments](#)
- [View Public Comments](#)

Discussion Items:

25-1-4: Public Meeting to Consider PM2.5 Area Designation Recommendations for the Revised Federal Annual PM2.5 Standard

The Board will consider recommendations for initial nonattainment areas for the 9 ug/m3 annual PM2.5 National Ambient Air Quality Standard to be submitted to the United States Environmental Protection Agency.

- [More Information](#)
- [Public Meeting Notice](#)
- [Staff Report](#)
- [Item Summary](#)
- [Proposed Resolution](#)
- [Meeting Presentation](#)
- [Submit Written Comments](#)
- [View Public Comments](#)

25-1-5: Public Meeting to Hear a Report on the California Air Resources Board's Program Priorities for 2025

The Executive Officer will present an overview of the California Air Resources Board's (CARB) program priorities for 2025. The presentation will outline key activities that CARB plans to undertake in 2025 and will provide an update on agency efforts to support the Governor's January 10 Budget.

- [Item Summary](#)
- [Meeting Presentation](#)
 - [Portside Steering Committee Video](#)
- [Submit Written Comments](#)
- [View Public Comments](#)

Closed Session

The Board may hold a closed session, as authorized by Government Code section 11126(a) for the annual evaluation of the Executive Officer, and as authorized by Government Code section 11126(e) to confer with, and receive advice from, its legal counsel regarding the following pending litigation, potential litigation on additional challenges to federal decisions regarding waivers and authorizations, and other matters as authorized by Government Code section 11126(e)(2)(B) or (C):

American Free Enterprise Chamber of Commerce et al. v. Steven S. Cliff et al. (United States District Court for the Eastern District of California, Case No. 2:24 cv 00988 KJM-JDP)

American Free Enterprise Chamber of Commerce v. U.S. Environmental Protection Agency, U.S. Court of Appeals, Ninth Circuit, Case No. 25-89

American Free Enterprise Chamber of Commerce v. U.S. Environmental Protection Agency, U.S. Court of Appeals, Ninth Circuit, Case No. 25-106

Association of American Railroads et al. v. Randolph et al. (United States District Court, Eastern District of California, Sacramento Division, Case No. 2:23 cv 01154 JAM-JDP)

California Air Resources Board v. Daimler AG and Mercedes-Benz USA, LLC (United States District Court, District of Columbia, Civil Action No. 1:20-cv-2565)

California Air Resources Board v. Noil Energy Group, Inc. and Speedy Fuel Inc. (Los Angeles County Superior Court, Case Nos. 2OSTCV30142 and 2OSTCV30292; Second District Court of Appeal, Case No. B339478)

California Trucking Association v. California Air Resources Board. (United States District Court, Eastern District of California, Case No. 2:23-cv-02333-TLN-CKD)

Chamber of Commerce of the United States et al. v. California Air Resources Board et al. (United States District Court, Central District of California, Case No. 2:24-cv-00801)

Christopher Broaddus v. California Air Resources Board, Sacramento County Superior Court, Case No. 24VVM000161

California v. United States Environmental Protection Agency. (United States Court of Appeals, District of Columbia Circuit, Case No. 21 1034, consolidated with *California Communities Against Toxics et al. v. EPA*, Case No. 21 1024)

City of Los Angeles, acting by and through its Department of Water and Power v. California Air Resources Board. (Superior Court of the State of California, County of Los Angeles, Case No. 24STCP01428)

Committee for a Better Arvin et al v. the United States Environmental Protection Agency, U.S. Court of Appeals, Ninth Circuit, Case No. 24-7270

Commonwealth of Kentucky, et al. v. United States Environmental Protection Agency. (United States Court of Appeals, District of Columbia Circuit, Case No. 24 1050)

Commonwealth of Kentucky, et al., v. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1087)

Communities for a Better Environment v. California Air Resources Board et al., Fresno County Superior Court (Case No. 24CECG05430); *Defensores del Valle Central para el Aire*

y Agua Limpio et al. v. California Air Resources Board et al., Fresno County Superior Court (Case No. 24CECG05508); *Growth Energy v. California Air Resources Board et al.*, Fresno County Superior Court (Case No. 24CECG05514)

Environmental Defense Fund, et al. v. Andrew Wheeler, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 20 1360)

Friends of Oceano Dunes, Inc. v. California Air Resources Board, et al. (San Luis Obispo County Superior Court, Case No. 17CV-0576) and *Friends of Oceano Dunes, Inc. v. California Air Resources Board, et al.* (United States District Court for the Central District of California, Case No. 2:17 cv 8733)

Government Accountability and Oversight v. California Air Resources Board. (Sacramento County Superior Court, Case No. 24CV012372)

GreenPower Motor Company, Inc. v. California Air Resources Board. (Sacramento County Superior Court, Case No. 23WM000083)

People v. Southern California Gas Company. (Los Angeles County Superior Court, Case No. BC602973)

Natural Resources Defense Council v. National Highway Traffic Safety Admin., et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 22-1080, consolidated with Nos. 22-1144 and 22-1145)

Nebraska, et al. v. Steven S. Cliff, et al. (United States District Court, Eastern District of California, Case No. 2:24-cv-01364-JAM-CKD)

New York, et al. v. United States Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 21-1028)

Ohio, et al. v. EPA, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 22-1081; consolidated with Case Nos. 22-1083, 22-1084, and 22-1085) The U.S. Supreme Court denied the petition for writ of certiorari, so D.C. Circuit ruling stands.

Specialty Equipment Market Association & Performance Racing, Inc., et al., v. California Air Resources Board, et al. (United States District Court, Eastern District of California, Case No. 2:24-cv-02771-TLN-AC)

State of California v. Wheeler, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 20-1167; consolidated with other cases under No. 20-1145, *Competitive Enterprise Institute, et al. v. NHTSA, et al.*).

State of California, et al. v. David Bernhardt, et al. (United States District Court, Northern District of California, 472 F. Supp. 3d 573 (N.D. Cal. 2020) Case No. 3:18 cv 5712 DMR; BLM, Wyoming, and industry appeal to United States Court of Appeals, Ninth Circuit, Case No. 20-16793)

State of California, et al. v. United States Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 21-1014)

State of Nebraska, et al., v. United States Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1129; consolidated with Case Nos. 24-1133, 24-1157, 24-1207, 24-1208, 24-1209, 24-1210, and 24-1214).

State of North Dakota v. United States Environmental Protection Agency. (United States Court of Appeals, District of Columbia Circuit, Case No. 15-1381)

State of North Dakota, et al. v. United States Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 16-1242)

State of Texas, et al. v. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 22-1031)

State of Texas, et al. v. U.S. EPA, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1054)

State of West Virginia, et al. v. U.S. Environmental Protection Agency, et al. (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1009)

State of West Virginia et al. v. United States Environmental Protection Agency (United States Court of Appeals, District of Columbia Circuit, Case No. 24-1120)

South Coast Air Quality Management District v. City of Los Angeles, et al. (Los Angeles County Superior Court, Case No. 20STCP02985; transferred to San Diego County Superior Court, Case No. 37-2021-00023385-CU-TT-CTL; appeal California Court of Appeal, Fourth Appellate District, Div. 1, Case. No. D080902; remanded to Superior Court)

The Two Hundred for Homeownership, Robert Apodaca, and Jose Antonio Ramirez v. California Air Resources Board, Steven S. Cliff, in his official capacity, et al. (United States District Court, Eastern District of California, Fresno Division, Case No. 1:22-at-904)

Western Propane Gas Association v. California Air Resources Board et al. (Fresno County Superior Court, Case No. 24CECG03715)

Western States Petroleum Association v. California Air Resources Board et al. (Fresno County Superior Court, Case No. 22CECG03603)

Western States Petroleum Association v. California Air Resources Board. (Los Angeles County Superior Court, Case No. 20STCP03138x, California Court of Appeal, Second District, Case No. B327663)

Western States Petroleum Association v. California Air Resources Board. (Fresno County Superior Court, Case No. 23CECG02976)

Western States Trucking Association v. California Air Resources Board. (Fresno County Superior Court, Case No. 23CECG02964)

Western States Trucking Association, Inc. and Construction Industry Air Quality Coalition, Inc. v. United States Environmental Protection Agency (United States Court of Appeals, District of Columbia Circuit, Case No. 23-1143)

Opportunity for Members of the Board to Comment on Matters of Interest

Board members may identify matters they would like to have noticed for consideration at future meetings and comment on topics of interest; no formal action on these topics will be taken without further notice.

Open Session to Provide an Opportunity for Members of the Public to Address the Board on Subject Matters within the Jurisdiction of the Board

Although no formal Board action may be taken, the Board is allowing an opportunity to interested members of the public to address the Board on items of interest that are within the Board's jurisdiction, but that do not specifically appear on the agenda. Each person will be allowed a maximum of two minutes to ensure that everyone has a chance to speak. The public will also have an opportunity to *submit written comments* for open session the morning of the Board Meeting.

Other Information

Submit Comments Electronically the Day of the Board Meeting

View Submitted Comments

Please Note: PowerPoint presentations to be displayed during public comment at the Board meeting must be electronically submitted via email to the Clerks' Office at cotb@arb.ca.gov no later than noon on the business day prior to the scheduled Board Meeting.

If you have any questions, please contact the Clerks' Office:

1001 I Street, 6th Floor, Sacramento, California 95814

cotb@arb.ca.gov or (916) 322-5594

CARB Homepage: www.arb.ca.gov

Special Accommodation Request

Consistent with California Government Code section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language;
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerks' Office at cotb@arb.ca.gov or at (916) 322-5594 as soon as possible, but no later than 7 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Acomodación Especial

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia;
- Documentos disponibles en un formato alterno u otro idioma;
- Una acomodación razonable relacionados con una incapacidad.

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor contacte la oficina del Consejo al (916) 322-5594 o por correo electrónico al cotb@arb.ca.gov lo más pronto posible, pero no menos de 7 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

Permitting Enhancement Program Update

Board Meeting
March 7, 2025



Permitting Enhancement Program (PEP)

- April 2023 - Chair introduced PEP
 - Objective is to reduce the permit backlog and modernize permitting to improve processing and issuance timelines
- August 2023 - Comprehensive PEP Workplan
- Updates in February and September 2024
- Today – 1.5-year status update
 - Board requested regular updates to ensure progress
 - Five PEP Elements - 21 Short- and Long-Term Enhancements



PEP Workplan Outline

Presented at August 2023 Board Meeting



Staffing and Resources



Staff Development and Training



Modernization of Permitting System



Enhance Public Interface and Transparency



Streamlining and Efficiency Improvements

PEP Progress Report



Increased Production

Calendar Year (CY) 2024 production up 13%



Maintaining Staffing Levels

Current Division vacancy rate 10.8%
Recruitment in progress



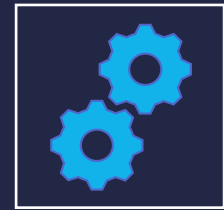
Actions on Aged Applications

Multiple initiatives to address aged applications
674 actions on aged application during PEP



Strategic Public Engagement

Feedback from Task Force on Certified Permit Professional (CPP) program

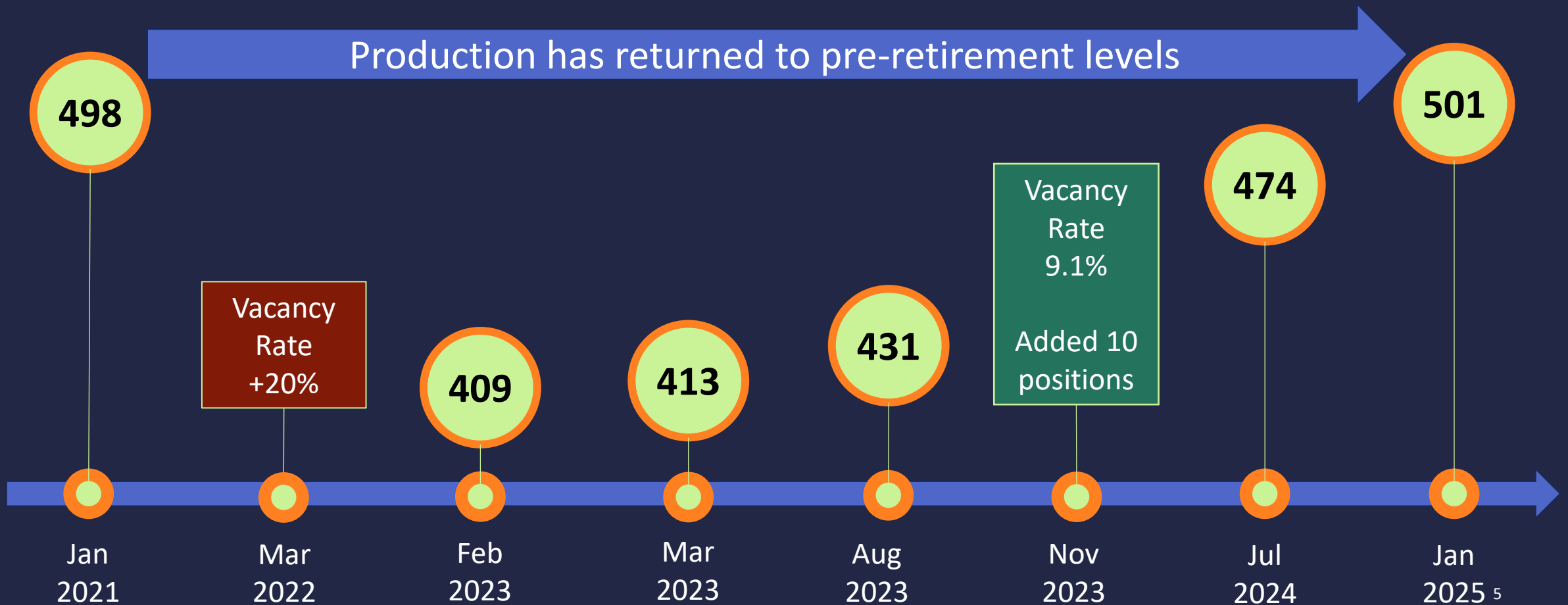


Progress on Modernizations Developed

Initial phase of electronic forms near completion

Production Increasing

Monthly Application Completions - Rolling 12-Month Average



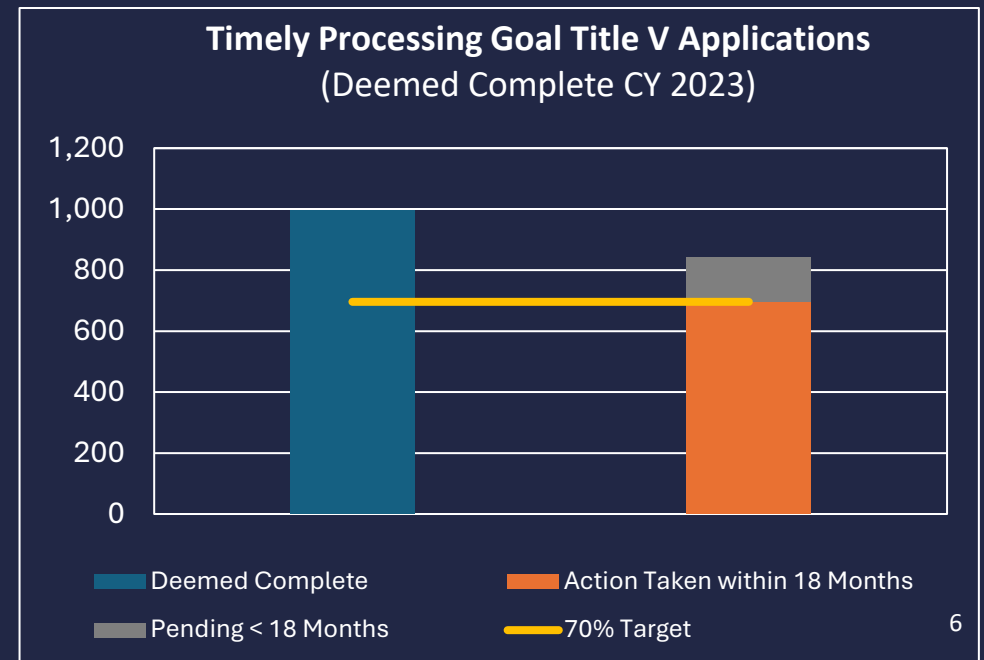
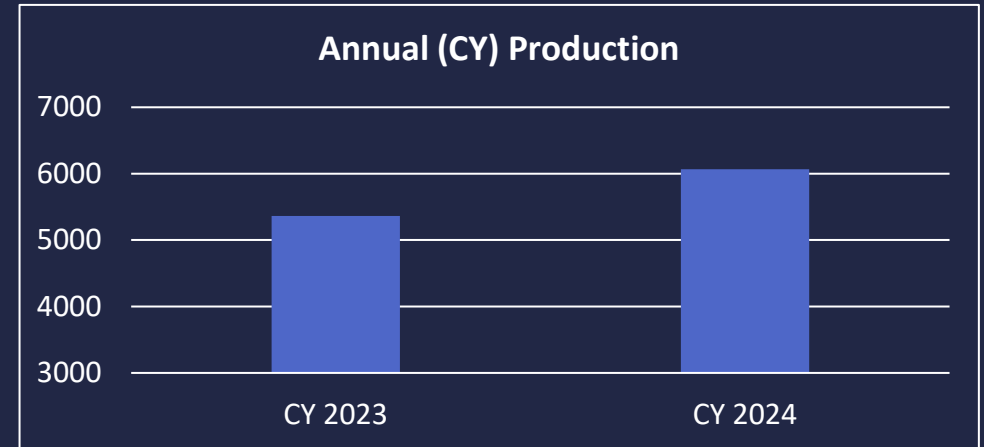
Progress Report on Permit Processing Goals

Fiscal Year 2024-25 Goal

- Increase production by 500 completions, compared to 2023
- On target to meet goal of 5,865 permit completions
- CY 2024 Increase

Met Both Timely Permit Processing Goals

- Met FY 23-24 Goals
- Timely processing of all applications
- Title V applications



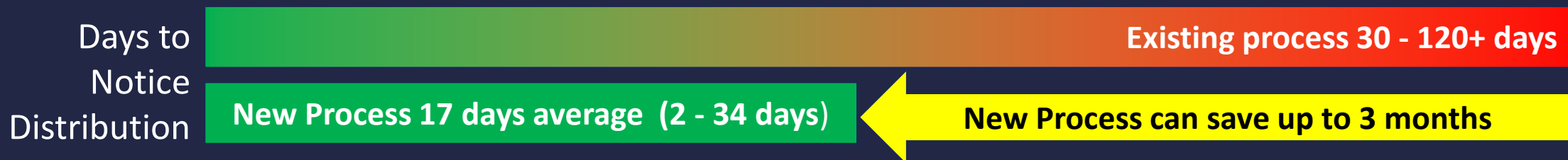
Further Enhancements to Permitting Public Facilities

- Comment made at Stationary Source Committee regarding permitting of a public facility
- Staff identified additional enhancements to improve permitting workflows for permits for public facilities
- Establishing team goals to address issue
 - Detailed analysis of data
 - Staff will continue to report progress to Task Force
 - It should be noted that facilities in non-compliance and Hearing Board cases have unique challenges



Permitting Public Notices Streamlining

- Permitting projects that require public noticing can be resource intensive for permitting engineers
- New pilot program reduced permitting timeline for public noticing
 - Public noticing moved to non-engineering group – more time for engineers
 - Facility option for South Coast AQMD public notice distribution
 - Standardized process eliminates delays
 - Reduced time to Permit Issuance



Certified Permit Professional (CPP) Program*

Background

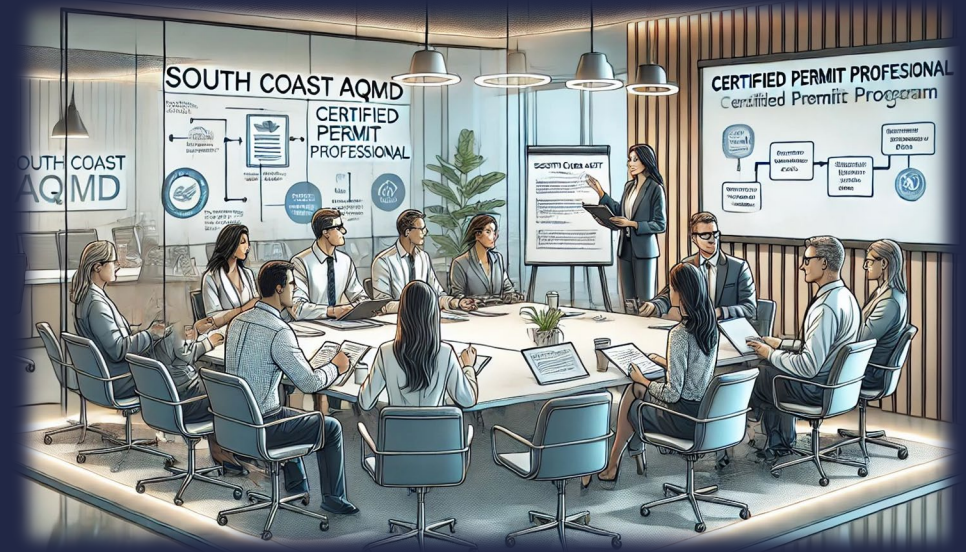
- CPP program intended to provide pool of certified individuals to prepare and submit complete application packages to expedite evaluation process
 - Currently 120+ active CPPs
- Task Force feedback received at multiple meetings
 - CPPs do not receive feedback to improve submittals
 - No incentive for facilities to use CPPs
- Staff recognizes importance of updating and maintaining the program



CPP Program

Next Steps

- Staff acting on Task Force feedback
 - Developing new CPP process and workflows
 - Permitting Working Group meeting
 - Continued program improvements
- Discussions with other air districts
- Small CPP pilot project awaiting implementation
- Staff will present CPP progress at next Board PEP Update



Update on New Permitting System

- Permitting software and paper-based process 20+ years old
 - Incoming applications continue at steady rate
 - New efficiencies needed to improve timelines
 - Challenges – unpredictable application inflow and changing rules
- Workflow and electronic forms
 - Initial forms are nearing completion
 - Awaiting design of new permitting system
- Interim Engineering & Permitting efforts
 - Staff developing smaller scope efficiency projects
- Looking at a variety of software development options



Other PEP-related Efforts

Staffing

- Retirees
 - Usage of retirees ends this month
 - No longer meet SBCERA policy for retiree allowance
- Consultants
 - Contractors continuing to provide support
 - Utilizing for resource intensive efforts
- AQ Engineer Recruitment
 - Hiring 2Q 2025



Other PEP-related Efforts Processes

- Strategic Initiatives and Workplans
 - Title V Workplan - Address program needs and requirements
- Leveraging A.I. for permitting training videos for public
 - Short video demo





Next Steps

- Next PEP Board Update: Q3/Q4 2025
- Report progress of all PEP action items
 - Status update on longer term action items
 - IM efforts
- Increased focus on developing new permitting workflow and efficiencies
 - Develop and implement near-term efforts
- Developing CPP framework
 - Task Force and Working Group meetings

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 20

PROPOSAL: Approve and Adopt Technology Advancement Office Clean Fuels Program 2024 Annual Report and 2025 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 2024 and 2025 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 21, 2025; Recommended for Approval

RECOMMENDED ACTIONS:

1. Approve and adopt the attached Technology Advancement Office Clean Fuels Program 2024 Clean Fuels Annual Report and 2025 Plan Update and include them 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 2025 and its proposed program and projects funded as part of the program will not duplicate any other past or present program or project funded by other 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

Emission reductions from mobile and stationary sources beyond those available from existing technologies will be needed to achieve state and federal ambient air quality standards. The 2022 AQMP projects an additional 83 percent NO_x 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_x reductions will require widespread deployment of zero-emission technologies, wherever feasible, as well as further development and commercialization of advanced, cleaner technologies.

California Health and Safety Code (H&SC) 40448.5(e) requires the Clean Fuels Program to consider 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 achieve 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_x reductions called for in the 2022 AQMP. In its first 36 years, from 1988 to 2024, the Clean Fuels Program leveraged \$268.9 million into over \$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 2024, South Coast AQMD leveraged \$3 for every \$1 in Clean Fuels funds. Incentive programs such as the Carl Moyer Program, Volkswagen Environmental Mitigation Trust for California, and Proposition 1B program provide a unique synergy to push market penetration of technologies developed and demonstrated by the Clean Fuels Program. This synergy maximizes resources to ensure continued progress in technology development and commercialization efforts of cleaner transportation technologies to further reduce criteria and toxic pollutant emissions.

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 fuel 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 were revised in 1999 with the 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 must be approved 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 2024 Annual Report and 2025 Plan Update and, as part of the Board's consideration of the 2025 Plan Update, to make a finding that the Plan Update and ensure the 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, and other invited technical experts, provide feedback to staff on the documents during biannual meetings and through subsequent correspondence. Staff monitors specific technologies through efforts at state and federal collaboratives, partnerships and industry coalitions. Through this effort, staff is confident there is no duplication of technology projects represented in the Annual Report and 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 2024 Annual Report and 2025 Plan Update (Attachment C).

2024 Clean Fuels Program Annual Report

The Annual Report covers projects and progress of the Program for calendar year 2024 consistent with H&SC 40448.5.1(d).

In 2024, under the Clean Fuels Program, 25 new projects or studies were awarded to support research, development, demonstration and early deployment (RD³) of the technology and conduct assessments. Executed contracts for alternative and clean fuel technologies through the Clean Fuels Program totaled over \$8.5 million, with total project costs of over \$25.8 million, which includes coordinated funding from other governmental agencies, the 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 2024.

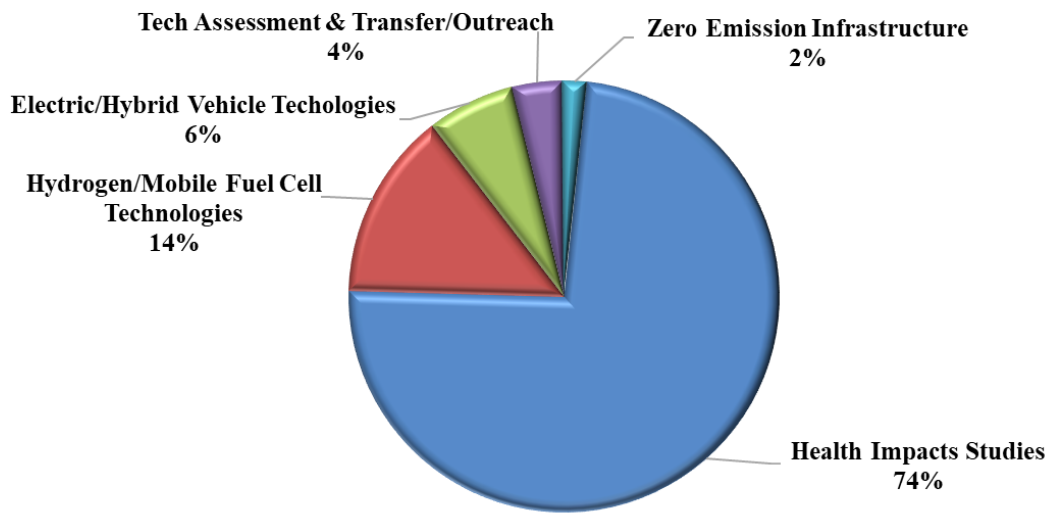


Figure 1: Distribution of Executed Clean Fuels Program Contracts in CY 2024 (\$8.5M)

During 2024, South Coast AQMD supported a variety of projects and technologies, ranging from near-term to long-term RD³ 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 2024 included demonstration and evaluation of electric powered trailer for heavy-duty vehicles, development of portable liquid hydrogen fueling system, analysis of regional medium- and heavy-duty zero-emission vehicle infrastructure and support for the sixth multiple air toxics exposure study (MATES VI). Since 1987, South Coast AQMD has conducted five MATES to evaluate air toxics health risks in South Coast AQMD’s jurisdiction. MATES VI measurements for a wide range of air toxics are anticipated to begin the first half of 2025. The collected data will be used to conduct air toxics modeling and quantify health impacts. The allocated Clean Fuels funds will be used to support a brake, road and tire wear emissions study, an ethylene oxide (EtO) source characterization and secondary EtO formation studies, purchase an array of air monitors to measure air pollutants of interest (e.g., particle number and mass concentrations, black carbon, VOCs, carbonyls and air toxics metals, ethylene oxide,

ammonia), laboratory and other field monitoring support equipment including monitoring shelters and vehicles to support field activities related to MATES VI.

In addition to new projects, 11 RD³ and 20 technology assessments and transfer/outreach projects were completed in 2024. Summaries of technical projects completed in 2024 are provided in Appendix C of the combined Clean Fuels Program Annual Report and Plan Update.

The Clean Fuels Program in 2024 continued to leverage other outside opportunities with South Coast AQMD securing new awards of almost \$8.3 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 RD³ effort implemented under the Clean Fuels Program. Staff continue 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.

2025 Clean Fuels Program Plan Update

The attached Clean Fuels Program Draft Plan Update identifies potential projects to be considered for funding during 2025. The proposed projects reflect promising near-zero and zero-emissions technology and infrastructure applications such as the linear generator technology which has emerged as an alternative prime power generation technology to support and accelerate charging infrastructure deployments. 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. Projects not funded in 2025 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 and shown in Figure 2:

- 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);
- Zero-Emission Infrastructure;
- Stationary Clean Fuel Technologies (including microgrids, renewables);

- Fueling Infrastructure and Deployment (NG and renewable fuels);
- Fuel and Emission Studies;
- Health Impact Studies;
- Emission Control Technologies; and
- Technology Assessment and Transfer / Outreach

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 \$31 million for the ten project areas discussed previously. The expected actual project expenditures for 2025 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 2025 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. In addition, the Clean Fuel program has several projects co-funded with grants received from the U.S. EPA. These grants include projects supported by the California Clean Air Technology Initiative and Targeted Airshed Grant programs for a total of \$43 million in grant awards and leveraged with \$3.3 million in Clean Fuels funding.

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.

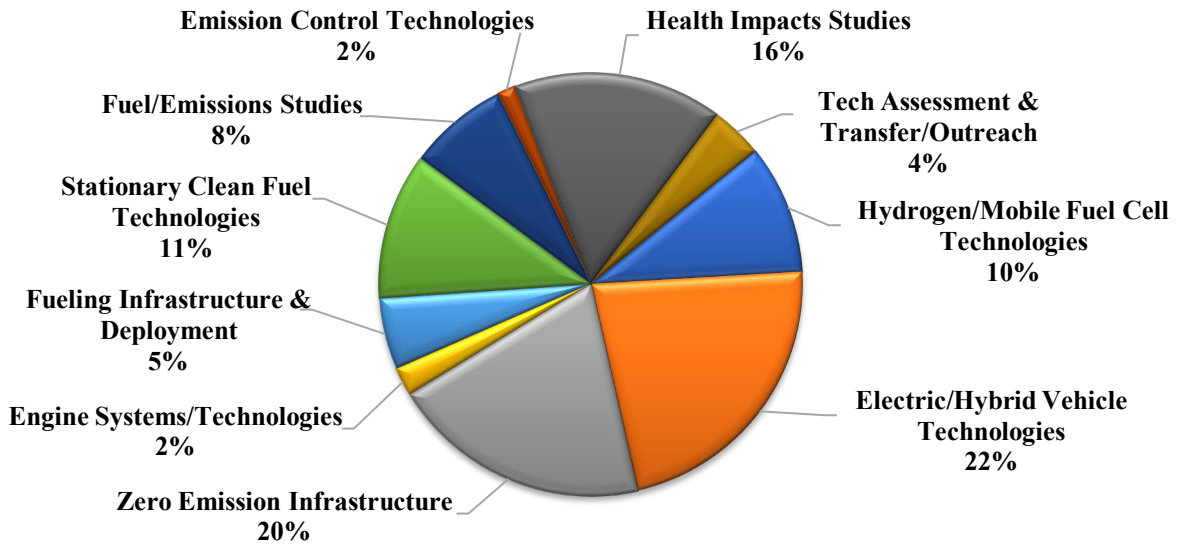


Figure 2: Projected Funding Distribution for Potential Projects in 2025 (\$31M)

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 2024 and adoption of the Clean Fuels Program Plan Update for 2025 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 2024 Annual Report and 2025 Plan Update
- D. Presentation

ATTACHMENT A

RESOLUTION NO. 25-____

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 2024 and adopting the Clean Fuels Program Plan Update for 2025.

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 2024;

BE IT FURTHER RESOLVED that the Board approves the Technology Advancement Office Clean Fuels Program Plan Update for 2025; and

BE IT FURTHER RESOLVED that the Board hereby directs staff to forward the Technology Advancement Office Clean Fuels Program Annual Report 2024 and Plan Update 2025 to the California Legislature and the Legislative Analyst.

Dated:

Faye Thomas, Clerk of the Boards

**Approve and Adopt Technology Advancement Office Clean Fuels Program 2024
Annual Report and 2025 Plan Update, Resolution and Membership Changes for
Clean Fuels Advisory Group**

**ATTACHMENT B
Qualifications and Expertise of Proposed New Advisory Group Members**

SB 98 Clean Fuels Advisory Group*

<p>Gordon Abas Goodarzi Magmotor Technologies, Inc.</p>	<p>Dr. Gordon Abas Goodarzi is President and CEO of Magmotor Technologies, Inc., driving innovation in technology and product development, while also contributing to strategic policy and clean energy advancements. In his Research Affiliate role with the B. John Garrick Institute for the Risk Sciences at UCLA, Dr. Goodarzi has been involved in innovative research, including wildfire risk mitigation for utilities like PG&E/CPUC and renewable energy initiatives. His industry contributions include founding US Hybrid Corporation, where he pioneered the design and production of fuel cell engines for medium-duty municipal and heavy-duty vehicles and developed the first electric helicopter for Sikorsky. Dr. Goodarzi has created zero-emission solutions for drayage trucks and port equipment, reflecting his deep expertise in sustainable transport. Earlier in his career, as Technical Direct at Hughes Power Control System, he spearheaded the development of General Motors' EV1 powertrain and inductive charging infrastructure, laying the groundwork for modern EV technology. His efforts in manufacturing, service deployment, and commercialization of EVs were instrumental in advancing electric mobility. Dr. Goodarzi earned his Bachelor's degree from California State University, Sacramento, and Master's and Ph.D. degrees from University of Missouri-Columbia. He has been a registered professional engineer since 1985. Dr. Goodarzi also previously was faculty at the California State University, San Francisco.</p>
<p>Yassamin Kavezade Sierra Club</p>	<p>Ms. Yassamin Kavezade has advocated for economic and environmental justice for over 10 years across California. She began her professional career as a utility ratepayer advocate at the Utility Reform Network, protecting affordable rates for customers across the electric and telecommunication sectors. She followed her passion for environmental justice and community organizing by joining the Sierra Club staff in 2017. At the Sierra Club, she organized communities in the Inland Empire to support clean energy and zero emission mitigation projects at warehouses, closing down one of California's oldest power plants, and successfully led efforts to pass legislation like Senate Bill 100, guaranteeing 100% renewable energy in California by 2045. As she pivoted to regional and national strategy as a Senior Advisor for the Sierra Club she supported the passage of the Warehouse Indirect Source Rule at South Coast, Advance Clean Truck Rules, Trucking Refrigeration Rules, Innovative Clean Transit, At-Berth, and Harbor Craft rules at the California Air Resources Board on behalf of the Sierra Club. During her eight-year tenure at Sierra Club, she has grown her role to support clean air and energy campaigns in the country's western region. Yassi has recently left Sierra Club National for a new opportunity to lead policy and campaign efforts at the California Building Decarbonization Coalition. She will be the Policy</p>

	<p>and Campaigns Director leading communications and outreach strategies across these states. She believes in building trust, community organizing, and creating public policy across several regulatory agencies and governments for clean air and environmental justice. She has experience winning campaigns and policies for zero-emission transportation and clean transportation. For fun, she likes to bike and hike with her dog in Inland Valley in her free time.</p>
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**The charter of the CFAG requires membership changes to be approved by the full South Coast AQMD Board.*

Technology Advancement Advisory Group**

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***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 2024
ANNUAL REPORT & 2025 PLAN UPDATE

South Coast Air Quality Management District

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- CARLOS RODRIGUEZ**
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EXECUTIVE SUMMARY

I. 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 (SCAB) 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 its natural geographic and atmospheric conditions, coupled with its 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 oxide (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 battery electric vehicles, plug-in hybrid electric vehicles and related charging infrastructure, hydrogen fuel cells and related fueling infrastructure, advanced natural gas (NG) technologies, alternative fuel engines, and 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 \$268.7 million into over \$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 funding source for mobile source emission reduction projects. The MSRC develops an annual Work Program to define the categories of projects for funding. Each year, approximately \$14 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 trusted brand names. This scale is needed to reduce emissions and attain national ambient air quality standards (NAAQS).

South Coast AQMD and its partners play a leadership role in technology development and commercialization to accelerate criteria for reductions in pollutant and greenhouse gas (GHG) emissions. The Clean Fuels Program has traditionally supported a portfolio of technologies at different technology

readiness levels. This helps develop new technologies across many mobile sectors needing 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, emission control technologies, and supporting 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 the Clean Fuels Plan Update looks ahead at proposed projects for the next CY, re-calibrating the program's technical emphasis.

II. 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 SCAB. 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 SCAB to meet the 2015 8-hour ozone standard of 70 ppb by 2037. The CARB 2022 SIP Strategy for mobile and stationary sources requires rapid deployment of zero emission technologies to achieve air quality targets.

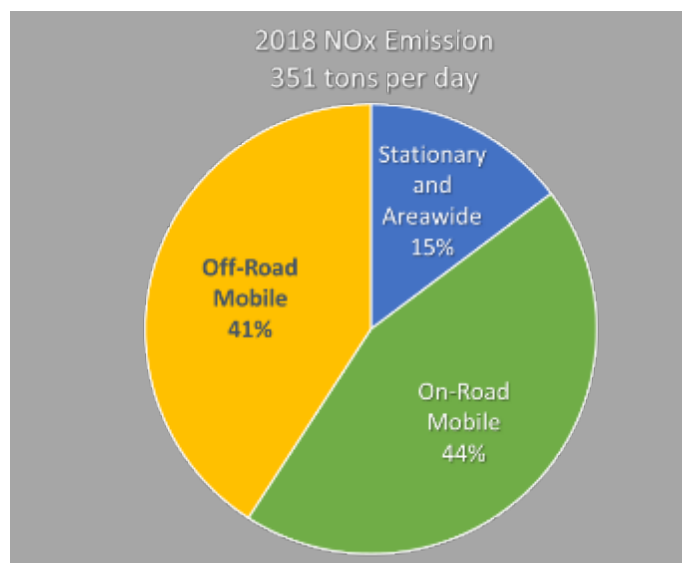


Figure 1: NOx Emissions by Source Category in South Coast Air Basin for 2018

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 improving ozone air quality and attaining the ozone NAAQS in SCAB. In 2018, approximately 85 percent of NOx emissions were from mobile sources, as shown in Figure 1.¹ Furthermore, NOx and VOC emissions also lead to the secondary formation of PM2.5 in the atmosphere (particulate matter measuring 2.5 micrometers or less in size).

The emission reductions and control measures in the 2022 AQMP rely on the commercial adoption of a mix of currently available technologies and the expedited development and commercialization of clean fuel mobile and stationary advanced technologies in SCAB 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 SCAB by source category. Most NOx emission reductions must come from mobile sources, both on- and off-road categories. Notably, South Coast AQMD is 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).

¹ 2022 South Coast AQMD Air Quality Management Plan, <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan>

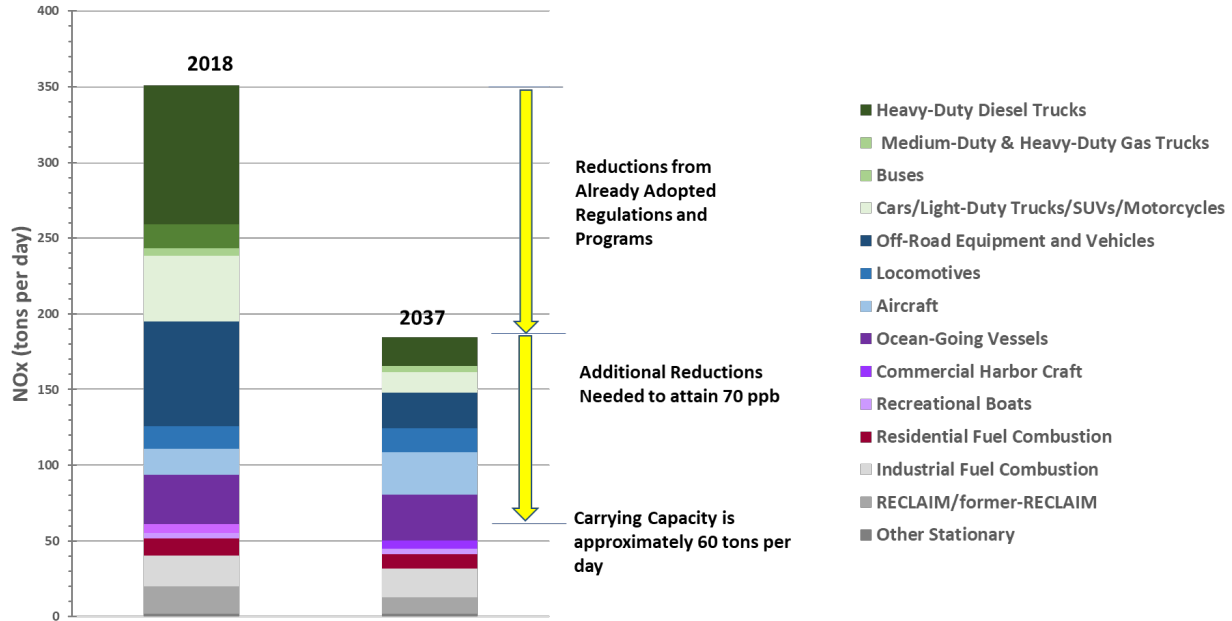


Figure 2: NOx Emissions and Reductions Required to Attain 2015 Ozone Standard in 2037²

The 2022 AQMP shows the need for an economy-wide transition to zero emission technologies where feasible, along with the CARB 2020 Mobile Source Strategy and low NOx technologies in other applications. New mobile source technologies must be developed, commercialized, and implemented widely to achieve these targets.

III. 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 its relationship with incentive programs. Various stages of technology projects are funded to provide a portfolio of technologies and 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.

² 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>

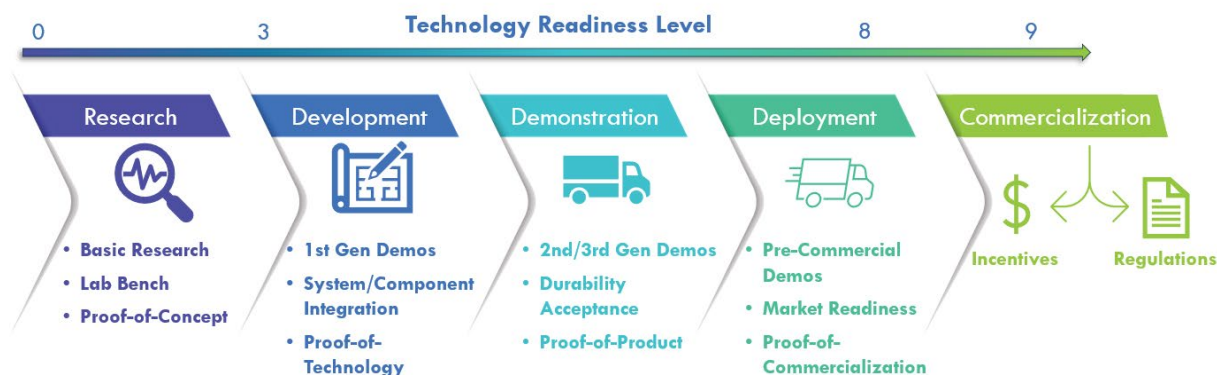


Figure 3: Technology Readiness Stages 3-8 of Clean Fuels Program

Below is a summary of the 2024 Annual Report and 2025 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 Governing Board in 1990. These stakeholder groups review and assess the overall direction of the Clean Fuels 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 in the Program’s core technology areas also attend and provide feedback. South Coast AQMD’s Governing Board and other interested parties and stakeholders also offer preliminary reviews and comments. In 2024, the advisory groups met on January 23 and September 12.

IIIa. 2024 Annual Report

In CY 2024, the South Coast AQMD Clean Fuels Program executed 25 new contracts. Table 2 shows major funding partners in CY 2024. Table 3 lists the 5 projects and 20 technology transfer and outreach contracts, which are further described in this report. The Clean Fuels Program contributed over \$8.5 million in partnership with other governmental organizations, private industry, academia and research institutes, and interested parties, with total project costs of over \$25.8 million. Additionally, in CY 2024, the Clean Fuels Program continued to leverage outside funding opportunities, securing new awards totaling almost \$8.3 million from federal, state and local funding opportunities. Table 4 provides a comprehensive summary of these federal, state and local revenues awarded to South Coast AQMD during CY 2024. Typical historical leveraging is \$4 for every \$1 in Clean Fuels funding. In 2024, South Coast AQMD leveraged \$3 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 2024 included a diverse mix of advanced technologies and are included in the following core areas of technology advancement:

1. Hydrogen / Mobile Fuel Cell Technologies;
2. Electric / Hybrid Vehicle Technologies (including battery electric and hybrid electric trucks and container transport technologies with zero emission operations);
3. Zero Emission Infrastructure;
4. Health Impacts Studies; and

5. Technology Assessment and Transfer / Outreach.

Figure 11 on page 30 shows the distribution by percentage of executed agreements in 2024 across these core technologies.

During CY 2024, 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 SCAB. 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_x engines; and demonstration of hydrogen fuel cell MD and HD vehicles and infrastructure.

In addition to the 25 executed contracts and projects, 11 research, development, demonstration and deployment projects or studies and 20 technology assessment and transfer contracts were completed in 2024, as listed in Table 5 on page 44. Appendix C includes two-page summaries of technical projects completed in 2024. As of January 1, 2025, there were 57 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, 2025, after approval by the South Coast AQMD Governing Board.

IIIb. 2025 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 developing and deploying 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_x and toxic air contaminants (TACs). Most of these technologies address SCAB’s need for NO_x and TAC emission reductions and garner GHG emission reductions and petroleum use. Due to these co-benefits, South Coast AQMD has successfully partnered with the state and public/private partnerships to leverage its Clean Fuels Program funding.

South Coast AQMD engages in outreach and networking efforts to identify technology and project opportunities where funding can make a significant difference in deploying cleaner technologies in SCAB. These activities include 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 2025 Clean Fuels Plan Update.

Assembly Bill (AB) 617³ 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 the deployment of cleaner technologies. Replacement of HD diesel trucks with zero emission trucks was in the Community Emission Reduction Plans (CERPs) for these AB 617 communities, and a zero emission HD truck loaner program was launched in 2023. The Program funded by the Community Air Protection Program (CAPP) provided smaller fleets and independent owner operators the opportunity to try and learn about zero emission trucks for their business operations. The Clean Fuels Program played an important role in developing the ZE technologies.

Today, diesel trucks are still one of the largest NO_x emission sources in SCAB. While CARB has the Advanced Clean Trucks (ACT), Advanced Clean Fleets (ACF), and Heavy-Duty (HD) Omnibus regulations in place, there is still a need to tackle interstate truck emissions that travel to and from SCAB. CARB estimates that 60 percent of total on-road HD vehicle miles traveled in SCAB are from vehicles purchased outside of California. This indicates the need for more stringent federal and state standards for on-road HD vehicles. U.S. EPA has acknowledged the need for additional NO_x emission reductions through a harmonized and comprehensive national NO_x emission 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 in similar stringency as the CARB Omnibus Standard. Two additional U.S. EPA rules were adopted in March 2024, including the Phase 3 HD GHG and light-duty (LD) and medium-duty (MD) vehicle multi-pollutant standards for model year 2027. These rules emphasize the large adoption of zero-emission LD, MD, and HD vehicles.

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 NO_x 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 to achieve zero emission drayage trucks by 2035. Despite all these major efforts, per the 2022 AQMP, additional NO_x emission reductions in SCAB are needed to meet ozone attainment target deadlines.

In the past year, significant federal and state funding has been made available to support the deployment of zero emission vehicles and installing infrastructures. Between 2023 and 2024, South Coast AQMD released several rounds of Carl Moyer and Community Air Protection Program (CAPP) funding announcements to solicit near- and zero- emission vehicle and equipment and associated supporting charging/refueling infrastructure projects totaling over \$300 million, and the programs were heavily oversubscribed. In July 2024, the U.S. EPA awarded South Coast AQMD \$500 million under the Climate Pollution Reduction Grants (CPRG) to implement the INVEST CLEAN (Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness) to prioritize the emission reductions in the goods movement sectors for their potentially substantial reductions of criteria and hazardous air pollutants, impacts on low-income disadvantaged communities, and the opportunity to drive economic growth, including job creation. This incentive funding will ensure the demonstration and deployment by the Clean Fuels Program to continue to advance to full commercialization.

The Plan Update includes projects to develop, demonstrate and commercialize 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-

³ <https://ww2.arb.ca.gov/capp>

related activities, including zero emission drayage trucks, cargo handling equipment and supporting infrastructure;

- understanding particulate emissions from tire and brake wear;
- demonstrating ultra-low NO_x, 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;
- 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 and similar charger rate for MD 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 ecosystems to reduce the cost of hydrogen and improve state-wide hydrogen station reliability and availability;
- developing and demonstrating low and zero emission alternative charging solutions (ACS) that support the deployment of permanent EV charging infrastructure and provide temporary 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; and workforce training.

Table 6 (page 67) lists potential projects across the ten core technology areas for 2025:

- Hydrogen / Mobile Fuel Cell Technologies and Infrastructure;
- Engine Systems / Technologies (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);
- Zero Emission Infrastructure - both hydrogen and battery electric as well as studies that aid the readiness and management of ZE infrastructure;
- Fueling Infrastructure and Deployment (NG and renewable fuels);
- Stationary Clean Fuel Technologies (including microgrids and stationary clean fuel technology projects, but not in combination with EV and Hydrogen infrastructure);
- Fuel and Emissions Studies;
- Emission Control Technologies;
- Health Impact Studies; and

- Technology Assessment and Transfer/Outreach.

These potential projects, planned for 2025, total \$31 million of the Clean Fuels funds, with the anticipated total project costs of \$182.9 million, leveraging almost \$6 for every \$1 of Clean Fuels funds spent. Some proposed projects may also be funded by state and federal grants and incentive programs, including AB 617 CAPP funds, Volkswagen Mitigation, Carl Moyer Program, and others.

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CLEAN FUELS PROGRAM

2024 ANNUAL REPORT AND 2025 PLAN UPDATE

1.1. Background

The South Coast Air Basin (SCAB), 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 SCAB 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,” and created a funding source for the Clean Fuels Program from a \$1 motor vehicle registration surcharge. Subsequent legislation extended both the Program and surcharge indefinitely, eventually removing 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.

In 1999, SB 98 amended this provision by requiring annual updates to the Clean Fuels Program as well as a 30-day Public Notice to specified interested parties and the public prior to the annual public hearing at which the Governing Board considers action on the Clean Fuels Program. Therefore, South Coast AQMD re-evaluates the Clean Fuels Program every year to develop a plan update based on reassessment of clean fuel technologies and direction of the South Coast AQMD Governing Board. Each year, the plan update targets several projects to achieve near-term emission reductions needed for South Coast AQMD to meet health-based NAAQS.

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 Governing Board will consider the efforts TAO has undertaken in the prior year to ensure no such duplication has occurred and attest to that fact within the Resolution.

The following section describes the various panels of external experts that help review the Clean Fuels Program every year.

1.2. Advisory Groups

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 first advisory group, 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.

The charter for the Technology Advancement Advisory Group (TAAG) calls for approximately 12 technical experts representing industry, academia, state agencies, scientific community and environmental interests. In CY 2024 there were 13 members on TAAG and those members will continue into CY 2025.

In 1999, the second advisory group, the Clean Fuels 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 the 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 Governing Board while changes to the Technology Advancement Advisory Group are reviewed by the South Coast AQMD Governing Board's Technology Committee.

Current membership changes to the Technology Advancement Advisory Group and to the Clean Fuels Advisory Group are considered by the South Coast AQMD Technology Committee and the South Coast Governing Board, respectively, as part of consideration of each year's Annual Report and Plan Update. Members of the Technology Advancement Advisory Group and the SB 98 Clean Fuels Advisory Group are listed in Appendix A, with proposed changes, duly noted, subject to either South Coast AQMD Governing Board approval or the Governing Board's Technology Committee, per the advisory groups' 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 Governing Board; 5) public hearing of the Annual Report and Plan Update before the full South Coast AQMD Governing 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 following section describes the emission reduction targets and strategy of the Clean Fuels Program, which the Advisory Group and Governing Board will review as part of the annual report and plan update.

1.3. Emissions Reduction Targets

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 Governing Board directives to protect the health of the approximately 18 million residents (nearly half the population of California) in SCAB. 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 SCAB 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.

Ground level ozone (a key component of smog) is created by a chemical reaction between NO_x and volatile organic compound (VOC) emissions in sunlight. This is noteworthy because the primary driver for ozone

formation in SCAB is NO_x emissions, and mobile sources contribute approximately 85 percent of the NO_x emissions in this region, as shown in Figure 1. Furthermore, NO_x emissions, along with VOC emissions, also lead to the formation of PM_{2.5} [particulate matter measuring 2.5 microns or less in size, expressed as micrograms per cubic meter (µg/m³)], including secondary organic aerosols.

The emission reductions and control measures in the 2022 AQMP rely on commercial adoption of a mix of currently available zero emission technologies as well as the expedited development and commercialization of clean fuel mobile and stationary advanced technologies in SCAB to achieve air quality standards. 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_x and VOC. The 2022 AQMP identifies that 83 percent NO_x 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_x emission 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). As a result, the 2022 AQMP shows the need for economy-wide transition to zero emission technologies where feasible, and low NO_x emission technologies in other applications.

The need for advanced mobile source technologies and clean fuels is best illustrated by Figure 4 which identifies NO_x emissions by source category in 2018 and 2037. NO_x 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).

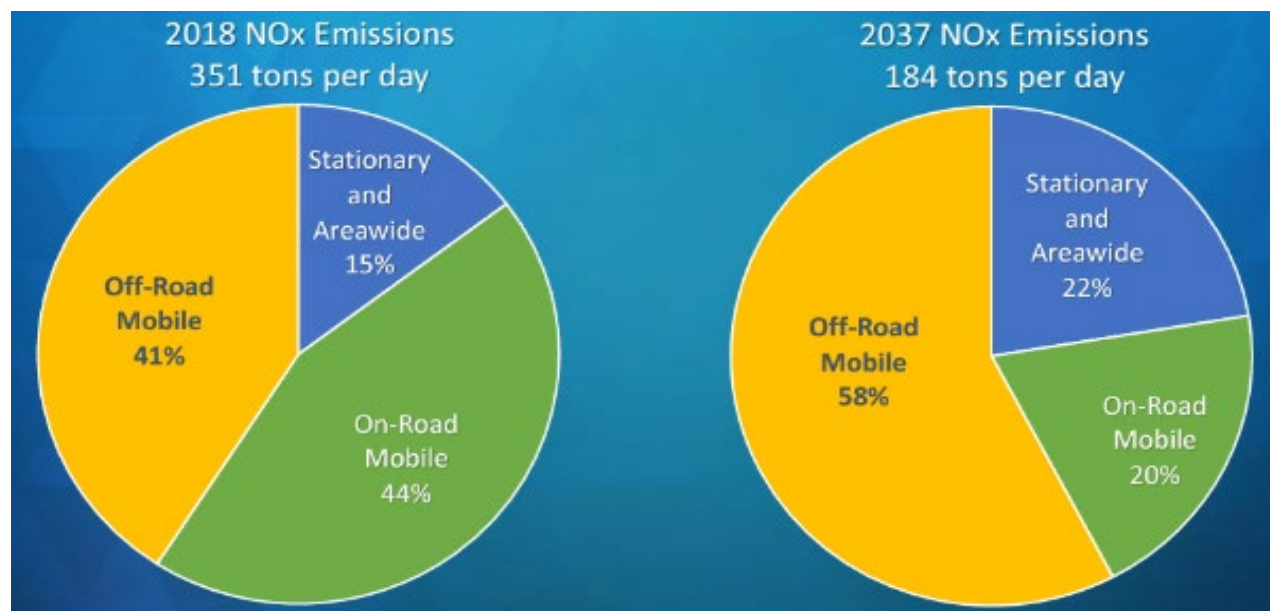


Figure 4: NOx Contribution Source Category in 2018 and 2037

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 Governing 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 Group North America, Hyundai Motor Company, PACCAR, and others to deploy these vehicles at scale. These OEM partnerships allow the Program to leverage the research, product development 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 the recent Volkswagen Mitigation Trust and the 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 enables 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 (RD³) projects as well as incentives remains

critical given the magnitude of additional funding identified in the 2022 AQMP to achieve NAAQS.

Current federal and state efforts in developing regulations for on- and off-road vehicles and stationary equipment are expected to significantly reduce NOx emissions, but additional measures are needed to achieve 2031 and 2037 ozone attainment deadlines. To support fleet turnover, the Clean Fuels Program emphasizes on commercialization and deployment of clean technology, such as zero emission HD trucks, supporting zero emission infrastructure, as well as studies that plan and prioritize the needs to support the development of zero emission trucks and infrastructure.

The following section provides an overview of the clean technology and implementation strategy for the Clean Fuels Program.

1.4. Clean Technology Development and Implementation

The Clean Fuels Program has encouraged projects that increase the utilization of clean-burning fuels over the 36-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 NOx (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 the 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 NOx standard of 0.2 grams per brake horsepower hour (g/bhp-hr). This collaborative initiative resulted in the development of the Cummins-Westport, Inc. (CWI) 8.9-liter engine certified to 0.2 g NOx/bhp-hr, three years before the mandated 2010 national standard. In 2013, recognizing the need for accelerated NOx emission reductions in the HD sector, South Coast AQMD, CEC, and the 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 NOx 8.9-liter NG engine (L9N). Additional projects with CEC, SoCalGas and Clean Energy Fuels Corporation produced the CWI 11.9-liter NZE engine (model 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 I (ZECT 1) project to develop and demonstrate Class 8 BETs. The ZECT I project inspired and influenced various subsequent 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 GGRF-ZEDT project included 25 BYD 8TT BETs, 12 Peterbilt/Meritor/TransPower BETs, two Kenworth CNG hybrid electric trucks, three Volvo diesel plug-in hybrid electric trucks, and two Volvo VNR BETs. The Clean Fuels Program also supported the development and demonstration of six Class 8 heavy-duty drayage fuel cell, CNG hybrid and diesel hybrid electric trucks under the DOE ZECT II project which was started in 2014 and was completed in 2024. More recently, the Clean Fuels Program co-funded large DTNA and Volvo BET projects. For the Daimler Innovation Fleet project, in 2019, DTNA deployed 14 Class 8 eCascadia and six Class 6 eM2 trucks and installed seven DC fast charging stations at fleet locations. In

2022, Volvo deployed 30 Class 8 BETs and installed Level 2, AC, 50 and 150 kW DC fast chargers, and solar panels integrated with energy storage as part of the CARB GGRF Low Impact Green Heavy Transport Solutions (LIGHTS) project. In 2023, DTNA completed the deployment of two Class 6 and six Class 8 BETs for its Customer Experience project. During this year, they also deployed 10 Class 6 and 25 Class 8 BETs and chargers for commercial fleet distribution/delivery operations as part of their Zero Emission Electric Delivery Trucks project funded by EPA. In 2021, South Coast AQMD was awarded CARB and CEC funding for the Joint Electric Truck Scaling Initiative (JETSII) 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), see Figure 5. In 2023, the Volvo VNR Electric and DTNA eCascadia trucks were deployed and are now commercially available.



Figure 5: Developed, Demonstrated, and Deployed Clean Fuel Technology Trucks

Many more BETs and FCETs are needed to meet the 2031 and 2037 NAAQS ozone standard. Several challenges must be overcome to enable widespread deployments of BETs and price reductions must be achieved on these trucks for at-scale production. These challenges can be addressed by providing an easier process for fleets and independent owner operators to purchase BETs, installing public charging infrastructure, increasing grid capacity at truck delivery sites and truck fleet depots, and determining adequate charging system configurations to accommodate the duty cycles needed for drayage, short, regional haul, and last mile delivery freight truck applications. Also, education, and work force training and development, are needed to improve the ZE adoption.

In July 2024, the U.S. EPA awarded South Coast AQMD \$500 million under the Climate Pollution Reduction Grants (CPRG) program to implement the INVEST CLEAN (Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness) project. INVEST CLEAN prioritizes emission reductions in the goods movement sectors for their potential of substantial reductions of criteria and hazardous air pollutants, impacts on low-income overburdened communities, and the opportunity to drive economic growth, including job creation and workforce training.

The lack of charging infrastructure for the BETs is often a hindrance that many truck fleets encounter, thus delaying their truck charging and electrification plans. In addition, the lack of grid capacity and challenges in deploying solar, energy storage, or other technologies to offset grid demand and long lead time to obtain the power needs are some of the barriers in ZE truck deployment. Between 2023 and 2024, South Coast

AQMD released several rounds of the Carl Moyer program and the Community Air Protection Program (CAPP) funding opportunities, totaling over \$300 million. Meanwhile, publicly accessible truck charging stations are needed for small fleets and owner operators transiting to ZE truck fleets.^{4,5} To mitigate the grid capacity issue, additional technology solutions that provide energy generation from non-grid tied microgrids thus, bypassing the utility complex interconnection requirements, are needed to mitigate the challenges with deploying BETs. South Coast AQMD has been strongly engaged in the development and demonstration of low and zero emission alternative charging solutions (ACS) to support the deployment of zero emission vehicles. The availability of reliable ACS will help fill the void of charging infrastructure delays as well as to provide as a backup generation option during grid outages and public safety power shutoff events. In May 2024, Prologis, Inc. opened the first of its kind 9MW electric vehicle charging depot powered by a non-grid connected microgrid of linear generators and batteries, capable of charging 96 heavy-duty BETs simultaneously.⁶

Today, NOx emissions from heavy-duty diesel trucks still comprise a major contributor to elevated air pollution levels in SCAB. While CARB has the Advanced Clean Trucks (ACT), Advanced Clean Fleets (ACF), and Heavy-Duty (HD) Omnibus regulations in place, there is still a need to tackle interstate truck emissions that travel to and from SCAB. CARB estimates that 60 percent of the total on-road HD vehicle miles traveled in SCAB are from vehicles purchased outside of California, which points to the need for more stringent federal and state standards for on-road HD vehicles. U.S. EPA has acknowledged the need for additional NOx emission reductions through a harmonized and comprehensive national NOx emission reduction program for HD on-highway engines and vehicles. In December 2022, U.S. EPA adopted the final rule “Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards” which has a similar level of stringency as the CARB Omnibus Standard. In March 2024, two additional U.S. EPA rules were adopted, including the Phase 3 HD GHG and light-duty (LD) and medium-duty (MD) vehicle multi-pollutant standards for model year 2027. Both these rules emphasized large adoption of zero-emission LD, MD, and HD vehicles.

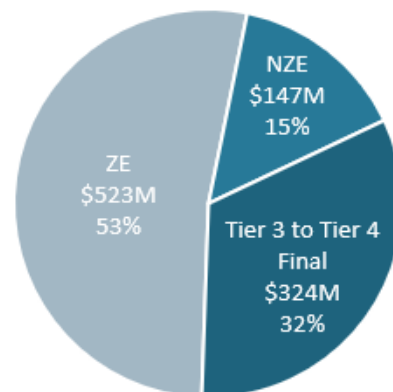
To quantify some of the emission benefits from NZE and ZE truck deployments, Table 1 summarizes the potential emission reductions as a result of the technologies directly supported by the Clean Fuels Program. Funding support through the South Coast AQMD Technology Advancement Office Incentives programs (e.g., commercial Lawn & Garden, on-Road, locomotive, marine, Volkswagen Mitigation Trust program, Lower emission school bus program) to develop and deploy ZE, NZE and Tier 3/4 Final vehicles and equipment has contributed to NOx, and PM emission reductions in SCAB over time. These programs have an old technology scrappage requirement as established by CARB.

⁴ <https://www.wattev.com/post/wattev-opens-electric-commercial-truck-charging-depot-in-san-bernardino-second-in-social-in-the-last>

⁵ <https://www.businesswire.com/news/home/20240327434127/en/Greenlane-Announces-280-mile-Corridor-of-Commercial-EV-Charging-Stations-from-Los-Angeles-to-Las-Vegas>

⁶ <https://www.prologis.com/about/news-press-releases/performance-team-maersk-company-prologis-launch-new-ev-truck-charging>

Technology Type	Award Amount	NOx Reductions (tpy)	PM Reductions (tpy)
Zero Emission	\$523M	285	7.8
Near-Zero Emission	\$147M	765	1.6
Tier 3 to Tier 4 Final	\$324M	2,160	48.3
Total	\$994M	3,210.4	57.6



Includes funded projects from Carl Moyer, Proposition 1B, VW Mitigation Trust, Voucher Incentive Program and other programs

Table 1: Emission Benefits from Incentive Programs (2019 – 2024)

Although the emission reductions may seem modest at about 4% of the total emission reductions for on-road HD diesel trucks (1.69 tpd reductions vs. 44.5 tpd in on-road heavy-duty diesel) in 2024, the continued funding support to the commercialization of clean technologies and equipment from the Clean Fuels program ensures the continued emission reductions in SCAB.

Evaluation of health impacts of exposure to air pollution helps to assess source-specific impacts, guides potential policy and control strategies, and provides essential information to the public. Thus, health impact studies form a key component of the Clean Fuel Program strategy. Since the 1980s, South Coast AQMD has conducted five Multiple Air Toxics Exposure Study (MATES) campaigns, with MATES V completed in August 2021 and MATES VI currently in preparation phases. MATES uses comprehensive measurements, modeling, and health risk assessment methods to estimate cancer and non-cancer chronic health risks due to exposure to air toxins throughout the South Coast AQMD jurisdiction. A summary of MATES program findings is included in the Core Technology Areas section. Updating MATES is a key Clean Fuels Program Strategy. MATES VI is in the preparation stages, with monitoring scheduled to start in early 2025 and final data and dissemination of findings expected between late 2027 and early 2028. This update will extend the measurements, emission inventory, modeling, health risk analysis, and trends analysis. Two near-road monitoring sites will be added, and one additional site at Mecca will provide data to determine air toxics risk from measurements in the Coachella Valley for the first time in MATES.

MATES VI includes a study that will quantify whether an increased cancer potency factor may result in total cancer risk being dominated by EtO rather than diesel particulate matter, which has driven cancer risk since at least 1998 when MATES II first conducted measurements required to track it. Uncertainties on the importance of the following factors in determining EtO concentrations have been identified: local emission sources, including vehicles and their emission rates, transport of background EtO into SCAB, and secondary formation of EtO in the atmosphere. South Coast AQMD is consulting subject matter experts on these topics and is planning a study to address some of these uncertainties. A source apportionment study using measurements for MATES VI may also identify sources contributing to the observed concentrations.

Despite several current California incentive programs to deploy commercially available cleaner technologies and offset the higher procurement costs of commercially available cleaner technologies,

significant additional resources and technology development are needed to achieve the NAAQS for this region. Several key emerging technologies are discussed in detail later that will provide NOx and GHG co-benefits while requiring fewer vehicle purchase incentives.

The Clean Fuels Program has partnered with large OEMs, such as DTNA, Volvo Group North America, and Hyundai Motor Company, to deploy HD BETs and FCTs. 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 large quantities, and utilize their distribution networks to support sales across the state.

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 6 outlines the technology readiness progression for development, demonstration and early deployment projects during the pre-commercialization phase, funded by the Clean Fuels Program and the relationship with incentive programs administered by TAO and regulatory implementation during the commercialization phase of clean vehicle technologies and equipment.

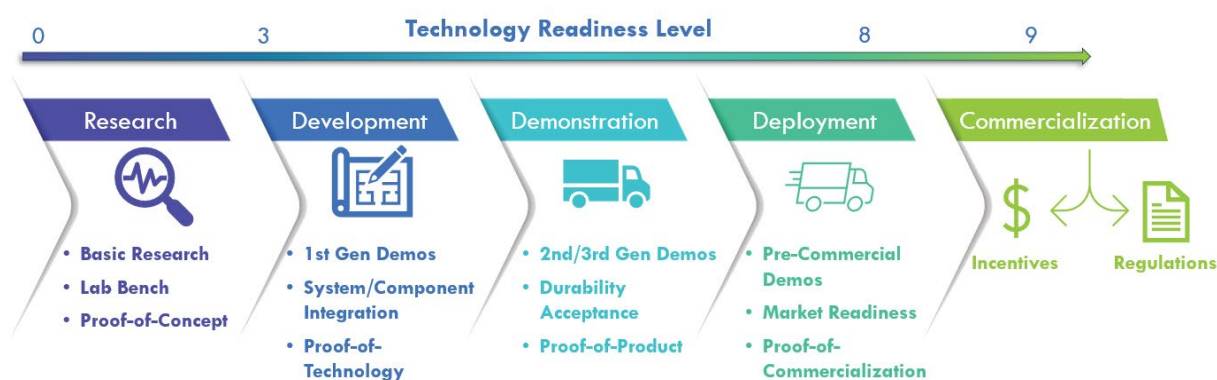


Figure 6: Technology Readiness Stages 3-8 of Clean Fuels Program

1.5. Internal and External Sources of Funding Support

The Clean Fuels Program was established under H&SC Sections 40448.5 and 40512 and Vehicle Code Section 9250.11. This legislation established mechanisms to collect revenues from mobile and stationary sources to support the program objectives and identified 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 2024, the funds available through each of these mechanisms were as follows:

- Mobile sources (DMV revenues) \$13,772,274
- Stationary sources (emission fee surcharge) \$292,707

The Clean Fuels Program allows significant leveraging of Clean Fuels funding, thus its public-private partnerships with private industry, technology developers, academic institutions, research institutions, and government agencies is a key strategy of the Program. 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 the reduction of criteria pollutants. Since the Carl Moyer Program began, South Coast AQMD has already started 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 Beach⁷. 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 accelerate emission reductions further.

The Clean Fuels Program also receives grants and cost-sharing revenue contracts from various agencies, on a project-specific basis, that supplement the 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 Targeted Airshed Grant or TAG 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 4 on page 32 lists the federal, state and other revenue totaling almost \$8.3 million awarded to South Coast AQMD in 2024 for projects that are part of the overall Clean Fuels Program’s RD³ 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 \$268.7 million into over \$1.7 billion in projects. For 2024, the Clean Fuels Program leveraged \$1 of Clean Fuels Funds to approximately \$3 of outside funding. 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

⁷ Wilmington/Carson/West Long Beach will also provide incentive funding for near-zero emission trucks.

end-user acceptance, reduced emissions from demonstration projects and ultimately increased use of clean technologies in SCAB. 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 available funds and aggressively applying for additional federal and/or state available funds whenever funding opportunities arise is more important than ever, given the magnitude of additional funding needed, as 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 2024 are listed in Table 2 on page 25.

Many technologies that address SCAB’s needed NO_x reductions align with the state’s GHG reduction efforts. U.S. EPA (2023)⁸ noted that the transportation sector contributed 28 percent of GHG emissions. Due to these co-benefits, South Coast AQMD has successfully partnered with the state and public/private partnerships to leverage its Clean Fuels funding extensively.

1.6 Core Technology Areas

There is a wide variety of air pollution sources in SCAB that contribute to air quality issues. Clean technologies and equipment are of paramount importance to help tackle air quality issues in the region. The Clean Fuels program has established a broad range of technology areas of focus – the “Core Technology Areas”, which are listed below and described throughout the Annual Report and Plan Update:

- 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);
- Zero Emission Infrastructure;
- 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.

⁸ U.S. Greenhouse Gas Emissions and Sinks 1990-2021. 2023. <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

CLEAN FUELS PROGRAM

2024 ANNUAL REPORT

2.1 Program Report Overview

This report summarizes the progress of the Clean Fuels Program for CY 2024. The Clean Fuels Program cost-shares projects to develop and demonstrate zero, near-zero and low emissions clean fuels and technologies to advance and promote technology development and commercialization not only for SCAB but also for the state of California and the entire nation. These projects are conducted through public-private partnerships with industry, technology developers, academic and research institutions and local, state and federal agencies.

This report also highlights achievements and summarizes project costs of the Clean Fuels Program in CY 2024. During the period between January 1 and December 31, 2024, South Coast AQMD executed 25 new contracts/agreements, projects or studies that support clean fuels and advanced zero, near-zero and low emission technologies (see Table 3). The Clean Fuels Program contribution for these projects was over \$8.5 million as cost-share for contracts executed in this reporting period and the total project costs are over \$25.8 million at 3:1 ratio.

The projects executed in 2024 address a wide range of issues with a diverse technology mix including near-term emissions reductions and long-term planning efforts. The report provides information on external funding support received into the Clean Fuels Fund as cost-share for contracts executed in this period, and funding support awarded to South Coast AQMD for projects that fall within the scope of the Clean Fuels Program's RD³ efforts but may have been recognized (received) into another special revenue fund for financial tracking purposes (see Table 4). In 2024, the South Coast AQMD was awarded nearly \$8.3 million from CARB's FY 2021-22 and FY 2022-23 Advanced Technology Demonstration and Pilot Projects solicitation for electrification of island ferries and installation of supporting charging infrastructure. More details on this financial summary can be found in section 2.4 of this report. South Coast AQMD will continue to pursue federal, state and private funding opportunities during CY2025 to amplify leverage, while acknowledging that support of a promising technology is not contingent on external cost-sharing and affirming that South Coast AQMD will remain committed to playing a leadership role in developing advanced technologies that lower criteria pollutants in SCAB.

2.2 Program Report Core Technology Areas

Given the diversity of sources that contribute to the air quality problems in SCAB, 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 Technology Areas" – 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);
- Zero Emission Infrastructure;

- 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.

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 NAAQS in SCAB; and
2. Available funding to support technology development and deployment 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 development 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 NO_x 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 identification of project and/or technology opportunities in which its available funding can make a difference in achieving progressively cleaner air in SCAB.

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 Program Opportunity Notices (PONs) to solicit project ideas and concepts as well as the issuance of Request For Information (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 LD vehicles, 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_x technologies and clean energy alternatives such as fuel cells, solar power and other renewable and waste energy systems. In recent years, the focus has been on zero and near-zero emission technologies with increased attention to MD and HD trucks to reduce emissions from mobile sources, which contribute to more than 80 percent of the current NO_x emissions in SCAB. 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 utilizing

mitigation funds, funding from San Pedro Bay Ports and industry partners to expand its portfolio of RD³ projects to include marine and ocean-going vessels to demonstrate emission reduction technology in this sector where NOx emissions are increasing.

The 2022 AQMP included five facility-based mobile source measures, also known as indirect source measures. South Coast AQMD 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 focus on reducing emissions from trucks servicing warehouses. 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 from competitive solicitations, cooperative agency agreements and unsolicited proposals are selected for co-funding. 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 technology areas for South Coast AQMD programs that meet both the funding constraints and 2022 AQMP needs for achieving clean air are briefly described below.

2.2.1. Hydrogen / Mobile Fuel Cell Technologies and Infrastructure

In 2015, Toyota and Hyundai commercialized LD Mirai and Tucson fuel cell vehicles, respectively. In 2016, Honda launched their Fuel Cell Clarity passenger car, and in mid-2024, they launched their CR-V e:FCEV (plug-in hybrid hydrogen fuel cell electric vehicle). 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. 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*⁹ was released in December 2021 and stated there were 9,647 fuel cell vehicles registered in California by October 2021. The Hydrogen Fuel Cell Partnership's (H2FCP, previously known as California Fuel Cell Partnership or 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

⁹<https://www.energy.ca.gov/publications/2021/joint-agency-staff-report-assembly-bill-8-2021-annual-assessment-time-and-cost>

to 50 fuel cell transit buses and 10 fuel cell transit buses at OCTA. South Coast AQMD Clean Fuels Program funding of \$1,000,000 is committed towards the CARB Zero and Near Zero-Emission Freight Facilities (ZANZEFF) Shore to Shore 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 installed at Port of Long Beach (POLB) property and 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. In 2024, South Coast AQMD completed the DOE-funded ZECT project (ZECT 2), to develop and demonstrate HD FCETs. In 2014, five entities were selected to develop and demonstrate a total of seven Class 8 drayage trucks for this project. Those entities were the Center for Transportation and the Environment (CTE) for the development and demonstration of one Class 8 fuel cell range extended electric drayage truck; Gas Technology Institute (GTI) for the development and demonstration of one Class 8 CNG hybrid electric drayage truck; Transportation Power (TransPower) for the development and demonstration of two Class 8 fuel cell range extended electric drayage trucks; US Hybrid for the development and demonstration of two Class 8 fuel cell range extended electric drayage trucks; and, International Rectifier (IR) for the development and demonstration of one diesel hybrid electric drayage truck. Between 2014-2024, six of the seven ZECT II zero-emission drayage truck platforms, were successfully designed, developed, integrated, built, tested, and demonstrated with drayage fleet operators in transportation corridors within areas of the South Coast AQMD jurisdiction in Southern California such as in and around POLA and POLB. In late 2016, IR announced that it was being acquired by Infineon Technologies AG. After the acquisition, the new ownership declined to continue developing the truck. Between 2017 and mid-2024, South Coast AQMD staff and the DOE explored together with numerous truck manufacturers/vendors/developers the fulfillment of the development and demonstration of one (the 7th) heavy-duty truck. This effort was not successful for a number of different reasons such as timeline for the development, concerns about data logging and confidentiality, ZECT II Build America – Buy America Act requirements as well as changes in one OEM’s core fuel cell strategy from low pressure to high pressure products in FCEVs. Portable hydrogen refueling was deployed to support the fuel cell vehicles. The project had real-time improvement with on-going debugging and optimizations while the vehicles were under demonstration. All platforms demonstrated sufficient or excess power, torque, and energy to support 82,000lbs Gross Vehicle Weight Rating and gradeability to perform their daily duty cycles. Collectively, the trucks drove over 23,000 miles during their respective demonstration phases. South Coast AQMD also co-funded 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.

2.2.2. Engine Systems / Technologies (including alternative and renewable fuels for truck and rail applications)

Based on data included in the 2022 South Coast AQMD AQMP, MD and HD on-road vehicles contributed approximately 23 percent to SCAB’s 2018 NOx emissions inventory. More importantly, on-road HD diesel trucks account for 33 percent of the on-road mobile source PM2.5 emissions. 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 roughly a decade 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 U.S. Environmental Protection Agency (EPA) announced new greenhouse gas (GHG) emissions standards for heavy-duty (HD) vehicles on March 29, 2024. These standards, known as Phase 3, are effective June 21, 2024. The current NOx emissions standard for HD engines is 0.05 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 projects to convert the 2021 Ford MD gasoline engine to near-zero NOx level by using NG and propane.

In 2021, CARB adopted Heavy-Duty Engine and Vehicle Regulation (Omnibus Regulation), which will drastically reduce NOx emissions in conventional HD engines from 0.20 grams per brake horsepower hour to 0.050 g/bhp-hr in model years 2024 to 2026, and to 0.020 g/bhp-hr in model year 2027. In July 2023, CARB announced the Clean Truck Partnership with leading OEMs and the Engine Manufacturers Association that included harmonization to EPA-Nox Rule with a few differences. This action created alignment of engines standards nationwide starting model year 2027 and heavy-duty engines nation-wide will be subjected to the same lower standard.

2.2.3. Electric / Hybrid Vehicle Technologies and Related Infrastructure (including battery electric and hybrid electric trucks and container transport technologies with zero emission operations)

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 to climate change, as well as approval of the CARB Advanced Clean Cars II regulation establishing an annual roadmap for 100% zero-emission new LD vehicles by 2035. This regulation codifies the LD vehicle goals in California Governor Newsom's Executive Order N-79-20.

Technology transfer to MD and HD applications has made significant progress, especially with the commercialization of Class 6 - 8 BETs by the major OEMs and with the demonstration and deployment of MD shuttle buses, delivery vans, transit buses, and cargo handling equipment through freight handling and goods movement in SCAB. 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 ZETs including BETs and FCETs. U.S. DOE funded the ZECT I project to develop and demonstrate Class 8 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. The successful development of those truck models developed under ZECT I project, model year 2023 BETs have an all-electric range of up to 220-275 miles and PHETs have a range of up to 250 miles. The ZECT 1 project inspired and influenced various subsequent 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 BETs, two Kenworth CNG hybrid electric trucks, three Volvo diesel plug-in hybrid electric trucks, and two Volvo VNR BETs. The Clean Fuels Program also supported the development and demonstration of six Class 8 heavy-duty drayage fuel cell, CNG hybrid and diesel hybrid electric trucks under the DOE ZECT II project which was started in 2014 and was completed in 2024. More recently, the Clean Fuels Program co-funded large DTNA and Volvo BET projects. For the DTNA Innovation Fleet project, in 2019, DTNA deployed

14 Class 8 eCascadia and six Class 6 eM2 trucks and installed seven DC fast charging stations at fleet locations. Volvo deployed 30 Class 8 BETs and installed Level 2, AC, 50 kW and 150 kW DC fast chargers, and solar panels integrated with energy storage as part of the CARB GGRF Low Impact Green Heavy Transport Solutions (LIGHTS). DTNA completed the deployment of two Class 6 and six Class 8 BETs for its Customer Experience project. During the year, they also deployed 10 Class 6 and 25 Class 8 BETs and chargers for commercial fleet distribution/delivery operations as part of their Zero Emission Electric Delivery Truck project funded by EPA. In 2021, South Coast AQMD was awarded CARB and CEC funding for the JETSI Pilot Project deployed 100 BETs and 350 kW DC fast chargers for two fleets, NFI and Schneider, see Figure 5. In 2023, the Volvo VNR Electric and DTNA eCascadia trucks were deployed and are now commercially available.

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 received another FY 22 U.S. EPA Targeted Airshed Grant award to demonstrate 1.5 ton and 2.5 ton asphalt compactors in Coachella Valley. 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. In July 2023, a \$76 million award was awarded by California State Transportation Agency (CalSTA) in July 2023 under the Port and Freight Infrastructure Program (PFIP) for the “Freight Air Quality Solutions” (FAQS) Project to demonstrate a liquid hydrogen fuel cell freight locomotive. Under the same FY 22 U.S. EPA Targeted Airshed Grant award, a hybrid electric drive diesel hybrid tugboat will be demonstrated by fleet operator 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.

2.2.4. Fueling Infrastructure and Deployment (Natural Gas/Renewable Fuels)

A key element for increased use of alternative fueled vehicles and resulting widespread acceptance of the technology 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 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 fuels, 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 44 percent by 2024 and 60 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 explore opportunities where current incentive funding is either absent or insufficient.

2.2.5. Stationary Clean Fuel Technologies (including microgrids and renewables)

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 the methods and technologies for control of their emissions vary as well. Included in the stationary category are boilers, heaters, gas turbines, linear generators, and reciprocating engines as well as microgrids and some renewables. The key technologies for this category focus on using advanced combustion processes, and on the development of catalytic add-on controls, alternative fuels and technologies and stationary fuel cells in novel applications.

Although stationary source NO_x emissions are small compared to mobile source NO_x emissions in SCAB, there are applications where cleaner fuel technologies or processes can be applied to reduce NO_x, 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_x, 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 includes retrofitting a low NO_x ceramic burner on an oil heater without the use of reagents, such as ammonia or urea, which is anticipated to achieve selective catalytic reduction (SCR) of NO_x emissions. SCR requires the injection of ammonia or urea that is reacted over a catalyst bed to reduce the NO_x 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) with the continued development of specialized low NO_x burners without the use of reagents.

2.2.6. 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 since the development of a specific technology to reduce one contaminant may contribute to the increase of another contaminant.

2.2.7. Health Impacts Studies

The monitoring of pollutants in SCAB 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 resulting health effects. As we transition to new fuels and forms of transportation, it is important to understand the impacts a change in 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_x and PM_{2.5} 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 the fifth Multiple Air Toxics Exposure Study (MATES V), a three-year in-use emissions study of 200 next-generation technology HD vehicles in SCAB. 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 compared to findings in 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 SCAB with the highest risk at the Inland Valley San Bernardino monitoring station. Communities adjacent to the Ports are in the top 96th percentage of air toxics cancer risk. 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, a 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.

2.2.8. 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 to seek external funding support/cost-share. Assembly Bill (AB) 617¹⁰, which requires reduction of air pollution exposure of individuals in vulnerable and overburdened communities, required TAO to carry out additional outreach in CY 2024 to AB 617 communities to explore and identify available zero and near-zero emission technologies as well as the incentives to accelerate the implementation of cleaner technologies into those 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, 21st Century Truck Partnership Charging and Infrastructure Work Group, LA 28 Olympic and Paralympic Games Sustainability Working Group, and the 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

¹⁰ <https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program/about>

educate and promote awareness of the public and end users. At various events, TAO staff coordinated information booths to answer questions from the general public and participated on discussion panels on zero and near-zero emission technologies. Those events included the Annual International Onboard Sensing, Analysis, and Reporting Conference, the California Hydrogen Leadership Summit, 35th Real World Emissions Workshop, Driving Mobility 11, Electric & Hybrid Marine Technology Conference, Hydrogen Village 2024, Irvine Clean Energy Conference, Los Angeles Auto Show, SoCal Electrified Drive Event at the Orange County Auto Show, Clean Mobility Forum and 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 section 2.4.4.10 for a description of the technology assessment and transfer contracts executed in CY 2024 as well as a listing of the 21 conferences, workshops and events funded in CY 2024. 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.

2.3. Barriers, Scope, Impact, and RD³

2.3.1. Overcoming Barriers

Commercialization and implementation of advanced technologies come with a variety of challenges and barriers. A combination of real-world demonstrations, education, outreach, regulatory impetus and incentives is necessary to bring new, clean technologies to market. To gain 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 funds
- 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 support. Industry can contribute technology production expertise as well as the experience required for compatibility with process operations. Academic and research institutions 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.

2.3.2. Scope and Benefits

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 7 below provides a conceptual design of the wide scope of the Clean Fuels Program. As mentioned in the Core Technology Areas 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.

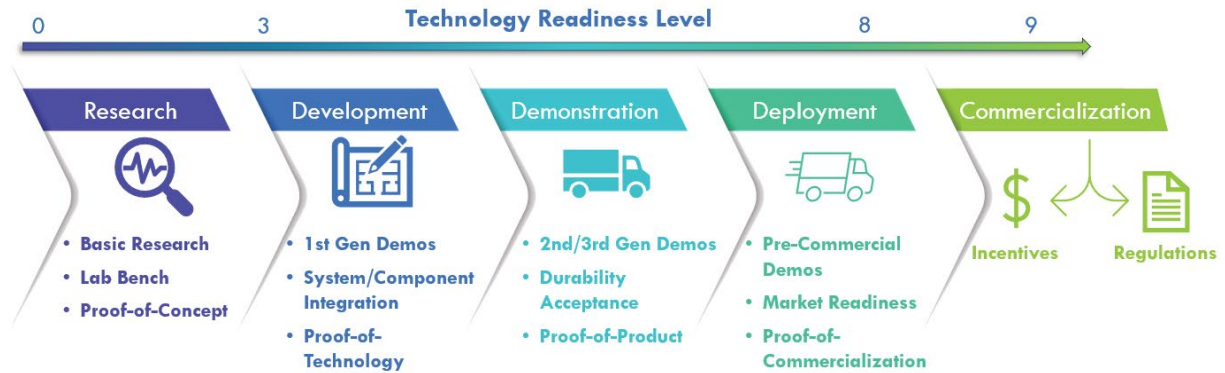


Figure 7: Technology Readiness Stages 3-8 of Clean Fuels Program

Due to the nature of these advanced technology R D³ 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. As a partial estimate of the impacts of clean fuels program, the emission benefits from SCAQMD's own Incentive Programs for near-zero, zero emission and off-road categories were listed under Table 1.

- Projects that led to commercialization of near-zero NOx engine for HD vehicles:
 - CWI: development and certification of near-zero NOx NG 8.9L and 12L engines (0.02 g/bhp-hr);
 - Southwest Research Institute (SwRI) project developed a near-zero NOx HD diesel engine; and
 - CNG hybrid electric drayage trucks that were part of DOE ZECT II project, CARB GGRF project, and demonstration projects with DOE/NREL/CEC.
- Projects that led to advancement and commercialization of hydrogen fuel cell MD and HD vehicles:
 - Kenworth Fuel Cell Range Extended Electric Drayage Truck project;
 - SunLine Transit Agency Advanced Fuel Cell Bus project;
 - UPS demonstration of fuel cell delivery trucks;
 - Kenworth, TransPower, US Hybrid, Cummins fuel cell drayage trucks under ZECT II project; and
 - Hyundai's Class 8 fuel cell truck development and demonstration projects.

- Projects that led to advancement and commercialization of battery-electric MD and HD vehicles:
 - Early BETs as part of CARB GGRF ZEDT, ZECT I and ZECT II
 - Volvo’ Volvo LIGHTS and Switch-On projects: Pilot deployments of Volvo Class 8 BET t;
 - Daimler’s Innovation Fleet Project, Customer Experience Project and Zero Emission BET Delivery Truck Project;
 - JETSI: a follow-on large scale deployment with two fleets for 50 Class 8 BETs each;

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 RD³ process.

2.3.3. Strategy and Impact

In addition to the feedback and input detailed in the Advisory Groups section, South Coast AQMD actively seeks additional partners for its program through participation in various working groups, committees, partnerships, councils 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, U.S. DOE, U.S. 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 (San Diego 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 (i.e., Southern California Gas Company) and electric utilities (i.e., Southern California Edison, Los Angeles Department of Water and Power), national laboratories including but not limited to the National Renewable Energy Laboratory, 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 the 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 2024 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 2024 Project Summaries by Core Technology Areas contained within this report, as well as Table 4 which lists federal, state and local funding awarded to South Coast AQMD in CY 2024 for RD³ projects (which will likely result in executed project contracts in 2025).

Table 2: South Coast AQMD Major Funding Partners in CY 2024

California Air Resources Board	Southern California Gas Company
California Energy Commission	University of California, Riverside
Range Energy, Inc.	University of California Alianza MX
Zero Emission Industries, Inc.	Crowley Maritime

Section 2.3.3. 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 2024. Such examples are provided in the following sections on TAO Technology Research, Development, Demonstration, and early Deployment projects and Commercialization efforts.

2.3.4. Research, Development, Demonstration and Deployment

An example of the impact of South Coast AQMD research and development coordination efforts in 2024 include: Development and Demonstration of Electric-Powered Trailer for Heavy-Duty Vehicles.

- **Development and Demonstration of Electric-Powered Trailer for Heavy-Duty Vehicles**

Hybridization of HD class 8 trucks with electric-powered trailers is an innovative technology that provides an immediate opportunity to reduce emissions from goods movement activities throughout SCAB. The electric trailers provide propulsion assistance and regenerative braking that is expected to result in fuel savings and the reduction of criteria and GHG pollutants. The technology is also expected to extend the range of new zero-emission trucks through the trailer’s propulsion assistance. Electric-powered trailers do not require any tractor retrofitting (no data connections, etc.) and rely on the conventional drop and hook paradigm, using only standard interfaces. The trailers use an embedded kingpin sensor to detect tractor motion and performance (accelerating, braking, etc.) and augments this behavior with propulsion assistance and/or regenerative braking. When a tractor-trailer is accelerating as it enters a freeway on-ramp, the trailer powertrain will provide propulsive force, reducing the amount of energy the tractor must expend in order to get up to speed. Similarly, when tractor-trailer is coming to a stop at a traffic light, the trailer can use regenerative braking to recapture its own kinetic energy, and reduce the force needed by the tractor to bring the system to a stop. The trailer is able to manage its own acceleration and braking to regulate kingpin force. This allows the tractor to achieve similar performance as if it were in an unloaded state.

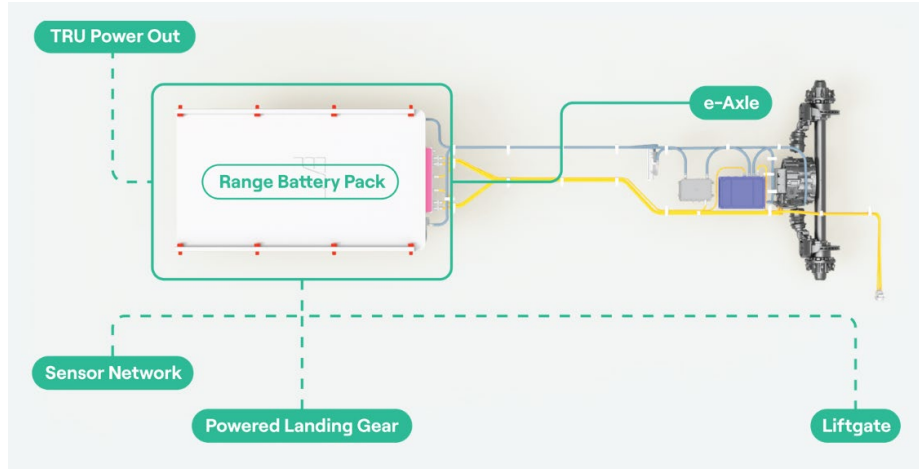


Figure 8: Range Energy Trailer Technology Overview

For this project, Range Energy, Inc. will develop battery electric-powered trailers that use standard interfaces to connect with diesel or electric tractors without retrofitting. The demonstration will be conducted for the period of one month and will include the in-use emissions measurements to evaluate the impact of emissions reduction from the utilization of electric-powered hybrid trailer.

UCR/CE-CERT will evaluate the feasibility and benefit of battery powered trailer assist system as a way to deliver energy to fleets with mostly diesel conventional trucks. The evaluation will include the emissions of a baseline truck operating on normal routes as well as the same or similar truck operating on the same routes with the power assisted trailer, denoted the “control”. The approach will utilize Portable Emissions Measurement System (PEMS) testing on one day with the baseline and one day with the control. UCR will also work with the fleet to allow for the installation of UCR’s new low-cost on-board sensing system called OSAR (named from Onboard Sensing Analysis and Reporting). The PEMS will be utilized for one day on each vehicle where the OSAR system will be installed and operated for the duration of the demonstration.



Figure 9: Range Energy Trailer in Deployment

Range Energy and its fleet partner will conduct a multi-phase pilot of Range Energy’s powered trailers in the fleet partner’s beverage transport operations in SCAB. This will include the deployment of at least one prototype unit in 2023, and further units in 2024.

During the pilot, Range Energy’s trailers will be towed by the fleet partner’s diesel and electric tractors in typical beverage transport operated by fleet partner personnel at the fleet partner facilities, and on selected

fleet partner routes. They will be loaded in a typical manner as other fleet partner trailers. Alongside operational and technical testing, Range Energy will lead efforts to gather feedback from a broad range of stakeholders regarding the impacts of deploying powered trailers. These stakeholders may include, for example, truck drivers, safety officials, fleet partner customers, leaders of communities where the pilots are taking place, and fleet partner executives, among others.

The commercial goals of this pilot will be to collect data to inform a future commercial relationship between Range Energy and its fleet partner, as well as product development and operational planning at the two companies. Data categories will include the following:

- Fuel-savings and imputed emissions-reductions data
- Drive cycles and charge state data
- Trailer utilization data
- Operational fit data
- Charging schedule data
- Maintenance and reliability data

Deliverables from this pilot will include:

- A comparison of the actual fuel consumption of tractor-trailer trips on selected routes compared to historical fuel consumption on such routes
- For any routes completed using ZEV tractors, a comparison of the real-world range and/or asset utilization achieved compared to historical performance on such routes
- A data package including route data and trailer powertrain data to be used for future trailer assist optimization
- A detailed breakdown of operational usage for each asset, including uptime, dock time, charge time, and downtime

Air Quality Benefits and Cost

Both Range Energy and the fleet partner are strong supporters of improving air quality in SCAB, particularly in historically impacted communities, and have been supporters of past AQMD programs to this effect. Range Energy's powered trailers are projected to reduce emissions from tractor-trailer operations by upwards of 40 percent in typical usage and expand the suitability of ZEV trucks for a broader range of applications. Applying these ratios to the fleet partner's fleet yields potential emissions reductions on the scale of 250,000 tons of CO₂ annually. Further compounding the benefits are the shorter projected scale-up time of powered trailers vs. other electric propulsion platforms in the Class 8 space, allowing more of these emissions savings to be realized earlier on.

All the fleet partner's warehouse facilities in SCAB are located within census tracts containing priority populations. Range Energy's powered trailers will reduce emissions in these communities, furthering existing efforts by the fleet partner to improve air quality in these areas.

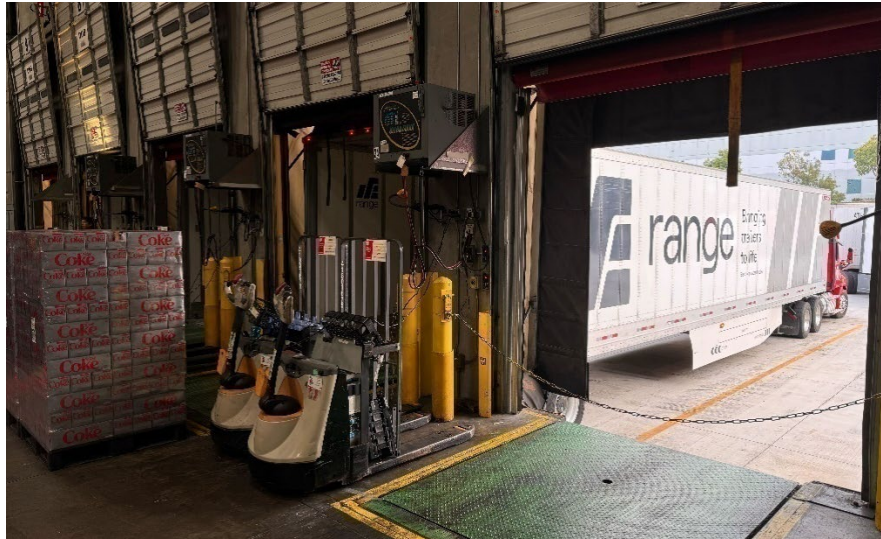


Figure 10: Range Energy Trailer in Deployment in SCAB

SCAB Deployment and Demonstration

As of early 2025, the Range Energy trailer has been in demonstration with a beverage delivery company since October 2024. To date, over 8000 miles traveled and over 3200 kWh energy charged. The trailer is mainly hauled by two tractors, 2018 Freightliner DD13 and 2023 Freightliner DD13, both have UCR's OSAR system installed for emissions evaluation. The charging is provided by a mobile Kempower DC charger using the building's existing 480V hook-up. The emissions evaluation is still in progress, but preliminary data is seeing 20-80 percent MPG gains to the diesel tractor. The project will be completed with PEMS testing and report done by mid-2025. As a follow up project, Range Energy is under the process of performing another demonstration project integrating a zero-emission transportation refrigeration unit (TRU) onto the trailer.

2.4. 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 SCAB and the need for reductions now and in the future, using revenue from a \$1 motor vehicle registration fee (see Internal and External Sources of Funding Support on page 10), 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 Governing 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, 2024.

2.4.1. Funding Commitments by Core Technology Areas

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, 2024, a total of 25 contracts/agreements, which consist of 5 projects and 20 technology transfer and outreach contracts that support clean fuels were executed or amended (affecting dollars), as shown in Table 3. 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 2024 reporting period are shown below with the total projected project costs:

• South Coast AQMD Clean Fuels Fund Contribution	\$8,559,904
• Total Cost of Clean Fuels Projects	\$25,833,283

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 Governing Board approved South Coast AQMD’s FY 2024-25 Budget on May 3, 2024, 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, 2024, are included within this report. Any portion of the Clean Fuels Fund not spent by the end of Fiscal Year 2024-25 ending June 30, 2025, will be returned to the Clean Fuels Fund. For Clean Fuels executed and amended contracts, projects and studies in 2024, the average South Coast AQMD contribution was leveraged with \$3 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 2024, distribution of funds for South Coast AQMD executed contracts, purchases and contract amendments with additional funding for the Clean Fuels Program totaling over \$8.5 million are shown in Figure 11 below.

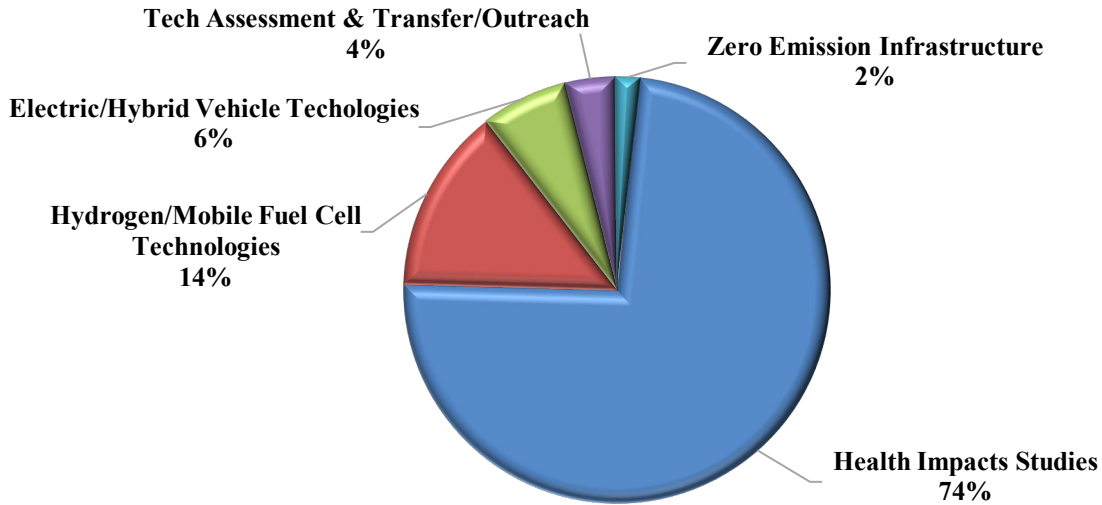


Figure 11: Distribution of Funds for Executed Clean Fuels Projects CY 2024 (\$8.5M)

Additionally, South Coast AQMD continued to seek funding opportunities and was awarded nearly \$8.3 million in CY 2024 for RD³ projects as listed in Table 4. As of January 1, 2025, there were 57 open Clean Fuels Fund contracts. Appendix B lists these contracts by core technology.

2.4.2. 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 ended June 30, 2024, the firm of Lance, Soll & Lunghard, LLP conducted the financial audit and gave the South Coast AQMD an “unmodified opinion” to South Coast AQMD’s Annual Comprehensive Financial Report, the highest obtainable. Notably, South Coast AQMD has achieved this rating on all prior annual financial audits. There were no adverse internal control weaknesses with regard to South Coast AQMD financial statements, which include the Clean Fuels Program revenue and expenditures.

2.4.3. Project Funding Detail by Core Technology Areas

The 25 new and continuing contracts/agreements, projects and studies that received South Coast AQMD funding in CY 2024 are summarized in Table 3, together with funding authorized by South Coast AQMD and project partners.

Table 3: Contracts Executed or Amended (w/\$) between January 1 & December 31, 2024

Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
Hydrogen / Mobile Fuel Cell Technologies and Infrastructure						
24166	Zero Emission Industries Inc	Development of a Portable Liquid Hydrogen Fueling System	06/27/24	04/30/26	1,175,000	7,168,750
24235	Air Products and Chemicals Inc	License Agreement to Operate and Maintain Publicly Accessible Hydrogen Fueling Station at SCAQMD's Diamond Bar HQs	04/10/24	01/09/25	0	0
Electric / Hybrid Vehicle Technologies and Related Infrastructure						
24123	Range Energy Inc	Development and Demonstration of Electric Powered Trailer for Heavy-Duty Vehicles	06/03/24	06/02/25	500,000	4,242,000
24318	University Of California Riverside	Evaluation of Electric Powered Trailer for Heavy-Duty Vehicles	12/11/24	2/10/25	50,000	50,000
Zero Emission Infrastructure						
24131	University Of California Riverside	Regional Medium- and Heavy-Duty Zero Emission Vehicle Infrastructure Analysis	05/10/24	03/31/25	150,000	300,000
Health Impacts Studies						
Fund Transfer	Various	Conduct Sixth Multiple Air Toxics Exposure Study (MATES VI)	12/01/23	06/30/28	6,368,681	10,767,987
Technology Assessment and Transfer / Outreach						
24173	Integra Environmental Consulting Services Inc	Technical Assistance to Support Technology Advancement Office Mobile Source Incentive and Technology Demonstration Programs	05/01/24	04/30/26	75,000	75,000
24180	Social and Environmental Entrepreneurs, Inc. DBA Tecolote Perch	Outreach and Proposal Development for Community Engagement and Benefit Component for Climate Pollution Reduction Grant Proposal	02/23/24	08/22/24	30,000	30,000
24192	Yassamin Kavezade DBA MYK Strategies	Research, Outreach, and Proposal Development for Community Engagement and Benefits Component for Climate Pollution Reduction Grant Proposal	02/13/24	08/12/24	25,000	25,000
Various	Various	Cosponsor 21 Conferences, Workshops & Events plus 3 Memberships	01/01/24	12/31/24	183,541	3,171,864
Direct Pay	Various	Advanced Technology Program Expenses	01/01/24	12/31/24	2,682	2,682
						\$25,833,283

Table 4: Summary of Federal, State and Local Funding Awarded or Recognized in CY 2024

Awarding Entity or Program	Award (*) or Governing Board Date	Purpose	Contractors	Award Total/ Fund
CARB Advanced Technology Demonstration and Pilot Projects	05/03/24	Electrification of Balboa Island Ferries and Installation of Supporting Charging Infrastructure	Balboa Island Ferry	\$8,297,548 Fund 83
<p><i>Table 4 provides a comprehensive summary of revenue awarded to South Coast AQMD during the reporting CY (2024) for TAO's RD³ 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></p>				\$8,297,548

2.4.4. Project Summaries by Core Technology Area

The following summaries describe the contracts, projects and studies executed, or amended affecting dollars, in CY 2024. They are listed in the order found in Table 3 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.

2.4.4.1. Hydrogen / Mobile Fuel Cell Technologies and Infrastructure

- **24166: Development of a Portable Liquid Hydrogen Fueling System**

Contractor: Zero Emission Industries Inc	South Coast AQMD Cost-Share	\$ 1,175,000
	Cosponsors:	
	CEC	5,250,000
	SoCalGas	500,000
	Zero Emission Industries Inc	300,000
	Crowley Maritime	243,750
Term: 06/27/24– 04/30/26	Total Cost:	\$ 7,168,750

Zero Emission Industries Inc (ZEI) will develop, build, and demonstrate a first-of-its-kind portable zero boil-off liquid hydrogen (LH2) bunkering system capable of supplying a week's worth of fuel to a vessel, locomotive, or equivalent equipment (~ 3500 kg) in under two hours. The system will be self-contained, capturing boil-off hydrogen gas then compressing and storing the hydrogen to provide power to an onboard PEM fuel cell to run the system. This novel system will increase system efficiency and financial viability while allowing for flexible deployment that follows relevant land-based and marine codes and standards. The system will help with the deployment of zero-emission marine vessels and locomotives and will be portable to avoid monopolizing valuable space while simultaneously enabling the bunkering and dispensing of liquid hydrogen. In addition, the system can be stored remotely and only moved when needed. Compared to a permanently installed hydrogen fueling station, this LH2 bunkering system is estimated to cost ten times less, can be used at multiple port terminal berths, and enables immediate deployment of LH2-powered vessels and locomotives by eliminating on-site construction timelines. ZEI will also demonstrate the technology with the project partners at one or more California Ports to fuel locomotives, fuel cell shore power, or cold ironing systems. South Coast AQMD funding will be used towards developing, building, testing, validating, and demonstrating the portable LH2 refueling system.

- **24235: License Agreement to Operate and Maintain Publicly Accessible Hydrogen Fueling Station at SCAQMD's Diamond Bar HQs**

Contractor: Air Products and Chemicals Inc	South Coast AQMD Cost-Share	\$ 0
Term: 04/10/24– 01/09/25	Total Cost:	\$ 0

Under Contract 15150, Air Products & Chemicals, Inc. (APCI) constructed South Coast AQMD’s current hydrogen station and will maintain it through January 9, 2025, with a month-to-month term thereafter. This no-cost license agreement establishes the rights and responsibilities for the day-to-day operation of South Coast AQMD’s onsite hydrogen station and coincides with the term of APCI Contract 15150.

2.4.4.2. Electric / Hybrid Vehicle Technologies and Related Infrastructure (including battery electric and hybrid electric trucks and container transport technologies with zero emission operations)

- **24123: Development and Demonstration of Electric Powered Trailer for Heavy-Duty Vehicles**

Contractor: Range Energy Inc	South Coast AQMD Cost-Share	\$ 500,000
Term: 06/03/24 – 06/02/25	Total Cost:	\$ 4,242,000

Hybridization of HD class 8 trucks with electric-powered trailers is an innovative technology that provides an immediate opportunity to reduce emissions from goods movement activities throughout SCAB. Range Energy has developed battery electric-powered trailers that use standard interfaces to connect with diesel or electric tractors without retrofitting. The electric trailers provide propulsion assistance and regenerative braking that is expected to result in fuel savings and the reduction of criteria and GHG pollutants. The technology is also expected to extend the range of new zero-emission trucks through the trailer's propulsion assistance. Overall, this demonstration project will quantify emission benefits and effectiveness of an electric-powered trailer to reduce emissions from diesel trucks. Additionally, this technology is expected to be further developed to help replace the need for diesel engines powering transport refrigeration units upon trailers in the near future. Range Energy will develop and provide an electric-powered hybrid trailer to a local fleet that will place the trailer into operation using a diesel truck. The demonstration will be conducted for the period of one month and will include the in-use emissions measurements to evaluate the impact of emissions reduction from the utilization of electric-powered hybrid trailer. The electric-powered trailers can be installed into any tractor (i.e., diesel, battery electric and hydrogen/fuel cell) without retrofitting. The trailer will use an embedded sensor to detect the tractor's motion and performance (accelerating, braking, etc.) and augment the behavior with propulsion assistance and/or regenerative braking.

- **24318: Evaluation of Electric Powered Trailer for Heavy-Duty Vehicles**

Contractor: University of California Riverside	South Coast AQMD Cost-Share	\$ 50,000
Term: 12/11/24 – 12/10/25	Total Cost:	\$ 50,000

UCR/CE-CERT will assist Range Energy with emission measurements and analyzing fuel-savings that will help quantify emission benefits along with understanding operational cost benefits or disbenefits to using an electric trailer in a routine truck delivery route. UCR/CE-CERT will evaluate the feasibility and benefit of battery powered trailer assist system as a way to deliver energy to fleets with mostly diesel conventional trucks. The evaluation will include the emissions of a baseline truck operating on normal routes as well as the same or similar truck operating on the same routes with the power assisted trailer, denoted the “control”.

The approach will utilize Portable Emissions Measurement System (PEMS) testing on one day with the baseline and one day with the control. As an optional task, UCR/CE-CERT will try to work with the fleet to allow for the installation of UCR’s new low-cost on-board sensing system called OSAR (named from Onboard Sensing Analysis and Reporting). The PEMS will be utilized for one day on each vehicle where the OSAR system will be installed and operated for the duration of the demonstration.

2.4.4.3. Zero Emission Infrastructure

- **24131: Regional Medium- and Heavy-Duty Zero Emission Vehicle Infrastructure Analysis**

Contractor: University of California Riverside	South Coast AQMD Cost-Share	\$ 150,000
	Cosponsors:	
	University of California Alianza MX	125,000
	University of California Riverside / CE-CERT	25,000
Term: 05/10/24 – 03/31/25	Total Cost:	\$ 300,000

The MD/HD transportation sector continues to be a significant source of harmful air pollutant emissions in SCAB, presenting an opportunity for improving local air quality and addressing climate change. NOx emission from these trucks are more than three and a half times that from the 200 highest emitting stationary sources (i.e., refineries, power plants, and the rest of the Regional Clean Air Incentive Market (RECLAIM) program). Attainment of federal ozone standards is only feasible with rapidly addressing emissions from these vehicles and other mobile sources. Transitioning the MD/HD transportation sector to ZEV powered by low or zero-emission electricity and hydrogen is crucial to achieve California's climate and air quality goals, including meeting the NAAQS for SCAB. This transition is pursued through initiatives including Advanced Clean Trucks and Advanced Clean Fleets regulations. However, a significant challenge lies in planning, building, and deploying the necessary charging and fueling infrastructure. Challenges include limitations in electrical grid capacity, integration costs, and land use constraints. Addressing these issues is essential for successfully implementing ZEV in the MD/HD transportation sector and meeting California's environmental and air quality objectives. As such, it is critical to perform studies that provide essential information to promote MD/HD ZEV infrastructure planning for commercial and industrial operations, and identify key barriers associated with transitioning trucking to ZEV platforms. UC Riverside has several ongoing and recently completed projects that focus on MD/HD ZEVs, i.e., FCEVs, BEVs and infrastructure deployment. The existing studies create the foundation for the tasks being proposed for this contract. With South Coast AQMD support, UC Riverside will expand the scope of the existing studies focusing on MD/HD ZEV planning and deployment throughout SCAB. As a part of this study, UC Riverside will provide important information for South Coast AQMD to promote MD/HD ZEV infrastructure planning for commercial and industrial operations. Additionally, UC Riverside will identify critical resources and other needs to transitioning trucking to ZEV platforms. The data collection, analysis, and modeling performed as a part of this agreement will help facilitate smoother ZEV facility deployments. The specific South Coast AQMD tasks will further detail the cost and technical specifications and quantify the air quality benefits anticipated from MD/HD ZEV deployments. The combined efforts will promote a smoother transition to ZEVs, including strategic ZEV infrastructure development, which is needed to adopt MD/HD ZEV technology successfully.

2.4.4.4. Health Impacts Studies

- **Fund Transfer: Conduct Sixth Multiple Air Toxics Exposure Study (MATES VI)**

Contractor: Various	South Coast AQMD Cost-Share	\$ 6,368,681
	Cosponsor	
	South Coast AQMD General Fund	4,399,306
Term: 12/01/23 – 06/30/28	Total Cost:	\$ 10,767,987

Since 1987, South Coast AQMD has conducted five Multiple Air Toxics Exposure Studies (MATES), a Governing Board environmental justice initiative, to characterize the concentration of airborne toxic compounds within SCAB and to determine the region-wide cancer risks associated with major airborne carcinogens. However, as each successive MATES campaign builds on the previous work, each iteration added additional goals and objectives and employed more sophisticated measurement and modeling techniques. Results of MATES are used to provide public information about air toxics and associated health risks throughout the region, evaluate progress in reducing air toxics exposure, and provide direction to future toxics control programs. Previous MATES campaigns have also identified unknown air toxics sources and have been critical in the interpretation of data from special air toxics monitoring studies in communities throughout the region. MATES continues to be the most sophisticated regional air toxics analysis conducted in the nation, taking advantage of the extensive air quality monitoring, modeling, and analysis expertise and resources at South Coast AQMD. MATES VI field measurements will be conducted over a one-year period at ten fixed sites to evaluate air toxics levels. MATES VI monitoring is being extended to the Coachella Valley for the first time. In addition, two of the ten monitoring locations will be sited adjacent to freeways to capture near-road air toxics impacts. MATES VI will also include measurements of ultrafine particle (UFP) and black carbon (BC) concentrations, which can be compared to the UFP and BC levels measured in MATES IV and MATES V, continuous measurement of metals, some of which are chemical tracers for non-exhaust vehicular emissions, and measurement of ammonia, a key precursor to PM2.5 formation in the region. Currently South Coast AQMD operates only one ammonia monitor in Coachella Valley and more measurements as part of MATES VI can help better understand the sources of ammonia across South Coast AQMD’s jurisdiction. While MATES VI is focused on air toxic impacts, these ammonia measurements and particle speciation measurements will provide additional information about the sources and composition of PM2.5, which will assist in the design of control strategies to attain federal PM2.5 standards. In addition to the fixed site monitoring, MATES VI will include a special study to characterize emissions of ethylene oxide (EtO) in ambient air and at the near-road sites to assess the contribution of vehicular emissions to background EtO concentration levels. The Clean Fuels funds are being used for staffing, technical support and supply and equipment purchases to carry out MATES VI.

2.4.4.5. Technology Assessment and Transfer / Outreach

- **24173: Technical Assistance to Support Technology Advancement Office Mobile Source Incentive and Technology Demonstration Programs**

Contractor: Integra Environmental Consulting Services Inc	South Coast AQMD Cost-Share	\$ 75,000
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Term: 05/01/24 – 04/30/26	Total Cost:	\$ 75,000
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There is a critical need in SCAB to reduce NOx emissions and demonstrate attainment of the ozone national ambient air quality standards, as outlined in the 2022 AQMP. Despite significant reductions already achieved through regulatory and incentive-based programs, mobile sources continue to dominate SCAB’s NOx emissions. Therefore, it is vitally important that new feasible and cost-effective mobile source control technologies be aggressively developed and commercialized, and large-scale incentive funding programs continue to be implemented in an expeditious manner to maximize the needed NOx and Diesel particulate matter (DPM) reductions from mobile sources to improve the regional and local air quality. Because of the extensive air quality challenges in SCAB and the need to expand existing programs, external expertise is needed to augment in-house expertise and assist staff in developing and implementing incentive programs and technology demonstration projects. Mr. Zorik Pirveysian of Integra Environmental Consulting Services, Inc. has over 36 years of experience in air quality policy, planning, emissions inventory and control strategy development. He has been directly and intimately involved in large scale air quality management planning efforts, emissions inventory development specifically with criteria pollutants and greenhouse gases, control strategy development primarily for mobile sources, zero- and low-emissions technology evaluations, and development and implementation of incentive programs. Zorik has a B.S. degree in Chemical Engineering from California State University, Northridge, and an M.S. degree in Environmental Engineering from the University of Southern California. Under this contract, Mr. Pirveysian will provide technical expertise across a broad spectrum of incentive and R&D programs to be implemented under Technology Advancement Office (TAO) activities on an-as-needed basis. Mr. Pirveysian has expert, in-depth understanding of both the incentive and R&D programs.

- 24180: Outreach and Proposal Development for Community Engagement and Benefit Component for Climate Pollution Reduction Grant Proposal**

Contractor: Social and Environmental Entrepreneurs, Inc. DBA Tecolote Perch	South Coast AQMD Cost-Share	\$ 30,000
Term: 02/23/24 – 08/22/24	Total Cost:	\$ 30,000

This contract leverages staff resources with specialized outside expertise. Social And Environmental Entrepreneurs, Inc. DBA Tecolote Perch will provide a strategic and comprehensive approach for outreach and coordination to facilitate community-based organization engagement, and program development for the community engagement and benefit component of the Climate Pollution Reduction Grant (CPRG) proposal. U.S. EPA is requiring community engagement as part of CPRG proposal development and to include both direct and indirect community benefits in the proposed project(s). Tecolote Perch brings experience working with low-income and disadvantaged communities, specifically related to goods movement including heavy-duty trucks, railyards, warehouses and distribution facilities, and off-road equipment. Tecolote Perch has unique experience and relationships working with community groups which have focused on Inflation Reduction Act programs, goods movement, and community engagement and benefits programs. Further, Tecolote Perch’s leadership are experts in environmental justice with direct experience at the highest levels on national working groups advising the federal government.

- 24192: Research, Outreach, and Proposal Development for Community Engagement and Benefits Component for Climate Pollution Reduction Grant Proposal**

Contractor: Yassamin Kavezade DBA MYK Strategies	South Coast AQMD Cost-Share	\$ 25,000
Term: 02/13/24 – 08/12/24	Total Cost:	\$ 25,000

This contract leverages staff resources with specialized outside expertise. Yassi Kavezade will assist in providing a strategic and comprehensive approach for the research, outreach, and program development for the community engagement and benefit component of the CPRG proposal. U.S. EPA is requiring community engagement as part of CPRG proposal development and to include both direct and indirect community benefits in the proposed project(s). Ms. Kavezade brings experience working with low-income and disadvantaged communities in the Inland Empire, specifically related to goods movement including heavy-duty trucks, railyards, warehouses and distribution facilities, and off-road equipment. Further, Ms. Kavezade has experience as a policy lead on local, regional, and national policies related to the goods movement sector.

- Various: Cosponsor 21 Conferences, Workshops and Event plus 3 Memberships**

Contractor: Various	South Coast AQMD Cost-Share	\$ 183,541
	Cosponsors:	
	Various	2,988,323
Term: 01/01/24 – 12/31/24	Total Cost:	\$ 3,171,864

South Coast AQMD regularly participates in and hosts or cosponsors conferences, workshops and miscellaneous events. In CY 2024, South Coast AQMD provided funding for 21 conferences, workshops and events as follows: Clean Fuels Advisory Group Retreats; California Electric Transportation Coalition LA Auto Show; 13th Annual International Onboard Sensing, Analysis, and Reporting Conference; Real World Emissions Workshop; Western Riverside Council of Governments ALTCAR event; Tyre Emissions & Sustainability USA Conference; California Science & Engineering Fair; CALSTART Member Symposium; Southern California Chinese-American Environmental Protection Association Activities; Coolest in LA event, Hydrogen Village event; California Hydrogen Leadership Summit; Driving Mobility 11 Symposium; Women in Green Breakfast; Irvine Clean Energy Conference (ICEC); Clean Mobility Forum; Sustain SoCal 15th Annual Energy Event; SoCal Electrified Drive Event; and CoMotion LA. Additionally, for 2024, 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), 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	\$ 2,682
Term: 01/01/24 – 12/31/24	Total Cost:	\$ 2,682

South Coast AQMD’s Technology Advancement Office offers funding for research, development, demonstration and deployment of transformative transportation technologies, incentive funding to accelerate fleet turnover of both on- and off-road transportation, and rebates for residential electric lawn mowers and home EV charging, among other programs. Technology Advancement Office also performs various technology outreach and education activities. Occasional expenses are incurred in addressing program implementation issues and to support administrative, outreach and education, and related activities to successfully implement and oversee these programs. This direct pay covers the cost of temporary staff services to meet the goals and objectives of the Technology Advancement Office Clean Fuels Program.

2.5. Progress and Results

Given the large number and diversity of emission sources contributing to the air quality problems in the SCAB, 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 funded projects 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 5 provides a list of 31 projects and contracts completed in 2024. Summaries of the completed technical projects are included in Appendix C. Selected projects completed in 2024 which represent a range of key technologies from near-term to long-term are highlighted below: (a) Opposed Piston Engine Development and Demonstration Project and (b) Advancing Zero-Emission Solutions: Microgrid Projects Transforming Urban Air Quality.

- **Opposed Piston Engine Development and Demonstration Project**

The opposed-piston engine (OPE) promises a practical and economically viable solution for the reduction of nitrous oxide (NO_x) emissions and carbon dioxide (CO₂) as mandated by CARB Heavy-Duty Engine and Vehicle Omnibus Regulation. The project was awarded under CARB’s Low Carbon Transportation Greenhouse Gas (GHG) Reduction Fund Investments, with total project costs estimated at \$16.7 million. SCAQMD contributed \$1 million to the project. The OPE resolves one of the conundrums of emissions reduction: achieving ultra-low NO_x emissions without increasing CO₂ and without costly additional emissions technology. Conventional, four-stroke engines induct a full cylinder of air during the intake stroke that dilutes the engine’s exhaust heat; high exhaust enthalpy is necessary to enable rapid catalyst light-off and maintain the catalyst temperature required to achieve lower NO_x and CO₂ emissions. OPEs, by contrast, utilize heat scavenging to reduce the amount of additional exhaust enthalpy required to maintain catalyst temperature while undertaking less gas exchange work to achieve simultaneous reductions in NO_x and CO₂ emissions.

This demonstration sought to investigate the application of OPE technology in HD trucking operations. OPEs were first designed in the late 1800s and have been used in various applications, including in ships,

airplanes, submarines, trains, and other modes of transportation. However, gas exchange and combustion are one continuous cycle for OPEs and other two-stroke engines and changing one part of the system affected every other; improvements were made by trial and error—an expensive and time-consuming endeavor. OPEs fell out of favor in emissions-regulated applications like cars and trucks because meeting those emissions requirements was more difficult to achieve. However, with the advent of supercomputers and sophisticated chemically reactive computation fluid dynamics, design changes could be evaluated electronically, and millions of iterations could be evaluated to find the right combination of features. Promising OPE design candidates could be evaluated and refined experimentally, and the computer models could be correlated with measured results to make the models more effective at predicting real world results. Combined with a matured, HD truck market with an existing supply chain of widely available components and auxiliary systems, as well as the growing amount of research and data collection on the HD truck sector—including on fuel consumption, fuel efficiency, and emissions controls—these tools and processes have made it feasible to achieve ultra-low NO_x and GHG reductions with a HD OPE truck. The funding provided by CARB enabled Achates’ development of the HD OPE truck through design, assembly, engine testing, and vehicle installation to its first demonstration and in-use testing as part of Walmart Inc.’s fleet.

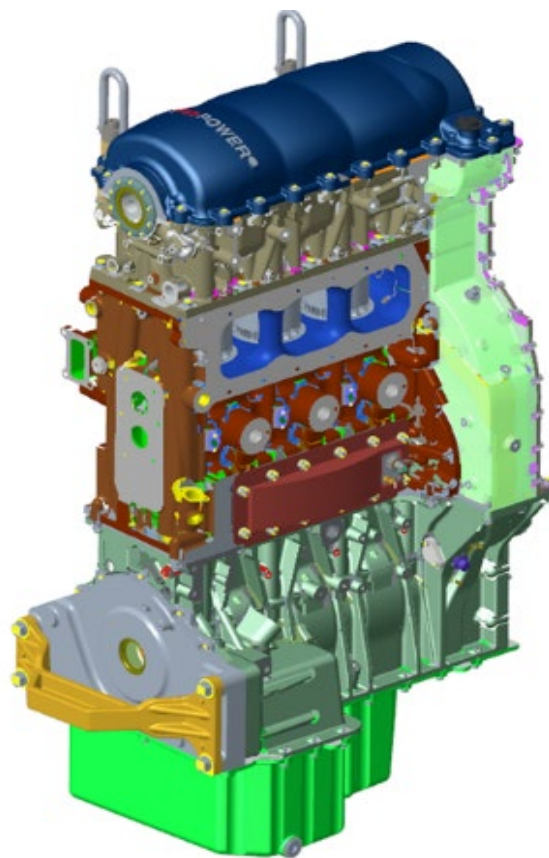


Figure 12: The Main Engine Structure

In the first two months of demonstration, the OPE HD truck ably performed the same duty cycle as the conventional trucks operating out of Walmart’s distribution center in Porterville, California. Monitoring and testing showed the OPE truck used 10% less fuel than the conventional baseline truck, and NO_x emissions in compliance with the CARB OMNIBUS in-use NO_x emission limit by at least 30%. The tables below demonstrate the project results from on-road fleet testing and PEMS testing.

- **Advancing Zero-Emission Solutions: Microgrid Projects Transforming Urban Air Quality**

The two initiatives that were led by UCI Advanced Power and Energy Program, the Microgrid Backup Air Quality Attributes and the Microgrid Transit Air Quality Attributes projects, show the potential of microgrid zero-emission technologies to address pressing environmental challenges.

Microgrid Backup Air Quality Attributes

Extreme weather events and grid outages, intensified by climate change, have driven increased use of backup generators (BUGs). Primarily diesel and gasoline-powered, these generators significantly contribute to urban air pollution. The project assessed emissions from BUGs, modeled future scenarios for their deployment, and explored alternatives like renewable energy sources, hydrogen, and fuel cells. Thirty-seven scenarios were developed, ranging from uncontrolled growth in diesel BUGs to aggressive adoption of zero-emission technologies.

Findings highlighted the significant air quality impacts of BUGs. A 12-hour operation of the 2022 BUG fleet during an outage in fire-threat areas produced 0.281 tons per hour (ton/hr) of NO_x emissions and 0.08 ton/hr of PM, matching emissions from all SCAB refineries combined. Ozone levels increased by over 4 ppb in sensitive areas, while PM_{2.5} rose by up to 8 µg/m³ during winter outages. However, scenarios with a 75% replacement of retired BUGs with zero-emission technologies showed drastic reductions in these pollutants, preventing one incidence of premature mortality and numerous pollution-related illnesses per outage.

Summary of Health Damages Associated with Air Quality Degradation

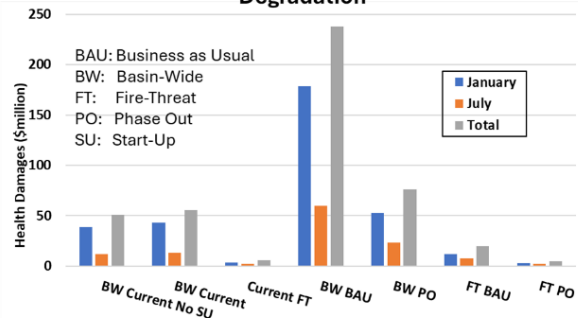


Figure 13: Summary of Health Damages Associated with Air Quality Degradation

The study emphasized that transitioning to zero-emission BUG alternatives could yield immediate and long-term public health benefits, improve urban air quality, and enhance grid resiliency.

Microgrid Transit Air Quality Attributes

The public transportation sector holds immense potential for emission reductions, particularly in urban centers and disadvantaged communities. The Microgrid Transit Air Quality Attributes project focused on deploying zero-emission buses (ZEBs) in microgrid settings like university campuses and transit hubs.

This comprehensive benefit-cost analysis compared battery-electric buses (BEBs) and hydrogen fuel cell electric buses (FCEBs) to conventional diesel and compressed natural gas (CNG) buses. The analysis evaluated total cost of ownership (TCO), infrastructure needs, and the potential of ZEBs as distributed energy resources (DERs). Future scenarios modeled included cost reductions in fuel cells, batteries, and infrastructure due to technological advancements.

Results indicated that while ZEBs currently have higher TCOs than CNG buses, cost targets for batteries, fuel cells, and hydrogen could make ZEBs more economical in the long term. BEBs and FCEBs showed substantial reductions in greenhouse gas emissions, particularly when powered by renewable energy. For example, a FCEB operating with on-site hydrogen production had a far lower carbon footprint compared to its diesel counterpart.

ZEBs were also identified as valuable DERs. Their high energy density and predictable schedules make them suitable for load leveling during grid-tied

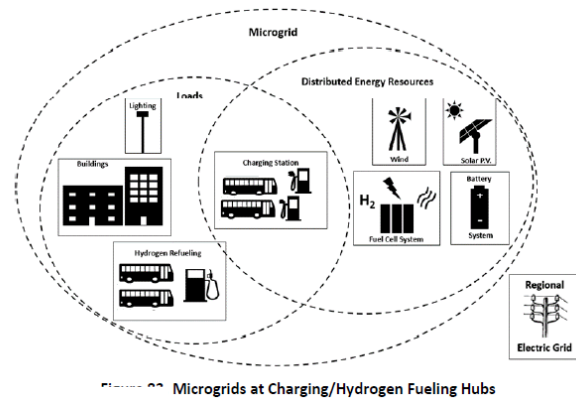


Figure 14: Microgrids at Charging/Hydrogen Fueling Hubs

operations and for supporting critical loads during outages. Additionally, on-site hydrogen production and smart charging strategies minimize grid upgrades and reduce infrastructure costs.

The project underscored the dual benefits of ZEBs: reducing urban emissions and enhancing equity by targeting disadvantaged communities disproportionately affected by air pollution.

Conclusion

These projects demonstrate the transformative potential of zero-emission technologies in improving air quality and public health. Replacing traditional diesel and gasoline generators with renewable energy solutions and integrating ZEBs into transit systems can significantly reduce emissions, mitigate health risks, and enhance grid resiliency. The findings call for continued investment in innovative solutions and supportive policies to accelerate the transition to zero-emission alternatives.

Table 5: Projects Completed between January 1 & December 31, 2024

Contract	Contractor	Project Title	Date
Hydrogen / Mobile Fuel Cell Technologies and Infrastructure			
17312†	Cummins Electrified Power NA Inc	ZECT II - Develop Fuel Cell Range-Extended Drayage Truck	May 2024
15366†	Engineering, Procurement & Construction LLC	Operate and Maintain Publicly Accessible Hydrogen Fueling Station at SCAQMD's Diamond Bar HQs	Apr 2024
21386	National Renewable Energy Laboratory	CA Hydrogen Heavy-Duty Infrastructure Research Consortium H2@Scale Initiative	Dec 2024
22082	Frontier Energy Inc	High Flow Bus Fueling Protocol Development	Aug 2024
Engine Systems / Technologies			
18194	CALSTART Inc	Development and Demonstration of Near-Zero Emission Opposed Piston Engine	Dec 2024
20092	Southwest Research Institute	Natural Gas Engine and Vehicles Research and Development – Pent-Roof Medium Duty Natural Gas Engine	Apr 2024
20316	US Hybrid	Natural Gas Engine & Vehicles Research & Development - Plug-In Hybrid CNG Drayage Truck (PHET)	Jun 2024
Fuel and Emission Studies			
21083	University of California Riverside	Assess Emissions Impacts of Hydrogen-Natural Gas Fuel Blend on Natural Gas Engines	Sept 2024
21169†	West Virginia University Research Corp	Evaluation of Vehicle Maintenance Costs Between NG and Diesel Fueled On-Road Heavy-Duty Vehicles	Mar 2024
Stationary Clean Fuels Technologies			
21266	University of California Irvine	Develop Model for Connected Network of Microgrids	Feb 2024
22262	University of California Irvine	Study of Fuel Cell Microgrids for Backup Power and Transit	Sept 2024
Technology Assessment and Transfer / Outreach			
15380†	ICF Resources LLC	Technical Assistance with Goods Movement, Alternative Fuels and Zero-Emission Transportation Technologies	Dec 2024
19078†	Green Paradigm Consulting Inc	Technical Assistance with Alternative Fuels, Evs, Charging & Infrastructure and Renewable Energy	Sept 2024
21260†	Fred Minassian	Technical Assistance with Incentive and Research and Development Programs	Oct 2024
24022†	CoMotion Inc	Cosponsor the 2023 CoMotion LA Event	Jan 2024
24063†	CivicWell	Cosponsor the 2023 Clean Mobility Forum	Jan 2024
24081†	California Electric Transportation Coalition	Cosponsor the California Electric Transportation Coalition 2023 LA Auto Show	Jan 2024
24085†	Coordinating Research Council Inc	Cosponsor the 34th Real World Emissions Workshop	May 2024

Table 5: Projects Completed between January 1 & December 31, 2024 (cont'd)

Contract	Contractor	Project Title	Date
Technology Assessment and Transfer / Outreach (cont'd)			
24104†	TRC Environmental Corporation	Cosponsor the 2024 California Hydrogen Leadership Summit	Jul 2024
24107†	Southern California Chinese American Environmental Protection Association	Cosponsor the Southern California Chinese American Environmental Protection Association 2024	Jun 2024
24136†	Climate Resolve	Cosponsor Coolest in LA 2024	Mar 2024
24142†	Solar Energy Trade Shows LLC DBA RE+ EVENTS	Cosponsor Hydrogen Village 2024	Apr 2024
24180†	Social And Environmental Entrepreneurs Inc DBA Tecolote Perch	Outreach and Proposal Development for Community Engagement and Benefit Component for Climate Pollution Reduction Grant Proposal	Aug 2024
24192†	Yassamin Kavezade DBA MYK Strategies	Research, Outreach, and Proposal Development for Community Engagement and Benefits Component for Climate Pollution Reduction Grant Proposal	Aug 2024
24312†	Sustain SoCal	Cosponsor the 2024 Driving Mobility 11	Jul 2024
25034†	University of California Irvine	Cosponsor the Irvine Clean Energy Conference (ICEC) 2024	Dec 2024
25039†	CALSTART Inc	Cosponsor the 2024 Clean Mobility Forum	Nov 2024
25041†	CoMotion Inc	Cosponsor the 2024 CoMotion LA Event	Dec 2024
25053†	Orange County Automobile Dealerships Association	Cosponsor the 2024 SoCal Electrified Ride Experience at OC Auto Show	Oct 2024
25068†	United States Green Building Council – Los Angeles Chapter	Cosponsor the 2024 Women in Green Breakfast	Oct 2024
25092†	Sustain SoCal	Cosponsor the 2024 15th Annual Energy Event	Nov 2024

†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.

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CLEAN FUELS PROGRAM

2025 PLAN UPDATE

3.1 Program Plan for 2025 Overview

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. Therefore, 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 Governing Board.

This Plan Update for CY 2025 targets several projects to achieve near-term emission reductions needed for the South Coast to meet health-based NAAQS. This plan includes cost-share projects to develop and demonstrate zero, near-zero and low emissions clean fuels and technologies to advance and promote technology development and commercialization that will not only impact SCAB but also the state of California and the entire nation. Just as in past years, the projects planned for CY 2025 will be conducted through public-private partnerships with industry, technology developers, academic and research institutions and local, state and federal agencies.

3.2. Program Plan for 2025 Core Technology Areas

This Draft 2025 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 the 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 assess the readiness of the existing power grid; and development of alternative charging solutions to support the deployment of electric vehicles;
- 4) necessity to improve hydrogen refueling station network reliability and availability, support alternative hydrogen production, and the application of mobile hydrogen refueling where needed; and
- 5) continued development of near-term cost-effective approaches.

The overall scope of projects in the Draft 2025 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.

Project objectives range from near-term to long-term within the core technology areas defined later in this section. 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 the 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 in reducing 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 before the commercial introduction of technologies. They also provide real-world evidence of performance to allay early adopters' concerns and provide preliminary emissions reduction potential.
- Technology development projects are typically more advanced and require two or more years. Additionally, field demonstrations to gain long-term performance verification may also be needed before 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 reduction potential. Additionally, field demonstrations to gain long-term performance verification may also be needed prior to commercialization. In addition to field demonstrations, large-scale pilot deployments are key to full certification and commercialization.
- Clean fuel vehicle technologies might be more mature but unable to deploy further due to higher costs and the need to support infrastructure. This is true for all clean fuel technologies but especially true for fuels with higher production costs.

The goal of the program is to fund viable projects in all 10 core technology areas which have been identified as having the greatest potential to enable the emission reductions needed to achieve the NAAQS, thus forming the core of the Clean Fuels Program:

- 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);
- Zero Emission Infrastructure;
- 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.

However, due to funding limitations, not all technology areas will be funded in 2025. The focus will remain on control measures identified in the 2022 AQMP, with consideration for the availability of suitable projects. The project categories identified below are appropriate within the context of the current air quality challenges and opportunities for technological advancement.

Within these technology 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 SCAB. A concerted effort is continually made to form public-private partnerships to maximize leveraging of Clean Fuels funds.

Several of the core technology areas discussed below are synergistic. For example, an 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 an NG HD vehicle that combusts gaseous fuel and requires a compressed tank storage system; similar combustion and fuel storage components 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 that 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 overburdened communities.

3.2.1. Hydrogen / Mobile Fuel Cell Technologies and Infrastructure

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. Although in recently years, the availability of LD FCEV model has decreased, major OEMs still committed in supporting FCEVs in California.

Fuel cells can play a role in MD and HD applications where battery recharge time and vehicle range, although improving, need to be enhanced to meet fleet operational requirements. The H2FCP 2030 Vision¹¹, 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

¹¹ CaFCP's The California Fuel Cell Revolution, A Vision For Advancing Economic, Social, and Environmental Priorities (Vision 2030), September 4, 2018.

H2FCP'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 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 working on a CEC/South Coast AQMD project to develop and demonstrate fuel cell drayage trucks with next generation fuel cell modules – easy to package system design and other innovative integration strategies. Another is Hyundai; in June 2021, South Coast AQMD recognized \$500k from the 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 and another \$3,500,000 to expand the demonstration with another five fuel cell trucks. In 2022, Volvo and Daimler also announced a joint venture to develop fuel cell powered trucks. Though the Southern California fuel cell fleet has been impacted by the closure of the three HD H2 fueling stations, when fuel was available, the MD and HD fuel cell trucks have demonstrated viability.

The H2FCP Fuel Cell Electric Bus Road Map released in September 2019 supports implementing 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 expanding 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.

Fuel cells are also being considered for power generation applications. Stationary fuel cells operating in prime or backup power applications are becoming more available. RockeTruck is developing and demonstrating a mobile fuel cell trailer capable of continuously producing 35 KW of power for 48 hours. The trailer uses the Honda Clarity fuel cell. The project is designed to supply charging capability in emergencies and remote locations. The trailer can also charge vehicles when stranded from loss of charge.

The Draft 2025 Plan Update identifies key opportunities while 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 SCAB;

- coordination with FCEV OEMs to establish a roadmap to commercialization by overcoming barriers to economically competitive FCEVs and developing 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.

3.2.2. Engine Systems/Technologies (including alternative and renewable fuels for truck and rail applications)

To achieve the emission reductions required for SCAB, 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 transition to ultra-low NO_x level starting MY 2024.

The effort with low emission ICE engines started back in 2016, when Cummins natural gas achieved a new ultra-low NO_x threshold by commercializing the first on-road HD engine to be certified to CARB’s optional low NO_x standard of 0.02g NO_x/bhp-hr, 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. 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 NO_x diesel technology is commercially available today, development and demonstration efforts have proven low NO_x diesel technology is viable. Both CARB and U.S. EPA has adopted lower NO_x regulations stating MY 2027. Low NO_x diesel technology is expected to operate alongside battery electric, fuel cell, natural gas and others. We do expect next generation lower NO_x diesel engines to be commercially available in the MY 2027 timeframe, in time for the phase in of the U.S. EPA and CARB regulations.

More recently, Cummins announced a hydrogen powered ICE with near-zero NO_x capabilities ready for implementation also 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 2025 Plan Update includes on-road truck demonstrations and real-world emissions benefit analysis using hydrogen as a fuel for internal combustion.

The Draft 2025 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 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 2025 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 NOx standard for on-highway HD engines starting in 2027 will further motivate manufacturers to develop lower-NOx emitting technologies expected to result in greater NOx emission reductions. Low- and zero carbon alternative fuels for new low emitting engines will continue to emerge as timelines for GHG reductions approach.

3.2.3. Electric / Hybrid Vehicle Technologies and Related Infrastructure (including battery electric and hybrid electric trucks and container transport technologies with zero emission operations)

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.

Developing and deploying 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 and freight/logistics facilities throughout SCAB. 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), plug-in hybrid powertrains, and linear synchronous truck motors. The California Sustainable Freight Action Plan also 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 the 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.

South Coast AQMD will fund battery electric vehicles and equipment under the INVEST CLEAN program. They include heavy-duty Class 8 trucks and Class 4 and 5 trucks in SCAG's Last Mile Freight Program. Additionally, INVEST CLEAN will support the deployment of cargo handling equipment (CHE) to accelerate the commercialization of battery electric CHE at goods movement facilities such as warehouses, intermodal railyards, airports, ports, and freight facility centers. Examples of CHE are rubber-tired gantry (RTG) cranes, yard trucks, forklifts, side handlers, top picks and reach stackers. INVEST CLEAN also has a significant portion of funding for battery electric locomotives to encourage the development and deployment of zero-emission switcher locomotive technologies.

HD hybrid vehicles have historically been optimized for fuel economy; under the adopted CARB and U.S. EPA regulation, new hybrid powertrains must co-optimize for both criteria emissions and fuel economy by either meeting the criteria standard by the engine itself or as a combined system. 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 the deployment of 100 Daimler and Volvo Class 8 BETs for drayage and regional haul at NFI and Schneider; 2) Switch-On Project with the deployment of 70 Volvo Class 8 battery electric drayage/freight trucks at eight fleets; 3) Daimler Zero Emission Electric Delivery Truck project, commercial deployment of 35 Daimler Class 6 and Class 8 BETs, 4) development and demonstration of two Cummins/Meritor battery electric Class 8 refuse trucks, and 5) development and demonstration of battery powered electric trailer technology with Range Energy for both zero emission and conventional trucks.

A new emerging technology is a battery-powered trailer that can assist and recover energy with onboard energy storage and electric motors. It is expected to increase the range when used with zero emission trucks or increase the range and reduce emissions with conventional trucks. SCAQMD has partnered with Range Energy to demonstrate a "dry van" version with a fleet in SCAB and perform emissions testing on a diesel tractor. The "dry van" project is expected to be completed in early 2025. The electrified trailer can also be used to power TRU, which currently requires onboard diesel generated; the discussion for a refrigerated trailer project is in progress.

Other emerging technology developments are faster charging and electrification for the medium-duty work truck segment. In 2023, U.S. EPA awarded \$500,000 to develop and demonstrate an electrified power-take-off (PTO) system for job site power for class 4 medium-duty electric trucks. There is also an ongoing project discussion looking at faster charging electrified work trucks for class 3/4/5 platforms via different battery chemistry and anode material. A faster-charging work truck can meet the increased duty-cycle demand

from different fleet users and allow for a higher payload. Some examples include higher voltage batteries, newer battery chemistry, and vehicle-to-grid capabilities. Another new technology is battery-swap trucks; these trucks have the advantage of faster recharging (swap) compared to traditional or even megawatt-level charging. Moreover, the battery swap station can have lower grid demand and a smaller footprint than traditional chargers. The battery-swap trucks are growing rapidly in overseas markets; their fast-swapping ability and easier infrastructure deployment can be an alternative solution to certain applications in the U.S.

As South Coast AQMD continues its commitment to EVs and as they become more cost-competitive and attractive to consumers, an increasing flow of EVs reaching end-of-life is expected. In a period of approximately five to ten years, a large number of EVs are expected to retire from service. As EVs are retired from service, their batteries can be sold as-is, remanufactured, repurposed, recycled, or discarded as hazardous waste. These EV batteries contain valuable minerals, such as lithium, crucial to our low carbon future. Lithium is becoming an increasingly critical resource as the state moves toward a clean energy future. Proper management of battery materials presents an opportunity to drive sustainability by planning when these EV batteries reach their end of life. At the same time, we expect new battery materials/chemistry to emerge and reduce dependence on lithium.

Voltu Motor Inc.'s OnBoard Fast Charger is a fast-charging powertrain solution that uses a bidirectional inverter paired with purpose-built motors to manage the power to the wheels and enable 200 kWh charging on AC from a standard three-phase outlet. The technology uses motor inverter power switches in conjunction with the motor coils to fast-charge the battery pack. Ten Voltu electrified Ford F350 work trucks will be used alongside ICE equivalent trucks and tested for performance. This project is planned to be completed in March 2025.

Enevate will demonstrate a fast-charging solution and the capability of Class 4/5 trucks to charge in 15 minutes from zero to eighty percent. It will also test the performance and ability to charge quickly upgraded Class 4/5 trucks with a newly developed battery pack. The project is planned to be completed in mid-2026.

Range Energy will test a battery-powered TRU. Chargers will be installed at the fleet site, and the trailer and trailer-installed equipment will be charged. The following equipment will be tested: 1) modified hybrid-electric TRU with power from an onboard battery; 2) electric powered trailer system, including an onboard battery and e-axle; and 3) electric vehicle supply equipment operated with 480V 3-phase AC circuits. This project aims to measure range extension from regenerative braking, track energy usage and generation from the e-axle and TRU and demonstrate the benefits of 3-phase AC charging hardware. This project is planned to be completed in late 2024.

RockeTruck is developing and demonstrating a mobile fuel cell trailer capable of producing 35 KW of power continuously for 48 hours. The trailer uses the Honda Clarity fuel cell. The project is designed to supply charging capability in emergency situations and remote locations. The trailer can also charge vehicles when stranded due to a loss of charge.

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 SCAB 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 the 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, faster charging battery technologies for use in MD and 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 critical materials in EV manufacture;
- development of electrified trailer technology, to support the efficiency and emissions of zero emission and conventional trucks and support electrified TRU operation; 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.

3.2.4. 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.

3.2.4.1. Hydrogen Refueling Infrastructure

With lead times on retail-level hydrogen fueling stations requiring 18-36 months for permitting, construction, and commissioning, plans for future stations must 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 FCEVs is insufficient, and the supply of hydrogen and additional hydrogen production, specifically 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 Port of Long Beach property leased by Toyota. The station was commissioned in July 2021, and Shell continues to operate and maintain this station to consumers, including Toyota and other fleet operators that commit to use FCEVs. As part of the \$83 million Shore-to-Store project led by the Port of Los Angeles, 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 of 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, in November 2022, the Ontario and Wilmington stations were commissioned, providing 24-hour unstaffed service. However, in early 2024, Shell announced the closure of all its light-duty hydrogen stations in California, including pausing operations of the three publicly accessible heavy-duty stations.¹² In contrast, when sufficient fueling is available, the FCETs are running well, like the NorCAL ZERO project that operates a fleet of 30 FCETs out of the port of Oakland.¹³ 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. South Coast AQMD is also participating in the Angeles Link project, which seeks to build a dedicated hydrogen pipeline to bring clean, renewable hydrogen to SCAB, as well as the DOE-funded Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES) efforted for California's initiative to accelerate renewable hydrogen projects and the necessary infrastructure. TAO is also discussing with technology providers about looking at new ways to expand the production of clean, renewable hydrogen through different sources.

¹² <https://www.autoweek.com/news/a46791348/shell-closes-hydrogen-stations-california/>

¹³ <https://www.portofoakland.com/port-of-oakland-celebrates-hydrogen-powered-trucks-project/>

New, ongoing, and recently completed hydrogen infrastructure projects include: 1) Port of Los Angeles Shore-to-Store project with the 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, 3) Equilon (Shell) project to develop a new 1000 kg/day HD hydrogen fueling station in Port of Long Beach, 4) Toyota Tsusho America, Inc. (TAI) project to demonstrate zero-emission port equipment and mobile hydrogen refueler, 5) Zero Emission Industries, Inc. (ZEI) project to demonstrate a portable liquid hydrogen fueling system for marine and locomotive applications, and 6) replace and expand the existing LD hydrogen refueling station at South Coast AQMD headquarters with FirstElement Fuel, Inc.

There are numerous fuel cell applications for off-road equipment; however, one of the primary challenges is the need for more 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. The Clean Fuels Program awarded TAI \$900,000 to develop and demonstrate a fuel cell-powered mobile hydrogen refueler to address this issue. This mobile refueler currently provides the hydrogen for fuel cell-powered cargo handling equipment (CHE) at the Port of Los Angeles. This demonstration will give valuable insights into the technical requirements of mobile hydrogen fueling and the economic viability of this approach within a port complex.

3.2.4.2. Electric Charging Infrastructure

The challenges of installing charging infrastructure include costs, permitting, Underwriters Laboratories (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 require 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 the development of corresponding codes and standards for MD and HD infrastructure including the adoption of a Megawatt Charging Standard (MCS) for high power megawatt charging. Additionally, SCE's Charge Ready Transport Program and the Los Angeles Department of Water and Power's (LADWP) Commercial EV Charging Station Rebate Program include funding for charging infrastructure.

LD EV charging infrastructure is commercially available, and the market aligns with the North American Combined Charging Standard (CCS1). MD and HD charging infrastructure using CCS1 connectors are commercially available in an early deployment stage. The CCS1 connector continues to be the standard 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 commercially available 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. The challenges and costs of installing MD and HD charging infrastructure increase exponentially compared to LD infrastructure due to higher power requirements.

South Coast AQMD seeks 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. Metro has committed \$50 million of its funding in a related effort 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 the federal government to support the BETs and equipment at the Ports and facilitate electrifying long-haul transportation. Additional state and federal funding opportunities exist under CARB, CEC, and U.S. EPA for HD electrification and climate pollution reduction. In July 2024, South Coast AQMD received an award of \$500M from the U.S. EPA under the Climate Pollution Reduction Grants (CPRG) for the project Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness (INVEST CLEAN). Focusing on the electrification of the goods movement sector, INVEST CLEAN will allocate significant funding to support the installation of heavy-duty truck charging infrastructure in Southern California. More than 1,000 heavy-duty truck chargers are expected to be developed in the following few years to help accelerate the deployment of battery-electric heavy-duty trucks alongside the currently available state-funded infrastructure programs.

Meanwhile, private fleets seek alternatives to build faster infrastructure, such as non-grid-connected microgrids. In May 2024, Prologis and Performance Team launched Southern California's largest HD electric vehicle microgrid charging depot. The charging depot is located in Torrance, near the Ports of Los Angeles and Long Beach, and can charge up to 96 electric trucks simultaneously. This microgrid uses 2.75 megawatts of Mainspring Energy's linear generators, along with 18 MWh of batteries to provide up to 9 MW of charging capacity. The flexible fuel linear generators run on natural gas and can be grid-connected but currently operate independently.

Another example of a microgrid is GenCell, a hydrogen fuel cell energy solution provider, is launching a backup power solution at University of California Los Angeles (UCLA) campus. Their solution incorporates battery storage and hydrogen fuel cell technology to provide power to electric vehicle chargers when grid power is insufficient. The GenCell unit can store energy from the grid or the fuel cell to power multiple vehicle chargers. This project is planned to be completed in October 2026.

Aside from grid supporting technologies, with the upcoming funding for infrastructure development, there is an increasing need for planning tools and grid analysis tools for fleet owners, regulatory agencies, and infrastructure developers to better understand the grid capacity and plan efficiently. South Coast AQMD executed a \$150,000 contract with UCR for technical planning Medium-Duty and Heavy-Duty ZEV infrastructure deployment and perform criteria and benefits analysis for Southern California as part of CEC MD/HD blueprint project. There are ongoing discussions with various research entities to expand the scope of fleet tools and grid analysis to support the upcoming ISRs and infrastructure grant solicitations.

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, 3) GenCell UCLA Microgrid demonstration at UCLA; and 4) EPRI eTRUC project to develop and demonstrate MCS chargers at Travel Centers of American Ontario.

The Draft 2025 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 and grid assessment studies 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 non-grid connected EV charging, load-shifting, energy resilience, and lower operating energy costs;
- demonstration, installation, and expansion 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.

3.2.5. Fueling Infrastructure and Deployment (NG and renewable fuels)

The Clean Fuels Program in the past has provided funding for renewable natural gas (RNG) infrastructure including: 1) upgrade and buildup of public and private RNG infrastructure projects, 2) expansion of the network of public access and fleet fueling RNG 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 RNG refueling stations throughout Southern California, and a certain percentage of renewable gas is in the pipeline. Additionally, incentive funds have been made available for RNG infrastructure. The Clean Fuels Program expects minimum funding to be allocated for RNG infrastructure but maintains this category to provide continued support for past efforts.

3.2.6. Stationary Clean Fuel Technologies (including microgrids and renewables)

Although stationary source NO_x emissions are small compared to mobile sources in SCAB, there are applications where clean fuel technologies or processes can be applied to reduce NO_x, VOC and PM emissions. As discussed in engine systems, 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, with the rapid development of battery electric vehicles, 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 the installation of infrastructure. A few ongoing projects such as the UCR's Sustainable Integrated Grid Initiative and UCI's Advanced Energy and Power Program, funded partly by the South Coast AQMD, for example, could assist in evaluating these technologies.

In 2019, linear generators were introduced as a new and alternative technology for power generation applications. Unlike traditional internal combustion engines (ICEs), linear generators produce electricity by driving magnets through copper coils in a linear motion. A unique feature of linear generators is that the thermochemical reaction occurs at lower temperatures than ICE, resulting in lower emissions without add-on control devices (e.g., selective catalytic reduction). Linear generators are also fuel agnostic and can run on fuels such as hydrogen, ammonia, and biogas. Currently, linear generators are being used for stationary prime power applications, but it is anticipated that they can also be used for emergency backup power applications.

Projects conducted under this category may include:

- development and demonstration of reliable, low emission stationary technologies and fuels (e.g., new innovative low NO_x 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 linear generators/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_x 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.

3.2.7. Fuel and Emissions Studies

Monitoring of pollutants in SCAB 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 decade, 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_x 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 the air quality impacts of these vehicles. South Coast AQMD has funded studies to investigate both the 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 of these studies suggest adding a particulate filter to control particulate emissions from GDI vehicles. In 2024, the U.S. Environmental Protection Agency (U.S. EPA) adopted the new multi-pollutant standard for LD and MD vehicles starting with the model year 2027, which further lowered the PM standard that will require a particulate filter.

In recent years, non-exhaust PM emissions have 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 are not regulated because they are difficult to measure and control. Model predictions suggest that non-exhaust sources will eventually dominate traffic-related emissions of both PM_{2.5} and PM₁₀. The Clean Fuels program has been engaged in research efforts to support MATE VI efforts, including awarding an RFP in August 2024 to study ambient exposure from non-exhaust PM sources. At the same time, CARB and others are conducting ongoing research to assess the emission factor directly from non-exhaust PM sources. The clean fuels program must join forces with other agencies to better understand the contribution to the overall emissions inventory.

Based on higher average summer temperatures over the past few years, there is interest in 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 SCAB. These types of studies may be beneficial in supporting 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 support MATES VI;
- in-use emission studies using biofuels, including renewable diesel and other alternative fuels such as hydrogen;
- in-depth emission studies of non-ICE sources, such as linear generators;
- in-use emission studies to determine the 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;
- emissions studies of non-exhaust PM from vehicular sources;
- 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 the impact of higher ambient temperatures on primary and secondary air pollutants emissions.

3.2.8. 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 especially with the recent adoption of the U.S. EPA LD/MD regulation requiring particulate filter. South Coast AQMD will continue to fund studies to help mitigate emissions concerns all internal combustion engines as new as new emerging technology such as the linear generator. On another hand, onboard emissions sensors have been identified by CARB and other agencies as a reliable method for assessing in-use emissions compliance. 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 emissions control technology for new emerging technologies such as linear generators and hydrogen ICEs.

3.2.9. Health Impacts Studies

Assessment of potential health risks linked to exposure to pollution is extremely important. South Coast AQMD has conducted five Multiple Air Toxics Exposure Study (MATES) campaigns since the 1980s, with MATES V completed in August 2021 and MATES VI currently in preparation phases. MATES V used comprehensive measurements and modeling and health risk assessment methods to estimate cancer and non-cancer chronic health risks due to exposure to air toxics throughout the South Coast AQMD jurisdiction, where cancer risk is the expected number of additional cancers over a 70-year lifetime in a population of one million individuals if they are exposed to the measured or modeled air toxics levels for 30 years. MATES V found that model population-weighted average air toxics cancer risk decreased from 997 per million in 2012 (MATES IV) to 455 per million in 2018 in SCAB and 357 to 250 per million in Coachella Valley. The highest risk locations in 2018 were at Los Angeles Airport (LAX), the San Pedro Bay Ports, and along major goods movement and transportation corridors. At the ten MATES V monitoring sites, located in areas that are disproportionately impacted by pollution and disadvantaged based on socioeconomic indicators, the cancer risk ranged from 585 to 842 per million, 40 percent lower than in 2012. Since at least 1998, when MATES II first conducted measurements required to track it, diesel PM has been the largest contributor to air toxics cancer risk, accounting for approximately 50 percent of the risk in 2018 (MATES V). MATES V estimated chronic non-cancer risk for the first time in a MATES campaign, with chronic hazard indices of 5 to 9 at the 10 stations, where a hazard index greater than 1 indicates that no chronic health risks are expected. MATES V also included advanced air monitoring to characterize the impacts of VOC emissions from major refineries in SCAB to surrounding communities.

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, CNG 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 compared to baseline, due to excess lube oil consumption, ammonia emissions and lack of particulate filters.

Therefore, the MATES VI program includes studies to estimate exposure to brake wear particles (BWP) and tire and road wear particles (TRWP) to provide information about the chemical composition of tires and brakes used in commercial LD and HD vehicles, which will be instrumental to determine which measurements should be conducted to attribute PM mass and gas phase markers to these sources. MATES VI will also include a special study to characterize emissions of ethylene oxide (EtO) in ambient air and at the near-road sites to assess the contribution of vehicular emissions to background EtO concentration levels. These proposed studies will require specialized instrumentation and expertise. Although South Coast AQMD already possesses some of the monitoring and laboratory equipment needed for MATES VI, the Clean Fuels Program will provide \$5 million to purchase additional equipment and supplies and retain temporary staff necessary to complete all the proposed measurements.

3.2.10. 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 617¹⁴ 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.

South Coast AQMD is in the process of executing a contract with California State University, Los Angeles (Cal State LA), to support workforce training and professional development of EV battery engineers. Cal State LA is one of 12 selected universities nationwide to participate in the Battery Workforce Challenge (BWC), an initiative aimed at advancing EV technology. This competition challenges universities and their partners to design, build, test, and integrate advanced EV battery packs into a vehicle. The design and development of advanced batteries are a key component to electrify the transportation sector. This program will prepare and train the next generation of engineers and technicians to handle the increased demand for EVs. In 2018, South Coast AQMD supported a similar competition that resulted in participating students from disadvantaged backgrounds of East Los Angeles securing high-pay engineering jobs.

INVEST CLEAN will also implement a comprehensive workforce training program in partnership with the NECA and IBEW and supported by more than three (3) universities, seven (7) colleges, one (1) community college, and seven (7) educational related institutions. Through INVEST CLEAN, South Coast AQMD and partners will support a world-class apprenticeship pipeline that opens pathways into high-quality union careers performing CPRG related work. This approach is centered around joint-labor-management apprenticeship programs, which are designed to foster a diverse, highly skilled, and sustainable workforce equipped to meet the challenges of today and tomorrow. Workforce training will ensure enough drivers and technicians will operate and maintain the battery-electric equipment implemented with INVEST CLEAN. In addition to the NECA – IBEW partnership, the GHG Reduction Measure for the ZE locomotive deployment will include onsite and classroom training. Each locomotive deployed will be supported by at least one dedicated expert from the manufacturer in locomotive and battery technology. This technician will be on the ground to support the safe and efficient operation of the locomotive and charging process, as well as provide “on the job” training to the operators and maintainers of the locomotive. This hands-on “train the trainer” methodology will provide the rail operators with best practices for locomotive operations and maintenance practices to prepare the operator on transitioning to ZE equipment.

¹⁴ <http://www.aqmd.gov/nav/about/initiatives/environmental-justice/ab617-134>

3.3. Target Funding Allocations to Core Technology Areas

Figure 15 presents the potential funding allocations of available Clean Fuels Program funds for CY 2025, based on South Coast AQMD projected program costs of \$31 million for all potential projects. The actual project expenditures for 2025 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 the cost-effectiveness of emission reductions as one of the several factors in determining which technologies to fund, the Legislature allows for flexibility in prioritizing technologies with higher cost-effectiveness if it is deemed necessary for South Coast AQMD to meet the NAAQS. The 2022 AQMP specifically calls for accelerated deployment of zero emission technologies wherever feasible to achieve the 2015 8-hour ozone NAAQS standard. The associated CARB 2020 Mobile Source Strategy shows the need for rapid implementation of zero-emission transportation. Specific contract awards throughout 2025 will be based on this proposed allocation, the quality of proposals received, the evaluation of projects against standardized criteria, and, ultimately, South Coast AQMD Governing 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.

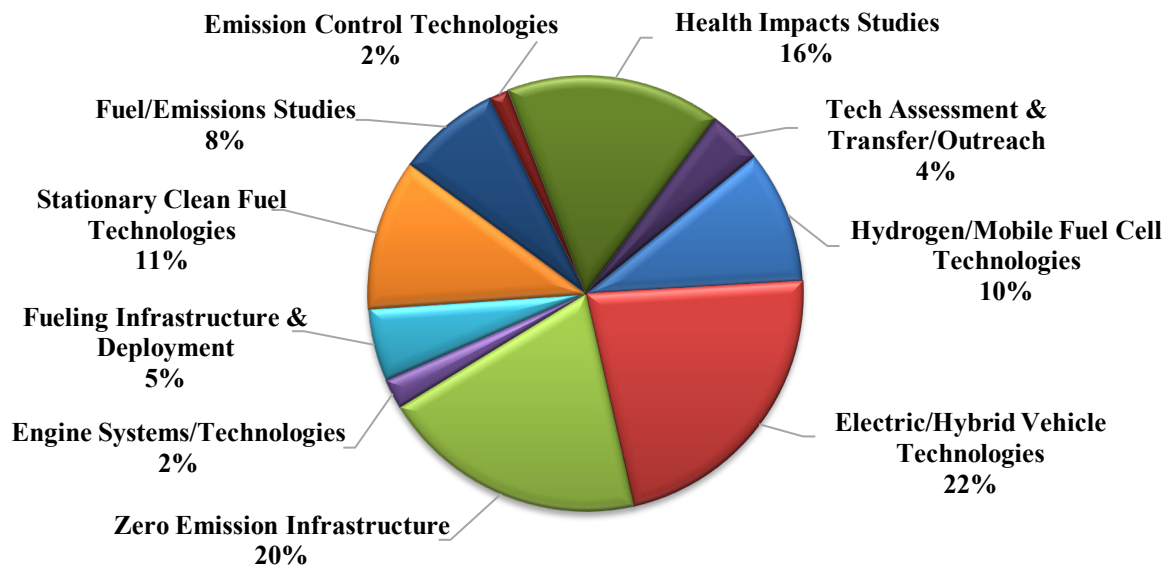


Figure 15: Projected Cost Distribution for Potential South Coast AQMD Projects in 2025 (\$31M)

3.4. Potential Projects

This section presents the Clean Fuels Program Plan Update for 2025. 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 6 summarizes potential projects for 2025 and the distribution of South Coast AQMD costs in some areas compared to 2024. 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 2025 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 2025, including:

- HD zero emission battery electric and fuel cell trucks;
- HD zero emission infrastructure development, demonstration, deployment and planning, including ACS solutions;
- Fleet planning tools and grid studies to aid the upcoming zero emission truck and infrastructure programs;
- Microgrids, and low- and zero emission power generation demonstrations to support zero emission infrastructure;
- Other Microgrid demonstrations to support vehicle to grid/home concepts;
- 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 2024-25 Goals and Priority Objectives, which include supporting the 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 synergistically.

Once fully developed, each of the proposed projects described in this Plan will be presented to the South Coast AQMD Governing Board for approval before 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, the proposed scope of work, and capabilities of the 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 a review of their programs, projects proposed in this Plan do not appear to duplicate any past or present projects.

3.4.1. Funding Summary of Potential Projects

The remainder of this section contains the following information for each of the potential projects summarized in Table 6.

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: The estimated total project cost, including South Coast AQMD's cost-share and the cost-share of outside organizations, is expected to be required to complete the proposed project. This indicates how much South Coast AQMD public funds are leveraged through its cooperative efforts.

Description of Technology and Application: Brief summary of the 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 the proposed project, including anticipated 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 6: Summary of Potential Projects for 2025

Proposed Project	Expected SCAQMD Cost \$	Expected Total Cost \$
Hydrogen/Mobile Fuel Cell Technologies		
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	3,000,000	14,850,000
Subtotal	\$3,100,000	\$15,750,000
Engine Systems/Technologies		
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
Electric / Hybrid Vehicle Technologies and Related Infrastructure		
Develop and Demonstrate MD and HD On-Road Battery Electric Vehicles and Equipment	6,850,000	102,800,000
Demonstrate Light-Duty Battery Electric Vehicles and Plug-In Hybrid Vehicles	160,000	160,000
Subtotal	\$7,010,000	\$102,960,000
Fueling Infrastructure and Deployment (NG and renewable fuels)		
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
Zero Emission Infrastructure		
Develop and Demonstrate Hydrogen Production and Fueling Stations	2,000,000	15,000,000
Develop and Demonstrate Permanent Electric Charging Infrastructure	1,700,000	4,700,000
Develop and Demonstrate Innovative Charging Solutions for Grid Support	2,200,000	5,000,000
Charging and Grid Optimization Platform for Transportation (CHARGE-OPT)	300,000	600,000
Subtotal	\$6,200,000	\$25,300,000
Stationary Clean Fuel Technologies		
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

Table 6: Summary of Potential Projects for 2025 (cont'd)

Proposed Project	Expected SCAQMD Cost \$	Expected Total Cost \$
Fuel and Emissions Studies		
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
Emission Control Technologies		
Onboard Sensors for On-Road/Off-Road Vehicles	250,000	1,000,000
Integration of On-Road Technologies in Off-Road Applications	200,000	1,000,000
Subtotal	\$450,000	\$2,000,000
Health Impacts Studies		
Conduct Monitoring and Support MATES VI Program Implementation	5,000,000	5,000,000
Subtotal	5,000,000	5,000,000
Technology Assessment and Transfer/Outreach		
Assess and Support Advanced Technologies, Disseminate Information and Support Workforce Training	750,000	2,000,000
Support Implementation of Clean Fuels Incentives and Demonstration Projects	350,000	400,000
Subtotal	\$1,100,000	\$2,400,000
TOTALS FOR POTENTIAL PROJECTS	\$31,310,000	\$182,910,000

3.4.2. Technical Summaries of Potential Projects

3.4.2.1. Hydrogen / Mobile Fuel Cell Technologies and Infrastructure

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 percent 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 worldwide 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 the 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.

The California Hydrogen Infrastructure Research Consortium focuses on top research needs and priorities to address near-term problems and support California’s continued leadership in innovative hydrogen technology solutions needed for fueling FCEVs. These tasks also contribute significantly 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 policies and their impact on 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 a 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: \$3,000,000

Expected Total Cost: \$14,850,000

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 that can reduce costs and 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 the 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 charging 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 the Technology Readiness Level (TRL) of hybrid, battery electric, and fuel cell HD trucks on the overall vehicle design and architecture. The fuel cell drayage truck’s TRL before this project was at a strong Level 4 with several proof-of-concept vehicles constructed, and it has advanced the TRL to 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 2022 and 2023, the U.S. EPA awarded South Coast AQMD two additional grants for development and demonstration fuel cell trucks that will also be cost-shared by Clean Fuels Program.

This category may include projects in the following applications:

<p>On-Road:</p> <ul style="list-style-type: none"> • Transit Buses • Shuttle Buses • MD & HD Trucks • Specificity trucks such as refuse 	<p>Off-Road:</p> <ul style="list-style-type: none"> • Vehicle Auxiliary Power Units • Construction Equipment • Lawn and Garden Equipment • Cargo Handling Equipment
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Potential Air Quality Benefits:

The 2022 AQMP identifies the need to implement ZEVs. South Coast AQMD adopted fleet regulations that require public and some private fleets within SCAB to acquire alternatively fueled vehicles when making new purchases. CARB is revising the Advanced Clean Fleets for adoption in 2022 to impose 100 percent

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 SCAB. 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 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 demonstrating improvements in the reliability and durability of powertrain 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.

3.4.2.2. Engine Systems / Technologies (including alternative and renewable fuels for truck and rail applications)

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: \$200,000

Expected Total Cost: \$1,500,000

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_x 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 adoption of U.S. EPA and CARB low NO_x regulation commenced the transformation to near-zero NO_x engines starting MY 2027 but there will be no availability of MY 2024 CARB compliant engines until at least MY 2026. Moreover, the adoption of U.S. EPA HD GHG Phase 3 National Proposed Rulemaking further promoted development of internal combustion engines using non-carbon containing fuels such as hydrogen. 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_x 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.

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 adopted amendments to the already

passed Omnibus Regulation, proposing alignment with the adopted U.S. EPA Clean Truck Plan NOx rule in MY 2027 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 SCAB 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 NOx. MD and HD engines between 6L to 12L using NG and propane achieving NOx 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 NOx regulations.

Proposed Project: Develop and Demonstrate Low Emission Locomotive Technologies and After Treatment Systems

Expected South Coast AQMD Cost: \$500,000

Expected Total Cost: \$2,000,000

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 and the adoption of the rail ISR in 2024, 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 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.

3.4.2.3. Electric / Hybrid Vehicle Technologies and Related Infrastructure (including battery electric and hybrid electric trucks and container transport technologies with zero emission operations)

Proposed Project: Develop and Demonstrate MD and HD On-Road Battery Electric Vehicles and Equipment

Expected South Coast AQMD Cost: \$6,850,000

Expected Total Cost: \$102,800,000

Description of Technology and Application:

The South Coast AQMD has long promoted 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 5¹⁵ percent of vehicles in the U.S. and drive 11¹⁶ percent of all vehicle miles traveled each year and yet are responsible for more than 30¹⁷ percent of all the fuel burned annually. Moreover, the 2022 AQMP identified MD and HD vehicles as the largest source of NOx emissions in SCAB. 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.

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 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.

Electric vehicle technology has seen rapid early successes as 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

¹⁵ <https://www.bts.gov/content/number-us-aircraft-vehicles-vessels-and-other-conveyances>

¹⁶ <https://www.bts.gov/content/us-vehicle-miles>

¹⁷ <https://www.bts.gov/content/fuel-consumption-mode-transportation>

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 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), successfully 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 and will require alternative charging solutions (ACS).

New and emerging technologies including higher power charging as well as different battery chemistry and technology. This category also includes battery swap technologies and well as electrified trailer technologies.

This project category will develop and demonstrate the following:

- various electric vehicles and equipment;
- studies for anticipated costs for electric vehicles and equipment;
- customer interest and preferences for these alternatives;
- new innovative technology such as higher power charging, new battery technology/chemistry, and battery-swap technologies;
- 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); and
- 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.

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 emissions 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 establishing 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 SCAB, 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:

South Coast AQMD has included BEVs and PHEVs in its demonstration fleet since developing early conversion vehicles. At the headquarters, South Coast AQMD installed 94 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 educational outreach regarding BEV and PHEV technology. Additionally, 30 networked Level 2 fleet chargers were added through the Southern California Edison Charge Ready Fleet program in 2020. In 2024, South Coast AQMD is in the process of updating these chargers to the latest standards.

LD BEVs and PHEVs are now widely available and continuously improving with the latest technology, safety, features, and reliability. Some OEMs have proposed vehicle-to-home concepts using BEVs as backup power solutions. As a result, the Clean Fuels Program will continue to evaluate commercially available LD PHEVs and BEVs.

Potential Air Quality Benefits:

The 2022 AQMP identifies the need to implement LD EVs. South Coast AQMD's adopted fleet regulations require public and some private fleets within SCAB to acquire alternatively fueled vehicles when making new purchases. In the future, such vehicles could be powered by BEVs. The proposed projects can potentially accelerate the 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 SCAB. 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.

3.4.2.4. Zero Emission Infrastructure

Proposed Project: Develop and Demonstrate Hydrogen Production and Fueling Stations

Expected South Coast AQMD Cost: \$2,000,000

Expected Total Cost: \$15,000,000

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 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 developing and demonstrating 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 to both on- and off-road equipment, 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.

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, producing power and hydrogen from renewable feedstocks (e.g., biomass, digester gas), and storing hydrogen on a larger scale.

Innovative Fueling Appliances: Home or small scale fueling/charging or portable refueling solutions are 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.

Innovative Hydrogen Production: new and innovation pathways to provide local production of renewable hydrogen. This could either align or supplement California hydrogen hub effort. The production could also include efforts such as a dedicated hydrogen pipeline similar to CNG.

CARB projections for on-road FCEVs counts are now 30,800 in 2024 and 61,000 in 2027 in California¹⁸ and the majority of these do not include MD and HD vehicles deployed in SCAB. 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

¹⁸ California Air Resources Board. *2021 Annual Evaluation of Fuel Cell Vehicle Deployment & Hydrogen Fuel Station Network Development* (AB 8 Report). September 2021.

operate hydrogen fueling stations and take advantage of funding opportunities that may arise soon with the California hydrogen hub application and others, such as the anticipated adoption of the Advanced Clean Fleets Regulation.

Potential Air Quality Benefits:

The 2022 AQMP identifies using alternative clean fuels in mobile sources as a key attainment strategy. Under 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 through preapproved actions, such as 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 a 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 NO_x, VOC, CO, PM and toxic compound emissions from vehicles.

Proposed Project: Develop and Demonstrate Permanent Electric Charging Infrastructure

Expected South Coast AQMD Cost: \$1,700,000

Expected Total Cost: \$4,700,000

Description of Technology and Application:

There is a critical need to address gaps in EV charging infrastructure availability. Forty-one percent of the 3,916,106¹⁹ EVs sold in the U.S. since 2010 were in California, and of those sales in California, almost half (44 percent) of CVRP²⁰ rebates issued as of July 2023 were for vehicles in the South Coast AQMD jurisdiction. 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 versus 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. The availability and costs of infrastructure deployment remain the main challenges for LD EVs.

MD and HD EVs are becoming more commercially available, with multiple OEMs supplying Class 4 through Class 8 battery electric vehicles. Standards for charging infrastructure to support MD and HD EVs have generally been with the CCS1 connector in North America, although Tesla has adopted a different connector for their semi-trucks. 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. Further, innovative solutions must be explored and demonstrated for off-road mobile applications where a fixed charging solution is not feasible. For urbanized public charging hub and fleet depot charging, significant funding has already been provided by the Bipartisan Infrastructure Law and the Inflation Reduction Act, as well as various state funding programs that can support widespread EVSE projects to be funded within the next few years. For corridor charging, South Coast AQMD has partnered with private entities to submit proposals to the DOT to support battery electric vehicles and equipment at the Ports and facilitate electrifying long-haul transportation. Another emerging technology is the popularity of battery-swap trucks and its swap stations in other markets, but those are still in very early stages in the U.S.

Alongside various deferral and state incentive funds for charging infrastructure, the clean fuels program will continue to support:

- deployment of 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;

¹⁹ <https://www.veloz.org/ev-market-report/>. Q2 2023 data uploaded on 8/2/23.

²⁰ <https://cleanvehiclerebate.org/eng/rebate-statistics>

- deployment of 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;
- development of MD/HD charging infrastructure solutions that provide easier installation through reduced grid reliance and increased resiliency;
- development of ACS solutions that provide prime power for temporary solutions charging and or mobile backup power;
- investigation of fast charging impacts on battery life;
- development of intelligent transportation system strategies for cargo containers; and
- development of 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 SCAB, 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: \$2,200,000

Expected Total Cost: \$5,000,000

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, linear generators) 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 of 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 battery packs, hydrogen fuel cell generators, combustion of renewable fuels, as well as temporary installations of chargers 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.

Linear generators were introduced in 2010s and provide an alternative technology for power generation applications. Unlike traditional internal combustion engines (ICEs), linear generators produce electricity by driving magnets through copper coils in a linear motion. A unique feature of linear generators is that the thermochemical reaction takes place at lower temperatures than ICE, which results in lower emissions without add-on control devices (e.g., selective catalytic reduction). Linear generators are modular in their design, rapidly dispatchable, and have the ability to run on fuels such as hydrogen, ammonia, natural gas, and biogas, making them a viable alternative charging solution for microgrid applications.

Similar category also includes sections of the Stationary Clean Fuel Technologies.

Potential Air Quality Benefits:

Certification of battery electric and hybrid electric vehicles and engines and their integration into SCAB's transportation sector is a high priority under the 2022 AQMP. This project is expected to further efforts to

develop innovative charging technologies that could aid in the 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.

Proposed Project: CHARGE-OPT: Accelerating Electrification of Medium- and Heavy-duty Trucks in Southern California with Data-Driven Planning Platforms for Charging Networks, Truck Fleets, and Power Systems

Expected South Coast AQMD Cost: \$300,000

Expected Total Cost: \$600,000

Description of Technology and Application:

The proposed project will develop a holistic software platform based on the foundational optimization model to facilitate the coordinated development of an electrified ecosystem for medium duty and heavy duty (MDHD) vehicles. Named CHARGE-OPT (Charging and Grid Optimization Platform for Transportation), or simply CHARGE, this platform will enable stakeholders to share common background data across transportation, policy, charging networks, and power systems sectors. The foundation model and corresponding software functionalities will be customized for the specific needs of each stakeholder, including fleet owners, regulators, charging station developers, and electric utilities. CHARGE aims to fill a significant market gap by providing essential services required by these stakeholders, moving beyond the narrow focus of other initiatives, which primarily cater to charging station developers. The model will integrate real-world data—including truck trajectory data, existing charging station data, and power system capacity data—into a cohesive framework. The incorporation of large-scale, real-world truck trajectory data offers a higher fidelity of traffic information compared to agent-based models. Additionally, the integration of extensive power system capacity data into the model represents a novel approach not previously reported in the literature. The detailed scope of the solution in addressing each stakeholder’s problems is listed in the table below. The CHARGE platform will bridge the gap between stakeholders, ensuring that all parties make decisions based on common data and the same foundation model, thereby promoting coordinated development and reducing misalignment.

No.	Stakeholder	Primary Interest	Scope of Our Solution in Addressing Challenging Problems
1	Fleet Owners	Maintain uninterrupted business with ZEVs at comparable or reduced costs.	<ul style="list-style-type: none"> Assess the benefits and pace of ZEV conversion and select appropriate models. Decide whether to build depot chargers and onsite distributed energy resources (e.g. solar and battery storage). Establish reliable day-to-day joint routing and charging schedules.
2	Regulators	Achieve the ZEV policy goals.	<ul style="list-style-type: none"> Provide holistic analyses considering the dynamics of all downstream parties – electric utilities, charging station developers, and fleet owners – to identify the most cost-effective strategies for achieving ZEV goals. Evaluate and refine policy based on the insights gained from the above analysis and the real-world trends.

No.	Stakeholder	Primary Interest	Scope of Our Solution in Addressing Challenging Problems
3	Charging Station Developers	Ensure profitable utilization rates of charging stations.	<ul style="list-style-type: none"> ● Identify optimal locations & scales for new stations. ● Engage the right customers for conversion to electric and use the charging stations. ● Anticipate when the grid will be ready to support newly-sited charging stations while considering solar and battery storage integration.
4	Electric Utilities	Align grid capacity with state ZEV regulation goals.	<ul style="list-style-type: none"> ● Identify the most cost-effective extent of necessary upgrades to the existing infrastructure. ● Justify the necessity of grid investment and the potential electricity price increase to regulators. ● Remain developer-agnostic while supporting long-term transportation demands.

Potential Air Quality Benefits:

Projects to support the development and demonstration of MD/HD ZEV technologies and supporting infrastructure are included in the Technology Advancement Office Clean Fuels Program 2024 Plan Update under the categories “Zero Emission Infrastructure” and “Electric / Hybrid Technologies.” The proposed tool will help improve the deployment process for the charging infrastructure by providing grid data-insight and also assist the fleet owners in more strategic infrastructure planning when electrifying the fleets and operating the battery electric trucks. The tool will address the common obstacles and challenges faced by infrastructure developers and fleet owners, helping accelerate the transition to battery electric technology in the MD/HD trucking sector. The implementation of this project is consistent with the 2022 AQMP, which relies on MD/HD ZEV technologies to achieve NAAQS for ozone and PM2.5 in SCAB.

3.4.2.5. Fueling Infrastructure and Deployment (NG and renewable fuels)

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 SCAB due to the deployment by fleet owners and operators of HD vehicles utilizing this fuel. 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 near-zero emission powertrains.

Hydrogen fueled internal combustion engines starts to gain more attentions as a few major advantages exist with this technology. Comparing with the fuel cell electric technology, hydrogen ICE can work at a lower level of fuel purity and costs significantly less upfront. It is also expected to be more reliable as it largely based on today's engine technology. The increase in hydrogen ICE can also be a drive force for the fuel cell application by increasing the consumption of hydrogen fuel in the transportation sector. Efforts have been put on to optimize tailpipe NOx and PM emissions, while greenhouse gas (GHG) emissions are nearly zero.

Potential Air Quality Benefits:

Gaseous fueled vehicles have inherently lower engine criteria pollutant emissions relative to conventionally fueled vehicles, especially older diesel-powered vehicles. 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 vehicles in private and public fleets, goods movement applications, and transit buses will help reduce local emissions and emissions exposure to nearby residents. NG and hydrogen vehicles can also have lower GHG emissions, help address national energy security objectives and reduce biomass waste produced from such feedstocks. Deployment of additional near-zero emission vehicles is consistent with the 2022 AQMP goal to reduce criteria pollutants. When fueled by RNG and renewable hydrogen, 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 renewable fuel fueling infrastructure in strategic locations throughout SCAB, including the Ports, and advancing technologies and station design to improve fueling and fueling efficiencies of HDVs. This category supports broader deployment of near-zero emission HD vehicles and implementation of South Coast AQMD’s fleet rules. In addition, as existing NG and hydrogen 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 hydrogen refueling infrastructure. Increased exposure and fleet and consumer acceptance of renewable fuel vehicles will lead to significant and direct reductions in NOx, VOC, CO, PM and toxic compound mobile source emissions. Such increased penetration of NGVs and other renewable fuel vehicles will provide direct emission reductions of NOx, VOC, CO, PM and air toxic compounds throughout SCAB.

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 SCAB. 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. Transport of fuels can include mobile refueling but also dedicated pipeline for long distance and high-volume transport. For example, at the Port of Los Angeles, a mobile hydrogen refueler is currently being demonstrated. This mobile refueler is powered by a hydrogen fueled fuel-cell truck and has the capability of hauling 247 kg of hydrogen. The purpose of this mobile hydrogen refueler is to provide hydrogen fuel to support zero emissions equipment operating at the port.

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 and hydrogen liquefaction technologies;
- utilization of various feed stocks locally available;
- commercialize incentives for fleets to site, install and use renewable 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 SCAB 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.

3.4.2.6. Stationary Clean Fuel Technologies (including microgrids and renewables)

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. South Coast AQMD is deploying 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 impact 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 it impossible to recoup the capital expenditure of EV or hydrogen infrastructure in a short period. To comply with existing and upcoming regulatory requirements, fleets must navigate challenges installing and maintaining charging and/or fueling infrastructure. Microgrids can be instrumental in meeting the challenge of cost-effectively providing large amounts of energy for EV charging or hydrogen generation to support zero emission vehicle charging and fueling. Additionally, suppose the microgrid equipment is owned by a third party and energy is sold to the fleet through a power purchase agreement. In that case, 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 concerning 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. Ensuring 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 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 for 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. The hydrogen requirement for a 100-vehicle fleet of FCTs 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. The staff has demonstrated several microgrid projects with the University of California Irvine and has toured a microgrid at the Prologis Charging Depot in Torrance. In May 2024, Prologis and Performance Team launched a microgrid near the ports of Los Angeles and Long Beach that is capable of charging up to 96 electric trucks simultaneously. This microgrid uses 2.75 megawatts of Mainspring Energy's linear generators, along with 18 MWh of batteries to provide up to 9MW of charging capacity. The linear generators are fueled by natural gas and can operate independently from the grid or grid-connected.

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 and or low 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 demonstrating 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 SCAB.

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 NOx 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 NOx and CO emissions over 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:

This project aims to support the development and demonstration of clean energy and 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 particularly interesting. Also, in the agricultural sections of SCAB, 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 emissions in fuel cells are reduced to zero.

This project is expected to result in pilot-scale zero or near-zero emission energy 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 RNG generated from renewable sources for injection into NG pipelines, improve reliability and identify markets that could expedite implementation of successful technologies. One example of a near-zero technology is the linear generator. This technology was introduced in 2019 and unlike traditional internal combustion engines, linear generators produce electricity by driving magnets through copper coils in a linear motion. This reaction takes place at much lower temperatures than ICEs, which result in lower emissions without the need for add-on emission control devices such as catalysts. In addition, linear generators are fuel agnostic and can switch between fuels like hydrogen, natural gas, ammonia, and biogas.

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 and near-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.

3.4.2.7. 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, 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.

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, but there are still a significant population of the diesel 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 carbon combustion 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 PM2.5. 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 AQMD also expects new fuels and emission studies 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: \$1,000,000

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 SCAB. 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 number 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 PM2.5 episodes occurring in SCAB, 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 SCAB to support efforts such as the MATES VI. 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 NOx 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 (NOx 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 NOx 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 or 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;
- intelligent transportation system such as fleet management tools, dashboards and localized traffic policies;
- electrical auxiliary power unit replacements;
- development, deployment and demonstration of smart vehicle telematic systems;
- fleet and charger management concepts; and
- low-cost emissions 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.

3.4.2.8. Emission Control Technologies

Proposed Project: 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_x emissions inventory in SCAB. The 2022 AQMP identifies that 83 percent NO_x 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_x 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_x 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_x 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 address 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_x and PM emissions from mobile sources is imperative for SCAB to achieve NAAQS and protect public health.

Proposed Project: Integration of On-Road Technologies in Off-Road 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_x in 2004 to 0.2 g/bhp-hr NO_x 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_x. 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 such as hydrogen 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.

3.4.2.9. Health Impacts Studies

Proposed Project: Conduct Monitoring and Support MATES VI Program Implementation

Expected South Coast AQMD Cost: \$5,000,000

Expected Total Cost: \$5,000,000

Description of Technology and Application:

MATES is a Governing Board environmental justice initiative that started back in 1987 with MATES I. South Coast AQMD previously conducted five MATES campaigns to characterize the concentration of airborne toxic compounds within the South Coast AQMD jurisdiction and to determine the region-wide cancer risks associated with major airborne carcinogens. However, as each successive MATES campaign builds on the previous work, each iteration added additional goals and objectives and employed more sophisticated measurement and modeling techniques. Results of MATES are used to provide public information about air toxics and associated health risks throughout the region, evaluate progress in reducing air toxics exposure, and provide direction to future toxics control programs. Previous MATES campaigns have also identified unknown air toxics sources and have been critical in the interpretation of data from special air toxics monitoring studies in communities throughout the region. MATES continues to be the most sophisticated regional air toxics analysis conducted in the nation, taking advantage of the extensive air quality monitoring, modeling, and analysis expertise and resources at the agency.

South Coast AQMD has initiated MATES VI and will begin measurements beginning in 2025. Similar to previous MATES campaigns, South Coast AQMD staff has convened a Technical Advisory Group (TAG) to provide technical guidance in the design of the study. The group includes experts from academia, health agencies, and government. MATES VI field measurements will be conducted over a one-year period at ten fixed sites to evaluate air toxics levels. MATES VI monitoring is being extended to the Coachella Valley for the first time. In addition, two of the ten monitoring locations will be sited adjacent to freeways to capture near-road air toxics impacts. MATES VI will also include measurements of ultrafine particle (UFP) and black carbon (BC) concentrations, which can be compared to the UFP and BC levels measured in MATES IV and MATES V, continuous measurement of metals, some of which are chemical tracers for non-exhaust vehicular emissions, and measurement of ammonia, a key precursor to PM_{2.5} formation in the region. Currently South Coast AQMD operates only one ammonia monitor in Coachella Valley and more measurements as part of MATES VI can help better understand the sources of ammonia across South Coast AQMD's jurisdiction. While MATES VI is focused on air toxic impacts, these ammonia measurements and particle speciation measurements will provide additional information about the sources and composition of PM_{2.5}, which will assist in the design of control strategies to attain federal PM_{2.5} standards.

In addition to the fixed site monitoring, MATES VI will include a special study to characterize emissions of ethylene oxide (EtO) in ambient air and at the near-road sites to assess the contribution of vehicular emissions to background EtO concentration levels. The TAG will assist with the overall design of this study, and a scope and project plan for this part of the MATES VI campaign will be developed through the TAG meetings.

South Coast AQMD already possesses some of the monitoring and laboratory equipment needed for MATES VI. However, additional instrumentation and replacement, repair, and calibration of some older equipment is required to complete all the proposed measurements and can be used after MATES VI for additional studies,

special investigations, or community monitoring. Laboratory and field supplies are also needed to conduct MATES VI. In addition to equipment and supply needs, temporary staffing is necessary to meet the additional workload associated with MATES VI, as well as contractor support services for conducting tire-wear marker study, and to support study design, data analysis, and review.

The total program cost for MATE VI is around \$5M to over FY 2023-24 through FY 2027-28 to purchase the necessary equipment and supplies and retain temporary staff for the MATES VI program. That include Solicitation for Tire and Brake Wear Study, Purchase Orders for Condensation Particle Counters, Aethalometers, Xact 625i Multi-Metal Monitor, Xact 625i Switching Inlet Systems, Continuous Monitors for Ethylene Oxide , Continuous Monitors for Ammonia, Gas Chromatograph Mass Spectrometer Instruments, GC-MS Canister Autosamplers, Monitoring Shelters, Vehicles, Zero Air Generators , GC-MS Thermal Desorption System, Air Toxics Samplers, Gas Dilution Systems and Linux Computational Server System and so-on.

Potential Air Quality Benefits:

The MATES studies conducted by South Coast AQMD provide essential information on air toxics levels in the South Coast AQMD’s jurisdiction and present a unique opportunity to evaluate long-term trends in air toxics and their health impacts. South Coast AQMD continues to work toward reducing air toxics emissions through supporting cleaner technologies (including cleaner diesel technologies), rulemaking to address toxic emissions from mobile and stationary sources, and implementing air toxics monitoring and enforcement initiatives. The MATES VI program complements these efforts and provides information to track progress on reducing air toxics in the region along with the identification of sources contributing to the air pollution health risk.

3.4.2.10. Technology Assessment and Transfer/Outreach

Proposed Project: Assess and Support Advanced Technologies, Disseminate Information and Support Workforce Training

Expected South Coast AQMD Cost: \$750,000

Expected Total Cost: \$2,000,000

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. In addition, projects that support workforce training and professional development will prepare and train the next generation of engineers and technicians to handle the increased demand of EVs. 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 SCAB. 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 SCAB.

Appendix A

South Coast AQMD Advisory Groups

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Technology Advancement Advisory Group¹

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

Elizabeth John..... California Energy Commission

David Pettit Natural Resources Defense Council

Dr. Matt Miyasato..... FirstElement Fuel

*Dr. Leela Rao Port of Long Beach

Rosalie Barcinas Southern California Edison

*Newly appointed member

¹ Members as of February 21, 2025

SB 98 Clean Fuels Advisory Group²

- 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
- *Dr. Gordon Abas Goodarzi Magmotor Technologies, Inc.
- *Yassamin Kavezade California Building Decarbonization Coalition

*Newly appointed member

² Members as of March 7, 2025

Appendix B

Open Clean Fuels Contracts as of January 1, 2025

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Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
Electric / Hybrid Electric Technologies and Infrastructure						
18232	Hyster-Yale Group Inc	Electric Top-Pick Development, Integration & Demonstration	09/14/18	02/28/25	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	04/30/25	0	7,311,456
19464	West Basin Container Terminal LLC	Battery Electric Yard Tractor Replacement Project	10/29/20	02/28/25	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	11/30/25	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
23090	Electric Power Research Institute	Deployment of 100 Commercial Class 8 Battery Electric Trucks	03/19/24	03/31/25	209,588	209,588
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
24101	Odyne Systems LLC	Development and Demonstration an Electric Power Take-Off System on a Zero-Emission Battery Electric Medium-Duty Truck Chassis	01/03/23	12/31/25	250,000	1,050,000
24123	Range Energy Inc	Development and Demonstration of Electric Powered Trailer for Heavy-Duty Vehicles	06/03/24	06/02/25	500,000	4,242,000
24318	University of California Riverside	Evaluation of Electric Powered Trailer for Heavy-Duty Vehicles	12/11/24	12/10/25	50,000	50,000

Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
Emissions Control Technologies						
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
Fueling Infrastructure and Deployment (NG / RNG)						
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
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

Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
Fueling Infrastructure and Deployment (NG / RNG) (cont'd)						
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
Hydrogen and Mobile Fuel Cell Technologies and Infrastructure						
15150	Air Products and Chemicals Inc	Install/Upgrade Eight H2 Fueling Stations throughout SCAG (including SCAQMD's HQs H2 station)	10/10/14	01/09/25	643,750	16,979,189
15611	Ontario CNG Station Inc	Installation of Ontario Renewable Hydrogen Fueling Station	07/10/15	07/09/25	200,000	2,510,000
20033	Port of Long Beach	Sustainable Terminals Accelerating Regional Transportation (START) Phase I	06/04/21	06/30/26	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	204,921	6,759,910
21372	University of California Davis	California Hydrogen Systems Analysis	03/29/22	06/29/25	50,000	550,000
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
24166	Zero Emission Industries Inc	Development of a Portable Liquid Hydrogen Fueling System	06/27/24	04/30/26	1,175,000	7,168,750
24235	Air Products and Chemicals Inc	License Agreement to Operate and Maintain Publicly Accessible Hydrogen Fueling Station at SCAQMD's Diamond Bar HQs	04/10/24	01/09/25	0	0
Stationary Sources - Clean Fuels						
24035	RockeTruck Inc	Develop and Demonstrate Hydrogen Fuel Cell Mobile Power Generation System	05/10/24	06/30/25	200,000	4,617,067
Zero Emission Infrastructure						
24131	University of California Riverside	Regional Medium- and Heavy-Duty Zero Emission Vehicle Infrastructure Analysis	08/20/23	03/31/25	150,000	300,000
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	06/30/26	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	05/31/26	300,000	300,000
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	06/30/26	50,000	50,000
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	04/02/26	200,000	200,000
22274	Gladstein, Neandross & Associates LLC	Technical Assistance with Alternative Fuels & Fueling Infrastructure, Emissions Analysis & On-Road Sources	05/05/22	04/02/26	300,000	300,000
24173	Integra Environmental Consulting Services Inc	Technical Assistance to Support Technology Advancement Office Mobile Source Incentive and Technology Demonstration Programs	05/01/24	04/30/26	75,000	75,000
25077	Coordinating Research Council Inc	Cosponsor the 35th Real World Emissions Workshop	10/01/24	07/31/25	5,000	100,000

Appendix C

Final Reports for 2024

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Class 8 Heavy-Duty Opposed-Piston Engine Demonstration

Contractor

CALSTART, Achates Power, Peterbilt, Aramco Services Company, Southwest Research Institute, Delphi, Eaton, Faurecia, Corning, BASF, Federal Mogul, Tyson Foods, Walmart

Cosponsors

California Air Resources Board, San Joaquin Valley APCD, South Coast AQMD

Project Officer

Joseph Lopat

Project Objective

The Opposed-Piston Engine (OPE) Class 8 Demonstration Project deployed and validated with major truck, engine and fleet partners is a world-leading engine design that will meet California's ultra-low NOx requirement (0.02 g / bhp-hr), while simultaneously meeting the 2027 EPA GHG requirements. This was the first demonstration in the United States of a high-efficiency AND low NOx engine / powertrain vehicle in Classes 7-8. The project combined two proven solutions – the OPE, largely developed by Achates Power, Inc., and the ultra-low NOx aftertreatment system developed by Southwest Research Institute.

Background

The movement of freight within and through California's regional centers relies predominantly on the use of heavy-duty (HD) diesel-fueled trucks. These trucks are a large source of greenhouse gas (GHG), criteria pollutant, and toxic air-contaminant emissions. Since these vehicles tend to frequent ports, railyards, and warehouse districts as part of their normal activities, large amounts of nitrous oxide (NOx) and diesel particulate matter (PM) emissions significantly impact nearby communities. Reducing emissions from these trucks is not only necessary to meet federally imposed clean-air standards but also to reduce adverse health effects from their emissions—especially in disadvantaged communities.

The continued development and demonstration of advanced technologies (zero-emission and near zero-emission) is necessary to meet California's long-term GHG emissions reduction goals, protect public health, and reach attainment with increasingly stringent federal air quality standards. Therefore, as part of the 2016-2017 Funding Plan for Low Carbon Transportation Investments and the Air Quality Improvement Program (AQIP), CARB announced funding for the On-Road Advanced Technology Demonstrations and Pilot Projects. The primary aim of these projects was to incentivize advanced technology within the freight sector that reduces GHG, criteria pollutant, and toxic air contaminant emissions to disadvantaged communities.



The successful completion of this project supports the commercialization and widespread adoption of this technology in Class 7-8 trucks, thereby supporting South Coast AQMD's goals of reducing emissions needed to meet air quality standards and reducing carbon dioxide (CO2) emissions from larger trucks for which there is a shortage of other available options.

Technology Description

The OPE promises a practical and economically viable solution for the reduction of NOx emissions and CO2 as mandated by the California Air Resources Board (CARB) Heavy-Duty Engine and Vehicle Omnibus Regulation. The OPE resolves one of the conundrums of emissions reduction: achieving ultra-low NOx emissions without

increasing CO₂ and without costly additional emissions technology. Conventional four-stroke engines induct a full cylinder of air during the intake stroke that dilutes the engine’s exhaust heat. High exhaust enthalpy is necessary to enable rapid catalyst light-off and maintain the catalyst temperature required to achieve lower NO_x and CO₂ emissions. OPEs, by contrast, utilize scavenging to reduce the amount of additional exhaust enthalpy required to maintain catalyst temperature while undertaking less gas exchange work to achieve simultaneous reductions in NO_x and CO₂ emissions.

OPE Specifications	
Swept Displacement	10.6 L
Number of cylinders	3
Total Stroke	312 mm
Bore	120 mm
Stroke/Bore	2.6
Peak Power	300 kW (400 hp) @ 1700 rpm
Peak Torque	2237 Nm (1650 lb-ft) @ 950-1300 rpm
Emissions Level	California ultra-low NO _x : 0.02 g/bhp-hr
EGR	Yes

Results

Though the Class 8 HD OPE Demonstration project ended prematurely due to truck engine and diesel particulate filter failures, the results from this project have shown that a Class 8 OPE HD truck could perform similar duty cycles of a conventional HD truck used in large-scale, commercial operations while meeting the most stringent enacted and proposed tailpipe and CO₂ emissions regulations in the world. Furthermore, the demonstration showed the potential of the OPE to meet these regulations through at least 2027 in a cost-effective, robust, and practical manner. In addition to its inherent advantages in high-efficiency, low-emissions, and low-complexity, the OPE also has advantages in fuel flexibility, including carbon-free hydrogen combustion and

low-carbon combustion of alcohols like ethanol and methanol.

The final report on the entire project was delivered on January 29, 2024, and is on file.

Benefits

The OPE advantages in low tailpipe emissions and improved fuel efficiency scale into larger and smaller engines and can be applied to off-road applications as well. Class 8 truck engines represent the first beachhead for the clean, efficient OPE. It is a logical starting place, considering that HD vehicles emit 26% of all NO_x emissions in California. Combined, off-road and MHD engines emit 67% of all NO_x in California. If the OPE, capable of reducing NO_x emissions by 90%, were put in place in all these applications, California-based NO_x emissions could be reduced by more than 90%.

Project Costs

GRANT AMOUNT	
CARB	\$6,994,601
COST-SHARE	
SOUTH COAST AQMD	\$1,000,000
SJVAPCD	\$1,000,000
PARTNER MATCH	\$7,705,267
TOTAL	\$16,699,868

Commercialization and Applications

At least two paths to market exist. Commercial vehicle engine manufacturers already have all the necessary capability to develop, manufacture, distribute, and service OPEs. Achates can work with these firms during the development and industrialization process and will earn a royalty for a license to its OPE technology, including designs, control software, development tools, test tools, and patents.

Another path to market is for Achates to assemble a team of established organizations to undertake the development, certification, manufacturing, integration, distribution, and support for diesel, HD OPEs. Achates believes sufficient capacity and capital exists for this pathway.

Development of a Pent-Roof Medium-Duty Spark-Ignited Natural Gas Engine in an Optimized Hybrid Vehicle System

Contractor

Southwest Research Institute

Cosponsors

National Renewable Energy Lab (NREL)
South Coast AQMD

Project Officer

Sam Cao

Background

Regulated emissions output for medium-duty diesel engines are set to be significantly reduced over the coming decade. The 2027 MY NO_x standard will be reduced by an order of magnitude (0.2 to 0.02 g/bhp-hr NO_x emissions) while diesel greenhouse gas (GHG) standards are simultaneously reduced ~7.6%. There are significant concerns that diesel engines will have difficulty meeting future NO_x and GHG emission standards with reasonable aftertreatment costs.

As an alternative fuel, natural gas (NG) is an abundant resource across the United States, and new discoveries and extraction methods have led to a dramatic rise in shale gas development, making the United States the world's leading natural gas producer while changing the dynamics of the global energy mix. Advances in the ability to capture methane to produce renewable natural gas (RNG) further increase the interest in and motivation for expanding the use of natural gas in the transportation sector.

Project Objective

The project objective was to develop a pent-roof cylinder head version of a medium duty (MD) diesel engine for operation on natural gas and integrate it into an MD truck chassis, in combination with a hybrid drivetrain system (Figure 1) to provide a demonstration of a highly optimized low GHG emission medium-duty truck.

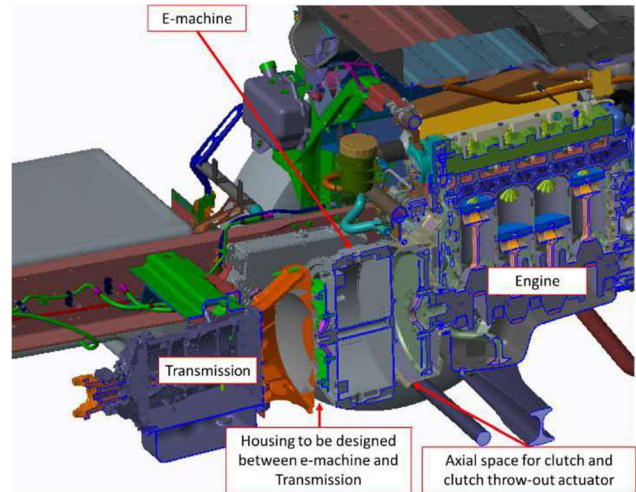


Figure 1. Hybrid Powertrain Integration Cutaway

Technology Description

Spark Ignition (SI) engines operating with stoichiometric combustion can use simple three-way catalysts to achieve low tailpipe emissions. However, most SI engines are a compromised design for medium- and heavy-duty applications. They are either derived from an automotive application in which the engine is de-rated to provide for more durability or from a medium- or heavy-duty flat head diesel in which the flow field is compromised for SI combustion.

New technologies, such as cooled exhaust gas recirculation (EGR), have recently been developed for stoichiometric SI engines which enable high efficiency and BMEP at low engine speeds. This enables torque curves comparable to diesel engines and therefore comparable operating conditions in vehicle, which enables diesel-like durability in an SI engine. An optimized hybrid system was used in combination with the high BMEP natural gas engine to further increase the efficiency gains and demonstrate the potential for a low NO_x, low GHG medium-duty truck applicable to real world applications.

Status

The Pentroof EGR natural gas engine was built up and installed in an engine dynamometer test cell for calibration of the engine control system. The efficiency and emissions were then verified before it was combined with the PHEV driveline and integrated into an Isuzu F Series class 8 truck. The truck was then installed on a heavy-duty chassis dyno to demonstrate the efficiency gains and emissions performance in a complete vehicle. The project was completed in December of 2023.

Results

The NG hybrid vehicle successfully demonstrated the targeted 25% reduction in CO₂ and met the 0.02 NO_x emissions requirement over the city and multi-use GEM certification cycles, while maintaining performance equal to or better than the diesel baseline. Real world cycles were developed from Isuzu supplied durability cycles to show the practical capability of the hybrid powertrain. The hybrid vehicle was shown to be capable of matching the vehicle speed and acceleration rates expected of a diesel vehicle at full gross vehicle weight rating. The sizing of the electric motor, battery, and internal combustion engine have all been shown to be sufficient for the speed, acceleration, and emissions requirements. In addition, the integration of the systems only had a minor effect on the vehicle cargo load capacity with a reduction of less than 5% (0.5 ton reduction) of GVWR. The projected initial vehicle cost is estimated to be similar to the cost of a 2027 compliant diesel version with reduced total cost of ownership of over 15% during the first 3 years.

Benefits

The technology demonstrated in this program is ready for a production intent application. The sizing of the electric motor, battery, and internal combustion engine have all been shown to be sufficient for the speed, acceleration, and emissions requirements. The potential CO₂ emission reduction from the technologies utilized in this build, on average, easily meet the 25% GHG reduction target, and in higher kinetic energy duty cycles far exceeds it.

Project Costs

The \$2,525,000 in NREL and \$475,000 in South Coast AQMD funding was fully utilized during the project. An additional \$3,180,525 in price participation was supplied by SwRI and other partners to complete the project.

Commercialization and Applications

The technology to develop a product based on this program exists on the market and would only require a standard product design and development program commercialization. With the initial purchase cost for a Class 8 vehicle projected to be on par with the projected 2027 compliant diesel costs, and with a significantly lower total cost of ownership over the first three years, there would be a positive business case with consumers, especially fleet owners. In addition, this technology could be applied across the range of heavy-duty commercial vehicle classes.

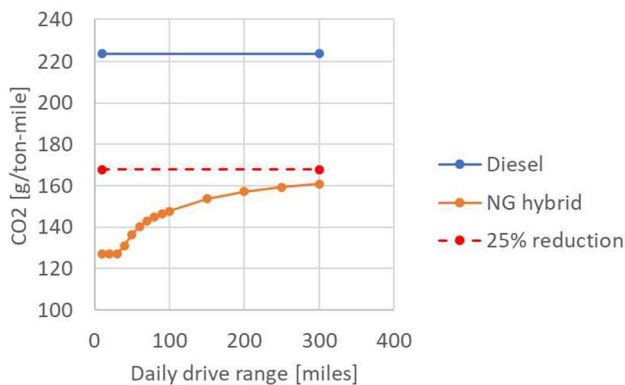


Figure 2. CO₂ Emissions in G/Ton-Mile Based on GEM Calculations for the Diesel Baseline and NG Hybrid Vehicles in the Multipurpose Category

Natural Gas Engine & Vehicles Research & Development - Plug-In Hybrid CNG Drayage Truck (PHET)

<p>Contractor US Hybrid</p> <p>Cosponsors DOE/ National Renewable Energy Laboratory California Energy Commission South Coast AQMD</p> <p>Project Officer Phil Barroca, Sam Cao</p>

truck (PHET) Class 8 vehicle using the Cummins 9-liter near-zero emission engine, a commercialized parallel hybrid powertrain with 240 horsepower rating, and a 40 kilowatt-hour liquid-cooled high-power density lithium-ion battery pack. The project includes a 24-month demonstration in port drayage operations to quantify emission and performance improvements and will implement a global positioning system-based predictive geofencing hybrid control architecture to ensure zero emission operation at the port.

Background

Building on a strong history of working collaboratively with the U.S. Department of Energy Vehicle Technologies Office, the California Energy Commission Energy (CEC) Research and Development Division, and the South Coast Air Quality Management District (South Coast AQMD), the National Renewable Energy Laboratory (NREL) formed and led a Natural Gas Research and Development Consortium to encourage innovation in medium-duty and heavy-duty natural gas vehicles (NGVs). This Consortium is working to develop and identify improvements that will benefit the NGV industry and other stakeholders. NREL successfully leveraged funding from the three agencies in alignment with each agency’s goals to fund and manage research and development projects through a competitive request for proposals selection process. This effort aims to advance the medium-duty and heavy-duty NGV transportation sector in terms of NGV total cost of ownership, emissions, and efficiency. NREL worked with the funding agencies during project selection and awarded a portfolio of eight research and development project awards.

Project Objective

US Hybrid Corporation and its partners will address (total cost of ownership) TCO by developing and demonstrating a fully integrated and optimized natural gas, plug-in hybrid electric

Technology Description

The optimization was applied to Commercialized Truck chassis (Freightliner,) utilizing the EPA certified Cummins L9N Near-Zero Emission Engine and commercialized parallel hybrid powertrain, with 320hp rating and most efficient performance for motoring and regeneration, and an 89kWh, liquid cooled high power density lithium-ion battery pack, and all electric drive accessories. The hybrid vehicle control was optimized to operate the L9N engine with the lowest NOx emission and most efficient brake specific fuel consumption (BSFC) operation. Effectively the PHET truck will reduce NOx emission by half of near-zero emission values of certified below 0.02 g/bhp-hr. NOx, when evaluated based on NOx emission g/mile or g/ton-mile performance.

The electric motor supplements the internal combustion engine (ICE) power by (1) providing superior acceleration and energy recovery during regenerative braking with a total power of 640 hp, providing performance exceeding that of ISX12 NG and 13-L diesel engines, (2) dramatically reducing emissions with doubling fuel economy, and (3) enabling 500+ miles per standard CNG tank racks with no interference to trailer movement and need to extend the wheelbase impacting turning radius. The truck will be able to operate in battery electric-only (20 miles drive, 1 hr. during port queuing and maneuvering operation) with electric power accessories (steering, air system and HVAC) and plug-in charging capability to maximize EV-only range

and utilize engine start-stop technology to minimize idling. Using results from simulation models developed in the past 4 years, the project's advanced controllers for the engine and electrical systems and optimized electrical components were designed specifically to optimize vehicle performance and drivability for drayage applications. This minimized emissions and maximized fuel economy. The PHET includes a 20kW, on-board isolated, UL rated AC charger with SAEJ1772 and EN61851, charging protocol that is comparable to existing port charging infrastructure feeding from 480V, 3-Phase directly.

Status/Results

The project was completed February 2024, and the Final Report is on file with complete technical details of the project.

The PHET truck was driven for 5,313 miles and 1,012 Diesel Gallon Equivalent (DGE) was consumed, therefore, the fuel consumption for the CNG PHET is 5.25 mpgDGE by the La Mirada Transport Drayage operation. The CNG PHET range would be 913 miles with 174 DGE tank on board.

The CNG PHET fuel consumption improves 33% better than the CNG truck (3.95 mpgDGE) and 130% better than LNG truck (2.24 mpgDGE).

The test report from the University of California, Riverside, Center for Environmental Research and Technology (UCR/CE-CERT) evaluation showed that under the Urban Dynamometer Driving Schedule (UDDS) cycle, the achieved fuel consumption was 4.32mpgDGE, while the port and regional cycle (DTP_3) showed 5.22 mpgDGE. The latter is consistent with the results observed by the operator, who operates under those port/regional drive cycles.

The dyno testing also verified the gradeability of the vehicle. In the past, operators have complained of the CNG/LNG vehicles lack of performance on inclines. The dyno testing showed a maximum speed of 20mph on a 6% grade for CNG only operation, and a maximum of 40mph on a similar grade in hybrid mode.

The NOx emissions results were not conclusive, and additional re-test was recommended. NOx peak of emissions was observed in various vehicles by UCR. Preliminary analysis from other projects indicates that a modification of the

vehicle algorithm would drastically lower the peak. Other peaks observed are potentially due to leak in the exhaust system OR to the measurement equipment. UCR proposed to retest the vehicle to verify the achievements that could be attained.



Figure 1. US Hybrid PHET Vehicle

Benefits

The PHET truck can offer both zero and near-zero emission operation while maintain performances.

Zero-emissions travel: PHET trucks offer 20 miles of emission-free operation within the port, significantly reducing air pollution in already disadvantaged communities surrounding port facilities.

Near-zero regional operation: With a 500-mile+ range and performance exceeding traditional diesel engines, PHET trucks seamlessly transition to near-zero emissions during regional operations, slashing GHG and criteria air pollutant emissions.

Project Costs

US Hybrid received \$2.8 million to build and deploy three project trucks. The South Coast AQMD's cost-share was \$500,000 with other cost-share totaling over \$2.3 million.

Commercialization and Applications

US Hybrid built three trucks and demonstrated the fuel efficiency as well the emission benefit potential of the PHET technology. However, with the adoption of various California Air Resources Board zero emission regulations, PHET truck, as its existing configuration, will not meet the requirements of zero emission vehicle. The emissions benefit of the PHET truck still needs to be further verified and refined.

Effects of Hydrogen/Natural Gas Blends on a Heavy-Duty Natural Gas Engine

Contractor

University of California Riverside, Center for Environmental Research and Technology

Cosponsors

South Coast AQMD
Southern California Gas Company
Pacific Gas & Electric Company

Project Officer

Sam Cao

California Gas Company (SoCalGas) and Pacific Gas & Electric Company (PG&E) and focused on durability testing.

Technology Description

For this program, a heavy-duty Cummins six-cylinder L9N 8.9 liter near-zero natural gas engine was used. The engine utilized port injection and spark ignition and was equipped with a three-way catalyst. The engine is certified to 0.02 NO_x [g/bhp-hr]. Engine-out NO_x, CO, CO₂, and THC emissions were made with a 1065-certified gaseous portable emissions measurement system (PEMS). Solid particle number (SPN) emissions were measured with an AVL particle counter (APC) with a 23 nm diameter cut point. A TSI Condensation Particle Counter (CPC) 3022 with a 7 nm diameter cutoff and a TSI Engine Exhaust Particle Sizer (EEPS) 3090 with a measuring size distribution from 5.6 to 560 nm were placed after the APC to measure SPN at smaller sizes. A pressure transducer was installed in the engine head directly above one of the cylinders to measure in-cylinder pressure. A spark plug based AVL VisioKnock sensor was also installed in the spark plug port of the same cylinder. The VisioKnock spark plug sensor uses fiber optic cables attached to eight radially oriented optical observation cones to transfer light intensity signals from the combustion chamber to photodiode sensors. This enables the possibility of locating events of diffusion-controlled flames due to their higher light radiation.

Background

The internal combustion engine remains a critical propulsion system, especially in heavy-duty freight transportation. However, the traditional internal combustion engine is also a major contributor to anthropogenic greenhouse gas (GHG) emissions and criteria air pollutants. The use of alternative fuels such as renewable natural gas and hydrogen can help reduce life-cycle greenhouse gas emissions and improve the sustainability of the transportation sector immediately. Renewable natural gas is produced from a variety of feedstocks and is compatible with existing pipeline infrastructure. Hydrogen can be produced from renewable energy via electrolysis and injected and stored in small volumetric fractions in the existing natural gas pipeline infrastructure. Studies also have shown that hydrogen, when used in internal combustion engines, can increase efficiency and reduce particulate emissions. The characterization of criteria air pollutants such as nitrogen oxides (NO_x), particulate matter (PM), and carbon monoxide (CO) as well as the engine performance are not yet fully understood for low blends of hydrogen up to 5% in natural gas engines.

Status

This project (Phase 1) was successfully completed in January 2024. Comprehensive data analysis was completed in November 2024.

Project Objective

The purpose of this study was to test how different blends of hydrogen in renewable natural gas at low concentrations (1-5% by volume) affect engine efficiency and criteria pollutants without any modification to the engine or engine control unit. The study was executed in two phases. Phase 1 was supported by South Coast AQMD and focused on the emissions and engine performance of low hydrogen blends. Phase 2 was supported by Southern

Results

Results showed higher tailpipe NO_x emissions for the 5% blend. However, the tailpipe emission factors for all blends were very near zero. The engine-out NO_x emission factors showed a trend where the 1% and 3% blends were generally lower than the baseline and 5% fuel blends, with the 5% blend close to the baseline.

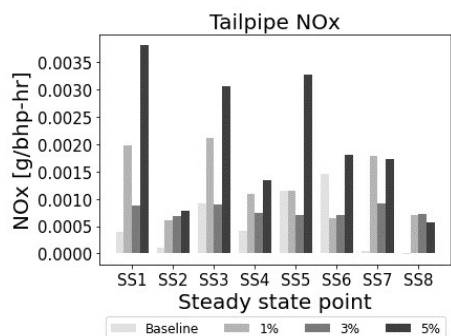


Figure 1. Tailpipe NOx emissions

Tailpipe NOx emissions over the entire federal test procedure (FTP) cycle were measured to be slightly higher than the certification levels for this engine (0.02 g/bhp-hr), even for the baseline fuel. Hot-start tailpipe NOx emissions were lower than cold-start conditions for all fuel blends except for the 3% blend, as shown in Figure 2, due to lower average aftertreatment temperatures. The hot-start NOx emission factors for the baseline renewable natural gas (RNG) and 1% fuel blends were approximately 50% higher than the standard at 0.03 g/bhp-hr. The 5% fuel blend exhibited an increase of about 100% in NOx emissions compared to the baseline RNG fuel. Two additional fuel blends, 9% and 11% hydrogen, were tested and analyzed for tailpipe emissions and exhibited over 4 and 6 times as much NOx emissions, respectively, compared to the baseline condition.

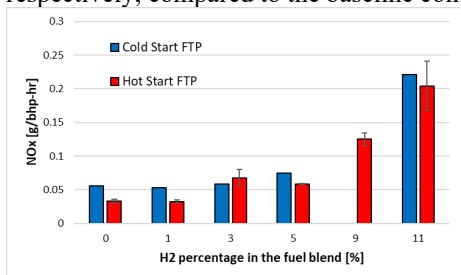


Figure 2. Tailpipe NOx emissions over the FTP

Generally, the highest number of particles were measured at the steady-state points near peak torque for all fuel blends as shown in Figure 3. There is no strong correlation between fuel blend and particle number. The particle size distribution was dominated by nucleation mode particles.

Peak cylinder pressure was shown to be highest for the 5% blend, followed by the baseline fuel. This follows the trend observed with NOx emissions where the 1% and 3% blends were lower than the baseline.

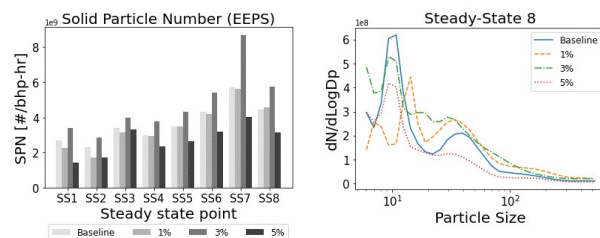


Figure 3. Solid particle number and size distributions

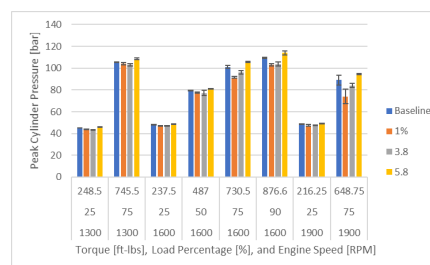


Figure 4. In-cylinder peak pressure measurements

Benefits

In this study, we assessed the emissions and performance of low-level hydrogen blends in RNG using a heavy-duty natural gas highway engine. This work evaluates readily available solutions to (a) reduce the carbon intensity of transportation fuels by adding a zero-carbon fuel to pipeline gas, and (b) mitigate pollutant emissions and GHGs from heavy-duty vehicles. It is important to understand the environmental and combustion performance of low-level hydrogen blends in the existing natural gas fleet. Overall, our findings suggest that low hydrogen blends can provide a strong pathway for tailpipe emissions reductions from heavy-duty vehicles in the South Coast Air Basin. More research work is necessary to better control NOx emissions with hydrogen addition by recalibrating existing engines and also better control particulates with the use of particulate filters.

Project Costs

South Coast AQMD contributed \$533,021 towards this project.

Commercialization and Applications

It is expected that hydrogen fuel will likely play a major role in heavy-duty ground and marine transportation and off-road applications. The use of hydrogen will contribute to the complete decarbonization of the transport sector and to reductions of harmful pollutants and GHG emissions.

CA Hydrogen Heavy-Duty Infrastructure Research Consortium H2@Scale Initiative

Contractor

National Renewable Energy Laboratory (NREL)

Cosponsors

CARB

California Governor's Office of Business and Economic Development (GO-Biz)

California Energy Commission (CEC)

Project Officer

Dr. Maryam Hajbabaei

research partnership will provide design considerations and risk analysis for HD hydrogen fueling stations, design concepts for a HD fueling performance test device, and a model to evaluate the dispensing capacity of HD hydrogen stations. This cooperative work directly reflects California's transition to Zero Emission Trucks as spelled out in CARB's 2020 Advanced Clean Truck Regulation and Governor Gavin Newsom's zero-emission vehicle Executive Order (N-79-20).

Background

A team of California public agencies, including CARB, CEC, Governor's Office of Business and Economic Development (GO-Biz), South Coast AQMD, and national laboratories formed a research partnership in 2017 focused on near-term hydrogen infrastructure development, deployment, and operation needs in California and was awarded DOE H2@Scale CRADA (Cooperative Research and Development Agreement) funds that year. Many of these partnerships had been in place for years through individual CRADA agreements and work scopes. The research partnership framework was intended to continue beyond that project for a long-lasting strategic partnership with the DOE, agencies, and national laboratories. As California begins to expand its light-duty (LD) fuel cell refueling network to include the medium- and heavy-duty (HD) fuel cell EV market, the research partnership jointly submitted a project proposal (and was awarded) to DOE's H2@Scale to 1) build upon existing momentum and 2) advance the H2@Scale vision and the goals of California, by developing an HD hydrogen reference station, fueling performance test device concepts, and HD hydrogen station capacity model.

Project Objective

The purpose of this project is to continue the research partnership between national laboratories, DOE, and California public agencies for the advancement of hydrogen fueling infrastructure for HD vehicles. This

Technology Description

A hydrogen fueling infrastructure is necessary to support the emerging LD and HD fuel cell electric vehicle market (FCEV), including both a network of fueling stations and the availability of hydrogen fuel that meets required fuel quality specifications. Fuel quality verification is mandated before a fueling station is certified for commercial hydrogen dispensing and periodically thereafter for the operational life of the fueling station. This infrastructure would benefit by the on-site hydrogen contaminant detectors (HCDs) for near-real-time verification of fuel quality, preferably at the nozzle just before dispensing of the hydrogen into the FCEV.

Status

This project was successfully completed in January 2025. A report was submitted in February 2025 for final approval.

Results

Task 1- Reference station design for HD stations:

Two separately published reports were developed as outputs for this task. The first report on reference station design for HD vehicles describes the type of equipment needed along with the required footprint and costs for several configurations of HD hydrogen stations. The second report on reference station risk assessment discusses the quantitative risk assessment based on the HD equipment needed for the different station configurations and identifies gaps in NFPA code for HD stations. The tasks were completed with input from project partners and external stakeholders. Example tables and figures from the reports are included below for reference.

Table 1. Reference station data showing a summary of resource consumption along with design cases

Case	Description	Elec Energy Use (MWh/day)	Peak Demand (MW)	Water Use (m3/day)	LiquidH2 (kg/day)
1	Electrolyzer on-demand	230	63.5	20	-
2	Electrolyzer off-peak	228	17.8	20	-
3	LiquidH2 small compressor	12.7	6.5	-	4186
4	LiquidH2 large compressor	15.8	10.8	-	4186
5	LiquidH2 cryopump	2.9	1.6	-	4186

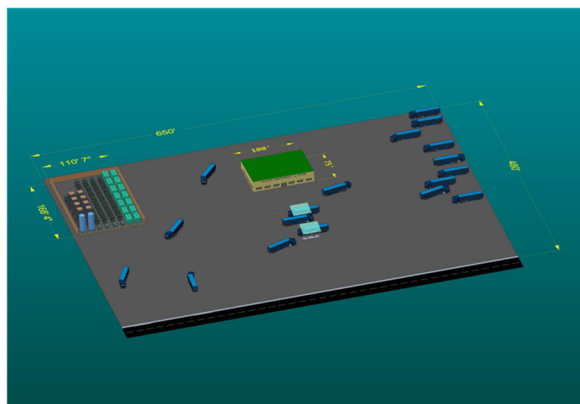


Figure 1: Layout for one of the design cases where hydrogen is delivered as a liquid, flashed to a vapor in a low-pressure vaporizer and compressed on-demand for direct-fill.

Task 2- Hydrogen fueling/performance testing device: This task created design documents that would aid in the final design and build of a hydrogen fueling performance test device for HD hydrogen station dispensers with high flowrates of up to 300 g/s. This device specification is like the Hydrogen Station Equipment Performance (HyStEP) device built for LD hydrogen stations but with larger tank volumes and hardware that supports higher flowrates for HD stations.

Task 3- HD H2 station capacity tool: This task developed the HD Hydrogen station Capacity tool (HyCap 1.0), which is available from the NREL website. Users of the tool provide their major hydrogen station equipment specifications in a

spreadsheet input file, and the model provides the number of trucks and amount of hydrogen that the equipment could dispense in a day based on the selected station demand profile. The tool is intended for gaseous dispensing from the station to the HD vehicle at nominal pressures up to 70MPa. It also works for LD stations.

Benefits

In this study, the CRADA continued the research partnership between national laboratories, DOE, and California public agencies for the advancement of hydrogen fueling infrastructure for HD vehicles. The output included published reports, models, and specification documents useful to the HD hydrogen community going forward.

Project Costs

Project Partner	Cost
U.S. DOE	\$999,000
CEC	\$25,000
GO-Biz	\$25,000
CARB	\$40,000
South Coast AQMD	\$25,000
Total	\$1,114,000

Commercialization and Applications

The CRADA benefits to DOE, Participant, and US Taxpayers include: 1) assisting laboratory in achieving programmatic scope, 2) adding new capability to the laboratory’s core competencies, 3) enhancing the laboratory’s core competencies, 4) using the laboratory’s core competencies, and 5) enhancing U.S. competitiveness by utilizing DOE-developed intellectual property and capabilities.

This project provided valuable information on reference station design, exploration of design concepts for a fueling performance test device, and modeling of station capacity. The work applies to HD hydrogen fueling stations with large dispensing capacity and high flowrates servicing HD hydrogen trucks such as class 8 trucks in long-haul applications. The work leverages national lab capabilities including staff and equipment at SNL, NREL, and ANL with collaboration and funding cost share from California agencies (CEC, SCAQMD, and GO-Biz). This project will provide tools and information that lead to more efficient design, acceptance and commissioning of these larger capacity, higher flowrate stations serving HD applications. The HCD work will benefit both LD and HD stations.

High Flow Bus Fueling Protocol Development

Contractor

Frontier Energy, Inc.

Cosponsors

DOE, Industry partners, South Coast AQMD

Project Officer

Maryam Hajbabaei

Background

Industry and government initiatives/regulations are advancing rapidly toward zero emission medium-duty (MD) and heavy-duty (HD) vehicles to reduce pollutant emissions and to meet greenhouse gas reduction goals. Although a mix of powertrain architectures may be used to meet these targets, hydrogen fuel cell vehicles are expected to play an important role, especially for H35 MD/HD vehicles with duty cycles that require long range, ability to climb steep grades, and/or short refueling times.

Transit agencies such as AC Transit and SunLine Transit have been fueling heavy-duty hydrogen fuel cell buses for about 20 years with 350 bar hydrogen fuel (H35), and since 2010 have been able to fill buses in the equivalent time of fueling a diesel or compressed natural gas (CNG) bus (5-10 minutes). Heavy-duty hydrogen fueling infrastructure technology has progressed considerably since 2010, and compressors and liquid H₂ pumps to compress the fuel have become more reliable and more efficient. During the last 15 years, transit agencies have relied on the expertise of hydrogen infrastructure providers or expertise developed with CNG to develop custom fueling protocols that fit within the safety boundaries presented in the SAE International (SAE) Technical Information Report (TIR) J2601-2. These fueling protocols needed significant fine tuning and verification to meet the needs of specific “return-to-base” fleet vehicles and to achieve full fills. During these years, SunLine Transit and their bus development partners voluntarily performed early summer fueling tests to provide the baseline data sets that led to the development of SAE TIR J2601-2 as a performance fueling standard with safety

boundaries for pressure and temperature to fill for HD H₂ vehicles.

Project Objective

The project’s goal is to support SAE J2601-5 for the development of a verified H35HF MC Formula fueling protocol for MD/HD vehicles.

Technology Description

The National Renewable Energy Laboratory (NREL) owns a one-dimensional thermodynamic hydrogen filling simulation model (H2FillS), but its use was designed specifically for light-duty fueling. Therefore, the project team upgraded the H2FillS model to accommodate H35HF fueling for vehicles with large onboard storage systems, as well as to have the capability to derive t-final fueling tables that will be installed in commercial station dispensers. To derive all t-final fueling tables, many fueling simulations are required. Thus, the project team integrated the H2FillS model with the NREL high-performance computing system, as shown in Fig. 1. The developed t-final fueling tables are validated with real-world H35HF fueling data before those tables are published as in the J2601-5 fueling protocol TIR.

Status

The project is complete, and the project-team-reviewed final report has been issued.

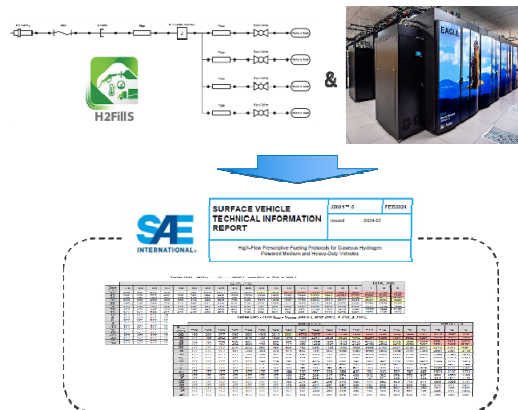


Figure 1 Process of t-final table generation

Results

The project team successfully upgraded the H2FillS model to accommodate H35HF fueling and the t-final fueling table generation capability. The team generated all the necessary t-final tables in the H2FillS model integrated with the NREL High-Performance Computing center. To confirm the reliability of the t-final tables, the team leveraged the Zentrum für BrennstoffzellenTechnik (ZBT) station (<https://www.zbt-duisburg.de/en/the-zbt/>) because the ZBT H35HF dispenser is equipped with the same hardware as that expected to be used at future commercial stations. The generated t-final tables were implemented in the ZBT H35HF dispenser and used for a total of 11 fueling tests under various conditions, as shown in Table 1. Through the tests, the project team confirmed that the fueling process with the tables never caused the vehicle storage systems to experience overheating and overfilling, even under ambient temperature fueling conditions. Thus, the project team confirmed that the safety of the fueling process with the tables is sufficiently assured and that the tables are well prepared to be installed in commercial station dispensers. All the t-final tables generated under the project were published in the SAE J2601-5 TIR.

Table 1 Test matrices at ZBT station

Test ID	CHSS	T_{amb}	$T_{precool}$	P_{inlet}	Fueling time	Maximum CHSS H2 press.	Maximum CHSS H2 temp.
1	244-L type IV	28.1°C	-16°C	3.0 MPa	332 s (5.5 min)	40.0 MPa	76.7°C
2	244-L type IV	20.2°C	0°C	3.0 MPa	677 s (11.3 min)	40.9 MPa	74.6°C
3	244-L type IV	15.0°C	No precooling	3.0 MPa	1337 s (22.3 min)	41.2 MPa	69.8°C
4	244-L type IV	19.6°C	-16°C	1.0 MPa	278 s (4.6 min)	40.1 MPa	77.0°C
5	244-L type IV	18.6°C	0°C	1.0 MPa	750 s (12.5 min)	41.3 MPa	72.9°C
6	244-L type IV	19.4°C	No precooling	1.0 MPa	2200 s (36.7 min)	41.2 MPa	68.8°C
7	322-L type III	23.3°C	No precooling	1.0 MPa	2816 s (50.0 min)	40.0 MPa	68.2°C
8	322-L type III	23.3°C	-20°C	1.0 MPa	2300 s (38.3 min)	39.1 MPa	44.0°C
9	350-L type IV	3.8°C	-16°C	3.0 MPa	282 s (4 min)	38.9 MPa	68.2°C
10	350-L type IV	10.4°C	0°C	3.0 MPa	600 s (10 min)	40.9 MPa	79.3°C
11	350-L type IV	1.4°C	No precooling	3.0 MPa	740 s (12.3 min)	41.1 MPa	80.2°C

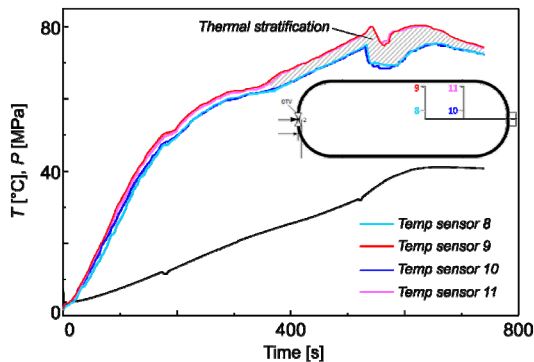


Figure 2 Hydrogen temperatures and pressure measured in vehicle storage tank during slow (ambient temperature) fueling

Benefits

The project team and SAE J2601-5 developed, tested, and validated H35HF MC Formula fueling protocol for MD/HD vehicles, which will help:

- Provide guidelines to the design H35 stations and vehicles
- Enable other manufacturers and vehicle original equipment manufacturers to also participate in technology/protocol advancement, which should accelerate to grow the market.

Accordingly, this project’s outcome should facilitate adoption of H35 MD/HD stations and vehicles to reduce greenhouse gas and pollutant emissions from the transportation sector.

Project Costs

The budget for the project breaks down as follows:

Total budget: \$699,000

DOE: \$545,000

Industry partners: \$154,000

South Coast AQMD: \$25,000

Commercialization and Applications

The H35HF MC Formula fueling protocol for MD/HD vehicles has been made available to the public. As described in Benefits, this should help fleet manufacturers develop hydrogen-powered 350 bar vehicles as well as help station providers build fueling stations to support 350 bar vehicles. The issuance of the fueling protocol could spur other manufacturers to enter the hydrogen market, supporting users’ efforts to achieve greenhouse gas reduction goals.

Under this project, the team conducted a limited number of protocol validation experiments and could not fully validate the protocol. This is because the protocol covers a wide range of ambient temperatures, precooling temperatures, and onboard vehicle storage system sizes. Thus, the protocol was published as a technical information report. However, SAE J2601-5 hopes to make it a standard fueling protocol in the coming years. To do so, the protocol in the technical information report will need to be fully validated. Accordingly, NREL has proposed a follow-on project to fully validate the protocol and help SAE J2601-5 publish the protocol as a standard.

South Coast AQMD Contract #21266

February 2024

Air Quality Assessment of Microgrid Deployment in the South Coast Air Basin

Contractor

University of California, Irvine

Cosponsors

Port of Long Beach

Project Officer

Seungbum Ha

Background

Microgrids are gaining attention as a means of increasing the resilience and reliability of the electricity system, increasing the deployment of renewable power generation resources in serving the electric load demand, replacing backup generators, and serving as a hub for the merging of the electricity and transportation sectors.

As microgrids become prevalent, electricity generation within the Basin will increase concomitant with a potential increase in the emission of criteria pollutants. At this nascent stage of a shift to a mass deployment of microgrids in South Coast Air Basin (SCAB), it is prudent to inform the regulatory framework and guide the design and deployment of microgrids that map to the air quality goals for the Basin. In the absence of a regulatory framework, an opportunity to reach a future of zero-emission from the electricity and transportation sectors in the emerging era of microgrid deployment will be lost.

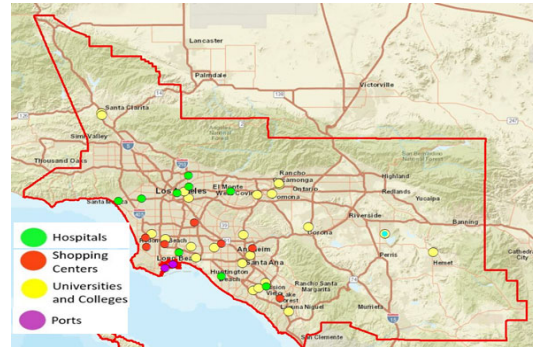
This project addressed two areas: (1) the impact on air quality stemming from both a near-term and long-term mass deployment of microgrids in SCAB, and (2) the policy to assure that microgrids are designed and deployed consistent with air quality goals for the basin.

Project Objectives

The goal of this project was to assess the air quality impacts associated with a mass deployment of microgrids in the SCAB by evaluating (1) the population and location of microgrids in the Basin in both the near-term and long-term, (2) the generation technology selected

to power the microgrids, (3) the role of microgrids in supporting the future of zero-emission vehicles, and (4) the impact of microgrid deployment on disadvantaged communities.

Approach



To assess the mass deployment of microgrids in SCAB, the following four categories of microgrids were considered: university campuses, shopping centers, hospitals, and ports. Lists of microgrid candidates in the Basin were developed for both the near-term and long-term deployment based on the size of the microgrids, access of the microgrids to transmission and distribution resources, and vicinity of the microgrids to critical facilities and other microgrids. For each category, a representative microgrid was characterized, evaluated, and assessed to determine the suitable mix of distributed energy resources (DERs) required to serve the microgrid.

For both the near-term and long-term mass deployments, scenarios were developed for combustion gas turbine generator (CGT)-based microgrids and zero-emission-based microgrids (equipped with photovoltaic and fuel cell generation, and battery energy storage and supply) to assess the impact on air quality and public health. The results for each scenario were compared to a Baseline Scenario (the California Air Resources Board 2022 Scoping Plan scenario) which did not consider microgrid deployment. The impacts on both the region and on disadvantaged communities were considered, and the outcomes were used to inform policy recommendations and to develop a scoring strategy for future proposed microgrids.

Results

Total health Impacts (\$) and the ratio of health Impacts within DAC

Month	Scenario	Health (\$)		DAC %
		Disadvantaged	Non-Disadvantaged	
Summer	S3*	-9,465,631	-14,733,392	-39.1%
	S4**	17,480,057	18,520,467	48.6%
Winter	S3	-4,292,536	-4,289,778	-50.0%
	S4	17,483,632	18,958,102	47.9%

*Long-term NG turbine-based microgrids

**Long-term zero-emission microgrids

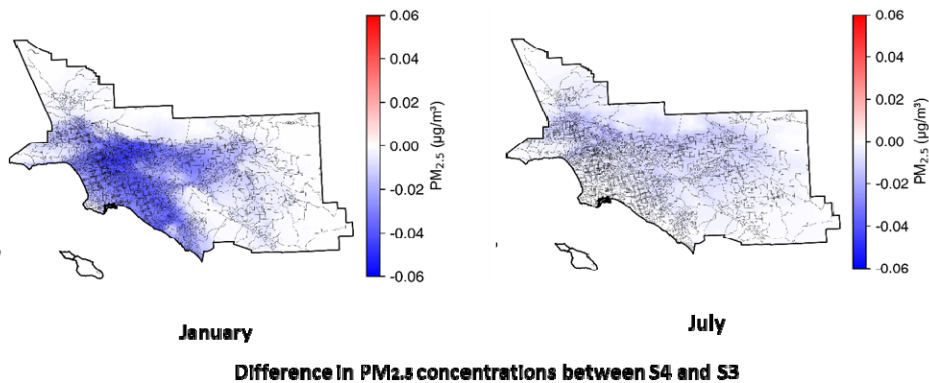
For both the near-term and the long-term mass deployment of microgrids in SoCAB, the results of the study established the number by category of microgrid candidates likely to be deployed, the impact on NO_x emissions, the impact on air quality (ozone and PM_{2.5}), and the associated impact on public health regionally and within disadvantaged communities. Overall, the results show that, to minimize negative health effects, microgrids need to be designed with (1) 24/7 zero-emission power generation, (2) a systematic specification (depending on size and application) of supporting DER including battery and thermal storage resources, and (3) an orderly accommodation of the emerging electrified transportation sector with services to charge battery-electric vehicles and to fuel fuel-cell electric vehicles, and infrastructure to implement plug-in vehicle-to-microgrid services.

negative impact on air quality, the impact on public health is significant regionally and disproportionately high in disadvantaged communities..

- The mass deployment of zero-emission based microgrids results in improved air quality and a reduction in NO_x emissions, thereby precluding public health costs both regionally and within disadvantaged communities.
- A regulatory framework will be prudent to assure that the evolution of microgrids within SCAB are powered 24/7 by zero-emission generation and equipped with resources to support charging and fueling zero-emission vehicles and, as appropriate, plug-in vehicle to microgrid services.

Benefits

Microgrids offer the benefits of enhanced integration of renewable resources, facilitation of charging and fueling zero-emission vehicles, and higher reliability and resiliency in serving critical loads in the case of outages, emergencies, weather events, and other unforeseen occurrences. A potential detriment associated with a mass deployment of microgrids is the degradation of air quality given that microgrids must have, by definition, an on-site source of electrical power. This study assessed the air quality and public health impacts associated with a mass deployment of microgrids in SCAB with the goal to inform policy associated with managing the air quality and public health impacts regionally and within disadvantaged communities.



Conclusions

The major findings of the project are:

- While a mass deployment of CGT-based microgrids results in a relatively small increase in NO_x emissions and a relatively small

Project Costs

The cost of the project was \$370,000, of which \$290,000 was funded by South Coast AQMD with \$80,000 of match funding associated with a UCI APEP Port of Long Beach microgrid research contract.

Microgrid Backup Air Quality Attributes

Contractor

University of California, Irvine

Cosponsors

South Coast AQMD
SunPower
Port of Long Beach

Project Officer

Maryam Hajbabaei

Background

Climate change has resulted in an increased frequency of extreme weather events such as winter storms and wildfires. These events result in more frequent and longer grid outages, and this increasing trend is expected to continue as the impacts of climate change become more pronounced. Thus, it is expected that the population of backup generators (BUGs) will increase significantly as businesses, industries and residences try to adapt to this new reality.

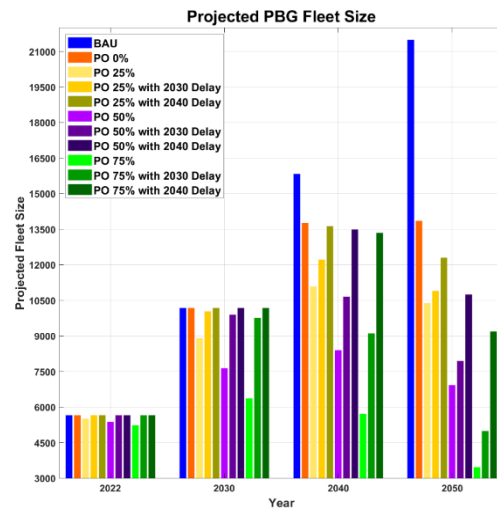
In the absence of any regulatory change, mostly diesel and gasoline BUGs will be deployed, negatively impacting the urban air quality and health of the South Coast Air Basin (SCAB) population. Thus, it is important to assess the impacts of future BUG fleets as well as zero-emission alternatives for deployment in lieu of BUGs and the associated impact in mitigating some or all of the negative impacts.

Project Objectives

The objectives of this project were to: (1) assess the emissions from BUGs as a result of their operation and maintenance, (2) estimate future emissions from diesel backup generators with increased deployment and use of these resources due to more frequent outages, (3) identify alternative technologies that can replace diesel backup generators with a focus on renewable resources, hydrogen and fuel cells, and (4) estimate the emissions reduction and resultant air quality and health impacts associated with microgrids associated with the alternatives to gasoline and diesel backup generators.

Approach

Impacts of BUGs were determined by first developing an inventory for existing BUGs. This was addressed through public record requests for permitted backup generators (PBG) and developing a Design of Experiment (DOEx) model for unpermitted residential backup generators (RBG). Thirty-seven future scenarios were developed and modeled for PBGs based on different growth rates for PBGs and different rates of replacing them with zero-emission alternatives. Scenarios also included delays in action to start the transition. The scenarios spanned from worst case (a scenario with an uncontrolled increase in diesel PBGs) to a best case (a scenario with aggressive retirement of existing PBGs and aggressive deployment of zero-emission alternatives). Several scenarios were also modeled for a future fleet of RBGs based on population growth and increased frequency and duration of outages, resulting in a higher percentage of households opting in to purchase a BUG. Emissions associated with each scenario were



determined. For a select number of scenarios, the emissions associated with a basin-wide outage or an outage only impacting fire-threat areas were used as inputs for air quality modeling and a health impact assessment.

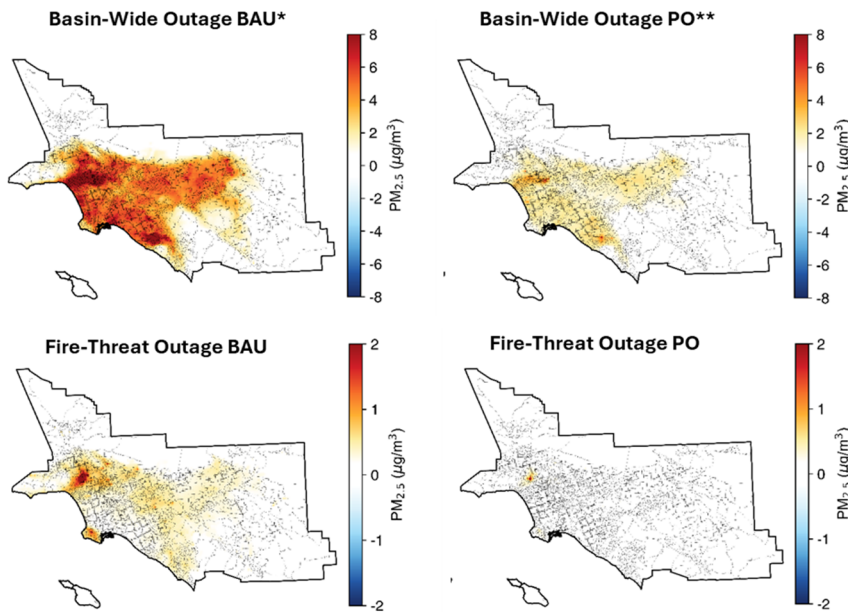
Results

The size of the BUG fleet increases in all scenarios studied except for the Phase-Out (PO) scenario where 75% of retired BUGs are replaced with zero-emission options and correspondingly the rate of adding new BUGs is decreased. The operation of BUGs for 12 hours results in air quality impacts that are most pronounced the day of the episode and generally disappear by the third day. Air quality impacts include increases in ozone over 4 ppb in sensitive locations associated with the most degraded ozone, and increases in PM_{2.5} from 2 µg/m³ in July and over 8 µg/m³ in January.

Conclusions

The major findings of the project are:

- Though rare, for an outage impacting all fire-threat areas, emissions from the 2022 BUG fleet are estimated to be 0.281 ton/hr for NO_x and 0.08 ton/hr for PM. These emissions are comparable to 0.283 ton/hr of NO_x and 0.075 ton/hr of PM associated with all refineries operating in SCAB, conveying that BUGs represent a major source of emissions when operating in an emergency.
- Backup generators negatively impact urban air quality in all scenarios examined, the extent to which depends on the outage duration, location, and the technologies used for backup power.



Difference in January PM_{2.5} Concentrations Between the 2045 Scenarios and the Baseline Scenario

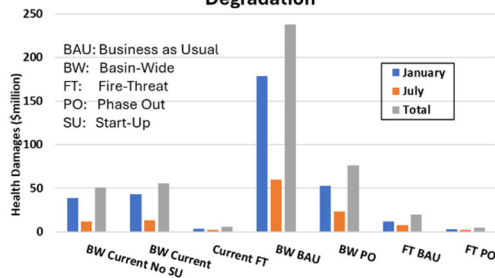
BAU*: Business as Usual
PO**: Phase Out

- Using zero-emission technologies in place of BUGs could avoid 1 incidence of premature mortality and a wide range of other air pollution-related illnesses per 12 hour outage.
- Regulations that incentivize replacement of BUGs with zero-emission alternatives will result in significant and immediate benefits to the public health. Future work should also consider local impacts.

Benefits

Replacing BUGs with zero-emission alternatives will significantly reduce emissions per outage event and substantially reduce adverse health impacts. Additionally, deploying zero-emission alternatives increases reliability and resiliency for the customer along with financial benefits.

Summary of Health Damages Associated with Air Quality Degradation



Project Costs

The cost of the project was \$220,000, with \$185,000 funded by South Coast AQMD and \$35,000 of match funding associated with an in-kind contribution from parallel microgrid projects funded by SunPower Corporation and the Port of Long Beach.

Microgrid Transit Air Quality Attributes

Contractor

University of California, Irvine

Cosponsors

South Coast AQMD
SunPower
UCI Anteater Express
Port of Long Beach

Project Officer

Maryam Hajbabaei

Background

To improve air quality in urban areas, the public transport sector is of particular interest, in part due to reducing environmental impacts through reducing overall vehicles miles traveled (VMT), VMT per capita, deploying alternative low to non-carbon technologies replacing diesel (or CNG) buses, and reducing local emissions in disadvantaged communities. Zero-emission buses (ZEBs) can be deployed in microgrid communities (e.g., University campuses) and public transit hubs to reduce emissions, reduce fossil fuel usage, improve air quality and health benefits, and enhance resiliency in operations.

Project Objectives

The project objectives were to (1) develop a benefit-cost analysis for zero-emission bus rollout, (2) develop a rollout strategy to transition to a zero-emission bus fleet, (3) address charging/hydrogen fueling infrastructure hubs, and (4) assess the feasibility of using plug-in electric buses as a resiliency resource for operations. The rollout strategy was based on the costs and benefits associated with each bus technology, the annual and overall budget of the transit agency to purchase buses, and the cost to install the requisite charging/fueling ZEB infrastructure.

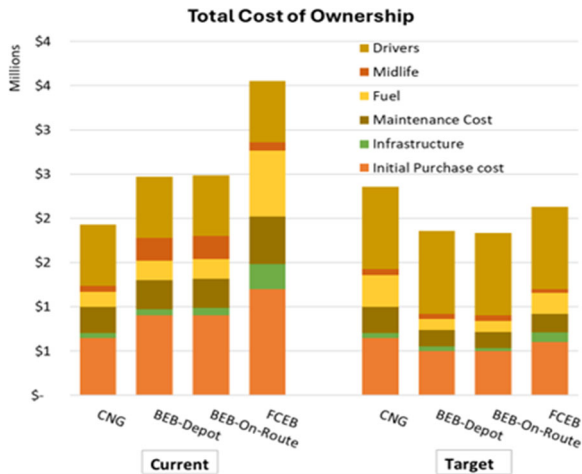
Approach

A benefit cost analysis for ZEBs, including battery electric buses (BEBs) and hydrogen fuel cell electric buses (FCEBs), was conducted comparing the total cost of ownership (TCO) of these technologies to conventional diesel and CNG buses for different fuel pathways. Based on forecasts and targets set for the price of fuel cells, batteries, charging/fueling infrastructure, and hydrogen, a

future scenario was developed and assessed as well. The benefit cost analysis was used to develop and assess several rollout strategies to achieve a zero-emission bus fleet. Next, the charging and hydrogen fueling infrastructure to support a zero-emission ZEV fleet was determined along with charging management strategies and deployment of distributed energy resources to mitigate negative impacts on the electric grid. An optimized rollout analysis was conducted using a multi-objective optimization based on costs and environmental impact, and a model was developed to assess the effectiveness of plug-in ZEBs as a grid resiliency resource.

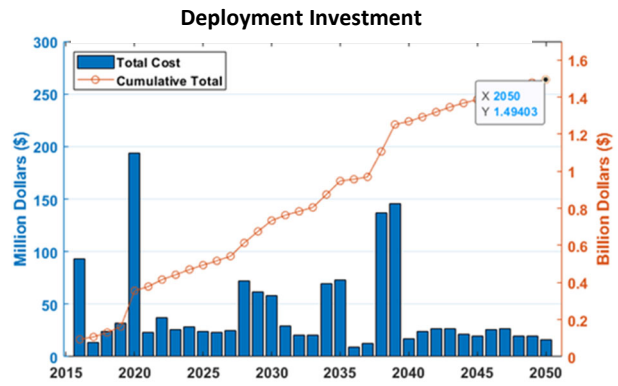
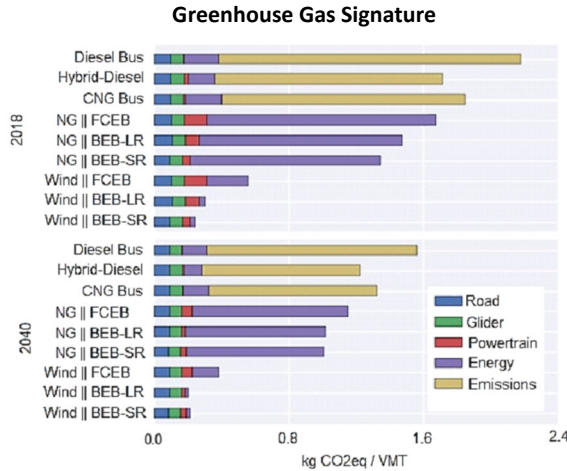
Results

Results show that the TCO of ZEBs can be lower than CNG buses if cost targets (especially for fuel cells, batteries and hydrogen) are met. Both technologies studied, BEBs and FCEBs, play an important role in achieving a zero-emission fleet in transit agencies depending on the route lengths, budget, and priorities. Using an optimized rollout can reduce the required investment.



The projected investment of a typical transit agency for the purchase of ZEBs and the supporting infrastructure will vary annually as new or expanded infrastructure is deployed.

Results show that BEBs, both short range (SR) and long range (LR), and FCEBs operating with electricity and hydrogen derived from renewable energy resources (“WIND”) have a substantially lower greenhouse gas signature.



Conclusions

The major findings of the project are:

- While TCO for ZEBs are currently higher than that of CNG buses, ZEBs have the potential to achieve a lower TCO when targets for the technology are met.
- While the extent of greenhouse gas emission reduction from ZEB deployment depends on the fuel pathways, all pathways result in an overall reduction in greenhouse gas emissions.
- Distributed energy resources (DERs) and charging/fueling management at transit fleet hubs can reduce barriers to infrastructure planning and deployment by (1) reducing the electrical demand from the grid and thereby reducing grid infrastructure upgrades, and (2) generating on-site hydrogen and thereby eliminating the transport of hydrogen.
- Given the high energy density of ZEB batteries and predictable schedules, ZEBs can serve as a valuable distributed energy resource when plugged-in by (1) load leveling during grid-tied operation and (2) supporting critical loads during a grid outage.

Benefits

Accounting for emissions associated with fuel production and delivery, ZEBs result in the reduction of both greenhouse gases and criteria pollutant emission which is a direct benefit to the reduction of carbon in the atmosphere but also the improvement of urban air quality and the reduction of air pollutant burdens in disadvantaged communities. Additionally, the use of ZEBs as a distributed energy resource increases community resiliency.

Project Costs

The cost of the project was \$290,000, with \$185,000 funded by South Coast AQMD and \$105,000 of match funding associated with an in-kind contribution from UCI Anteater Express, and parallel microgrid projects funded by SunPower Corporation and the Port of Long Beach.

Appendix D

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 ₂ —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	CPRG—Climate Pollution Reduction Grants
BATS—blended aftertreatment system	CPUC—California Public Utilities Commission
BEB—battery electric bus	CRADA—Cooperative Research and Development Agreement
BESS—battery energy storage system	CRDS—cavity ring-down spectroscopy
BET—battery electric tractor / battery electric truck	CRP—Charge Ready Program
BEV—battery electric vehicle	CRT—Charge Ready Transport / continuously regenerating technology
BMEP—brake mean effective pressure	CSC—city suburban cycle
BMS—battery management system	CTE—Center for Transportation and the Environment
BSNO _x —brake specific NO _x	CTF—Clean Truck Fund
BTC—Broadband Telecom Power, Inc.	CVAG—Coachella Valley Association of Governments
BTE—brake thermal efficiency	CWI—Cummins Westport, Inc.
CAE—computer aided engineering	CX—Customer Experience
CAMFC—Commercial Advancement of Mobile Fuel Cells	CX Fleet Project—Customer Experience of Zero Emission Trucks and Mobile Electric Vehicle Infrastructure Project
CAN—controller area networks	CY—calendar year
CAP—Clean Air Protection	DAC—disadvantaged community
CAAP—Clean Air Action Plan	DC—direct connection / direct current
CaFCP—California Fuel Cell Partnership	DCFC—direct connection fast charger
CAPP—Community Air Protection Program	DCM—dichloromethane
CARB—California Air Resources Board	DEF—diesel exhaust fluid
CATI—Clean Air Technology Initiative	DEG—diesel equivalent gallons
CBD—Central Business District (cycle) - a Dyno test cycle for buses	DER—distributed energy resource
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)

DERA—Diesel Emissions Reduction Act	GDI—gasoline direct injection
DGE—diesel gallon equivalents	GGE—gasoline gallon equivalents
DF—deterioration factor	GGRF—Greenhouse Gas Reduction Relief Fund
DHE—Dependable Highway Express	GH2—green hydrogen
DME—dimethyl ether	GHG—greenhouse gas
DMS—Division of Measurement Standards	GM—goods movement
DMV—Department of Motor Vehicles	GNA—Gladstein, Neandross & Associates, LLC
DOC—diesel oxidation catalysts	GNSS—global navigation satellite system
DOE—Department of Energy	Go-Biz—Governor’s Office of Business and Economic Development
DOT—Department of Transportation	GPCI—Green Paradigm Consulting, Inc.
DPF—diesel particulate filters	GPS—global positioning system
D-PMag—dual permanent magnet motor	GPU—gas processing unit
DPT3—Local Drayage Port Truck (cycle) - where 3=local (whereas 2=near-dock, etc.)	GPV—gas processing unit
DRC—Desert Resource Center	GREET—Greenhouse Gasses, Regulated Emissions and Energy Use in Transportation
DRI—Desert Research Institute	GTI—Gas Technology Institute
DT—delivery truck	GTL—gas to liquid
DTNA—Daimler Trucks North America LLC	GVW—gross vehicle weight
EATS—emissions aftertreatment system	GVWR—gross vehicle weight rating
ECM—emission control monitoring / engine control module	H2—hydrogen
EDD—electric drayage demonstration	H2NIP—Hydrogen Network Investment Plan
EDTA—Electric Drive Transportation Association	H&SC—California Health and Safety Code
EERE—Energy Efficiency and Renewable Energy	HCCI—Homogeneous Charge Combustion Ignition
EGR—exhaust gas recirculation	HCD—hydrogen contaminant detector
EIA—Energy Information Administration	HCHO—formaldehyde
EIN—Energy Independence Now	HCNG—hydrogen-compressed natural gas (blend)
EMFAC—Emission FACTors	HD—heavy duty
EPRI—Electric Power Research Institute	HDD—heavy-duty diesel
E-rEV—extended-range electric vehicles	HDDT—highway dynamometer driving schedule
ESD—emergency shut down	HD-FTP—Heavy-Duty Federal Test Procedure
ESS—energy storage system	HD I/M—heavy-duty inspection and maintenance
EV—electric vehicle	HD-OBD—heavy-duty on-board diagnostics
EVITP—electric vehicle infrastructure training program	HDV—heavy-duty vehicle
EVSE—electric vehicle supply equipment	HEV— hybrid electric vehicle
FCEB—fuel cell electric bus	HEVI-LOAD—heavy-duty electric vehicle infrastructure load, operations and deployment
FCET—fuel cell electric truck	HHDDT—heavy heavy-duty diesel truck schedule
FCEBCC—Fuel Cell Electric Bus Commercialization Consortium	HMI—Human Machine Interface
FCEV—fuel cell electric vehicle	HPLC—high-performance liquid chromatography
FCTO—Fuel Cell Technologies Office	HRSC—heat recovery steam cycle
FCV—fuel cell vehicle	HT—high throughput
FCXRDT—fuel cell extended range delivery truck	HTFCs—high-temperature fuel cells
FS—feasibility study	HTPH—high throughput pretreatment and enzymatic hydrolysis
FTA—Federal Transit Administration	HV—high voltage
FTP—federal test procedures	HVIP— Hybrid and Zero-Emission Trucks and Bus Voucher Program
FY—fiscal year	HyPPO—Hydrogen Progress, Priorities and Opportunities report
G2V—grid-to-vehicle	Hz—Hertz
g/bhp-hr—grams per brake horsepower hour	IBT—Intermodal Bridge Transport
GC/MS—gas chromatography/mass spectrometry	ICE—internal combustion engine
GCW—gross combination weight	
GCVW—gross container vehicle weight	

LIST OF ACRONYMS (cont'd)

ICEPAG—International Colloquium on Environmentally Preferred Advanced Generation	MCFC—molten carbonate fuel cells
ICEV—internal combustion engine vehicle	MD—medium duty
ICT—Innovative Clean Transit Regulation	MDHD— medium- and heavy-duty
ICU—inverter-charger unit	MECA—Manufacturers of Emission Controls Association
ICTC—Interstate Clean Transportation Corridor	MFCG—mobile fuel cell generator
INVEST CLEAN—Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness	MOA—Memorandum of Agreement
ISX12N—11.9-liter NZE engine	MOVES—Motor Vehicle Emission Simulator
ITS—intelligent transportation system	MPa—MegaPascal
IVOC—intermediate volatility organic compound	MPFI—Multi-Port Fuel Injection
JETSI—Joint Electric Truck Scaling Initiative	MPG—miles per gallon
kg—kilogram	MPGde—miles per gallon diesel equivalent
kW—kilowatt	MSRC—Mobile Source Air Pollution Reduction Review Committee
kWh—kilowatt-hour	MSW—municipal solid wastes
L—liter	MTA—Metropolitan Transportation Authority (Los Angeles County “Metro”)
L9N—8.9-liter natural gas engine	MW—megawatt
LADOT—City of Los Angeles Dept. of Transportation	MWh—megawatt hour
LADWP—Los Angeles Department of Water and Power	MY—model year
LAEDC—Los Angeles Economic Development Corporation	NAAQS—national ambient air quality standards
LA Metro—Los Angeles County Metropolitan Transportation Authority	NAFA—National Association of Fleet Administrators
LAX—Los Angeles Airport	NAICS—North American Industry Classification System
LBCT—Long Beach Container Terminal	NFPA—National Fire Protection Association
LC—lane change	NCP—nonconformance penalty
LCA—life cycle assessment	NEV—neighborhood electric vehicles
LCFS—Low Carbon Fuel Standard	NextSTEPS—Next Sustainable Transportation Energy Pathways
LD—light-duty	NG/NGV—natural gas/natural gas vehicle
LED—low emission diesel	NGO—non-governmental organization
LFP—lithium iron phosphate	NH ₃ —ammonia
Li—lithium ion	Nitro-PAHs—nitrated polycyclic aromatic hydrocarbons
LIGHTS—Low Impact Green Heavy Transport Solutions	NHTSA—National Highway Traffic Safety Administration
LIMS—Laboratory Information Management System	NMC—nickel manganese cobalt
LLC—low load cycle	NMHC—non-methane hydrocarbon
LLNL—Lawrence Livermore National Laboratory	NO—nitrogen monoxide
LNG—liquefied natural gas	NO ₂ —nitrogen dioxide
LO-SCR—light-off selective catalytic reduction	NO + NO ₂ —nitrous oxide
LPG—liquefied petroleum gas or propane	NOPA—Notice of Proposed Award
LRUSA—Lardi Renzo USA Corporation	NOx—oxides of nitrogen
LSM—linear synchronous motor	NRC—National Research Council
LSV—low-speed vehicle	NREL—National Renewables Energy Laboratory
LUV—local-use vehicle	NRTC—non-road-tested cycle
LVP—low vapor pressure	NSPS—new source performance standard
M&HD— medium- and heavy-duty	NSR—new source review
MATES—Multiple Air Toxics Exposure Study	NTE—not-to-exceed
MC—mass compensated	NZ—near zero
MCE—multi cylinder engine	NZE – near zero emission
MCS—megawatt charging standard	O ₃ —ozone
	OBD—on-board diagnostics

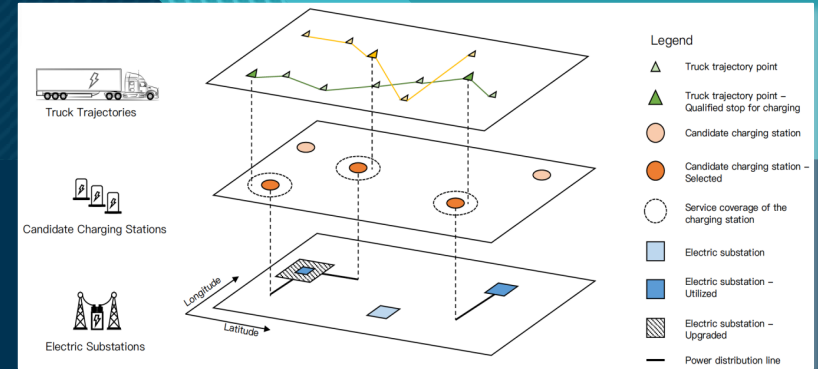
LIST OF ACRONYMS (cont'd)

OCS—overhead catenary system	ROG—reactive organic gases
OCTA—Orange County Transit Authority	ROI—return on investment
OEHHA—Office of Environmental Health Hazard Assessment	RPS—Rail Propulsion Systems
OEM—original equipment manufacturer	RTP/SCS—Regional Transportation Plan/Sustainable Communities Strategy
One-off—industry term for prototype or concept vehicle	S2S—Shore to Store
OP—opposed piston	SAE—Society of Automotive Engineers
OSAR—Onboard Sensing and Reporting	SB—school bus / Senate Bill
PAH—polycyclic aromatic hydrocarbons	SCAB—South Coast Air Basin or “Basin”
PAMS—portable activity measurement systems	SCAG—Southern California Association of Governments
PbA—lead acid	SCAQMD—South Coast Air Quality Management District
PCM—powertrain control module	SCFM—standard cubic feet per minute
PEMFC—proton exchange membrane fuel cell	SCE—single cylinder engine / Southern California Edison Company / Southern Counties Express
PEMS—portable emissions measurement system	SCR—selective catalytic reduction
PEV—plug-in electric vehicle	SCRT—Selective Catalytic Regenerating Technology
PFI—port fuel injection	SCCRT—Selective Catalytic Continuously Regenerating Technology
PHET—plug in hybrid electric tractor / plug-in hybrid electric truck	SDG&E—San Diego Gas & Electric Company
PHEV—plug-in hybrid vehicle	SHR—steam hydrogasification reaction
PM—particulate matter / permanent magnet	SI—spark ignited
PM2.5—particulate matter ≤ 2.5 microns	SI-EGR—spark-ignited, stoichiometric, cooled exhaust gas recirculation
PM10—particulate matter ≤ 10 microns	SIP—State Implementation Plan
POH—Port of Hueneme	SJVAPCD—San Joaquin Valley Air Pollution Control District
POLA—Port of Los Angeles	SMR—steam methane reforming
POLB—Port of Long Beach	SNG—synthetic natural gas
PON—Program Opportunity Notice	SOAs—secondary organic aerosols
POS—point of sale	SOC—state-of-charge
ppb—parts per billion	SoCalGas—Southern California Gas Company (A Sempra Energy Utility)
ppm—parts per million	SOFC—solid oxide fuel cells
PSI—Power Solutions International	SPaT—single phase and timing
PTR-MS—proton transfer reaction-mass spectrometry	START—Sustainable Terminals Accelerating Regional Transportation
QCD—Quality Custom Distribution	STEPS3— Sustainable Transportation Energy Pathways 3
QVM—qualified vehicle modifiers	STTR—Small Business Technology Transfer
R&D—research and development	SULEV—super ultra-low emission vehicle
RD&D—research, development and demonstration	SUV—sports utility vehicle
RDD&D (or RD3)—research, development, demonstration and deployment	SwRI—Southwest Research Institute
REAL—Real Emissions Assessment Logging	TAC—toxic air contaminants
REMD—roadside emissions monitoring device	TAO—Technology Advancement Office
RFA—Renewable Fuels Association	TAP—(Ports’) Technology Advancement Program
RFI—Request for Information	TB—transit bus
RFP—Request for Proposal	TC—total carbon
RFS—renewable fuel standards	TCO—total cost of ownership
RH—refuse hauler	TEMS—transportable emissions measurement system
RI—reactive intermediates	
RISC—reduced instruction set computer	
RM—ramp metering	
RMC—ramped modal cycle	
RMC-SET—ramped modal cycle supplemental emissions test	
RNG—renewable natural gas	

LIST OF ACRONYMS (cont'd)

THC—total hydrocarbons	U.S. EPA—United States Environmental Protection Agency
TLS—Toyota Logistics Services	USTS—United States Training Ship
TO—task order	V2B—vehicle-to-building
tpd—tons per day	V2G—vehicle-to-grid
TRB—Transportation Research Board	V2G/B—vehicle-to-building functionality
TRL—technology readiness level	VLS—variable speed limit
TRU—transportation refrigeration unit	VMT—vehicle miles traveled
TSI—Three Squares, Inc.	VOC—volatile organic compounds
TOU—time-of-use	V-PER—vessel performance management package
TT—Turtle Top Bus	VPP—virtual power plant
TTSI—Total Transportation Services, Inc.	WAIRE—Warehouse Actions and Investments to Reduce Emissions Program
TWC—three-way catalyst	WGS—water gas shift
UCI—University of California, Irvine	WVU—West Virginia University
UCLA—University of California, Los Angeles	ZANZEFF—Zero and Near Zero Emission Freight Facilities
UCR—University of California, Riverside	ZE—zero emission
UCR/CE-CERT—UCR/College of Engineering/Center for Environmental Research & Technology	ZEB—zero-emission bus
UDDS—urban dynamometer driving schedule	ZECT—Zero Emission Cargo Transport
$\mu\text{g}/\text{m}^3$ —microgram per cubic meter	ZEDT—Zero Emission Drayage Truck
ULEV—ultra low emission vehicle	ZET—zero emission truck
ULSD—ultra low sulfur diesel	ZEV—zero emissions vehicle
UPS—United Postal Service	
U.S.—United States	

CLEAN FUELS 2024 ANNUAL REPORT & 2025 PLAN UPDATE



A blue electric truck is parked at a charging station. The truck is connected to a charging station on the right. The background shows trees and a clear sky. A teal semi-transparent overlay covers the middle of the image, containing text.

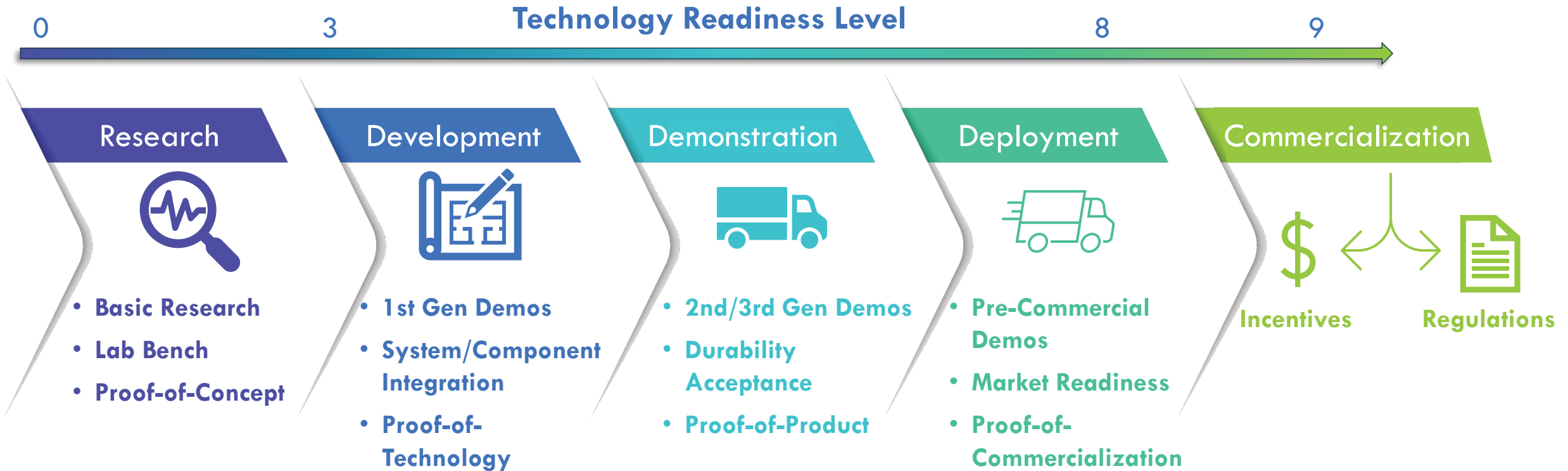
Background

State law requirements:

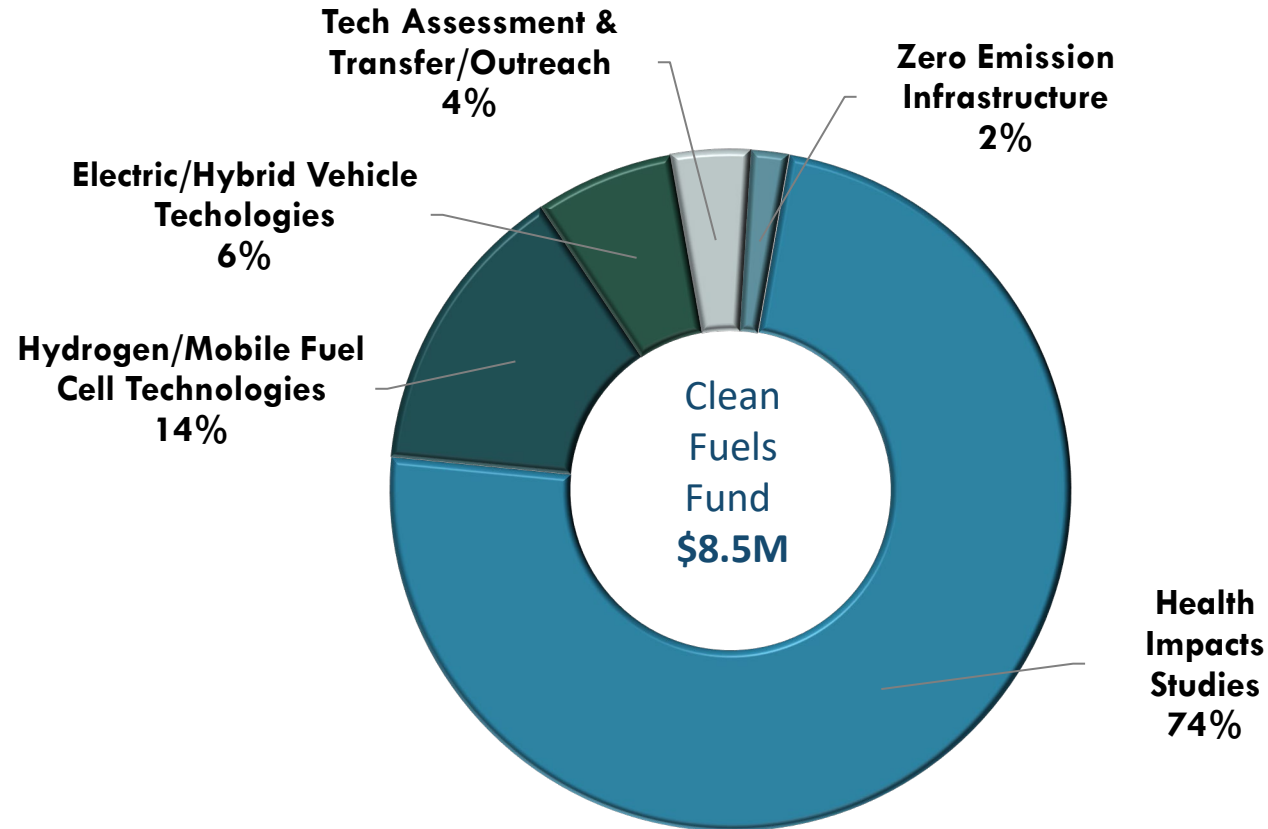
- Annual Report on Clean Fuels Program and Technology Advancement Plan Update (H&SC 40448.5.1)
- 2025 Plan Update (draft) submitted to Technology Committee October 18, 2024
- Submit to Legislature by March 31 every year

Reports: <https://www.aqmd.gov/home/technology/reports>

Clean Fuels Program - Overview



Clean Fuels Spending in 2024



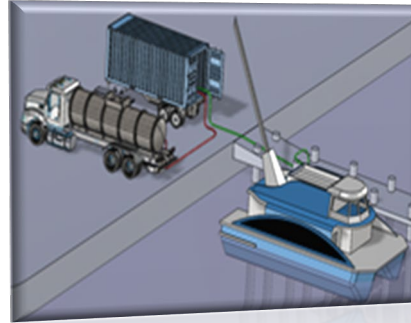
Health Impacts Studies:

- MATES VI Study
- Brake, Road, and Tire Wear Emissions Study
- EtO Source Characterization Study
- Secondary EtO Formation Study

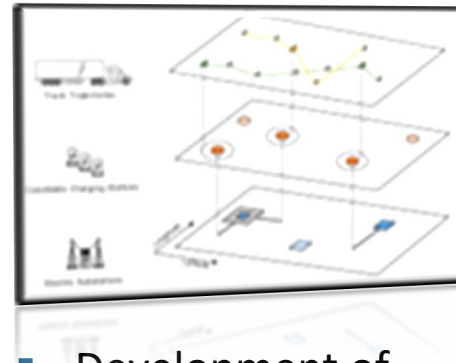
Highlighted Projects in 2024



- Electrification of Balboa Island Ferries and Installation of Supporting Charging Infrastructure (Balboa Island Ferry) **(Initiated)**



- Development of a Portable Liquid Hydrogen Fueling System (Zero Emission Industries, Inc.) **(Initiated)**



- Development of Data-Driven Planning Platforms for Charging Networks, Medium- and Heavy-Duty Truck Fleets, and Power Systems (UC Riverside) **(Initiated)**



- Determine Brake and Tire Wear Exposure Concentrations in South Coast Air Basin and Coachella Valley (MATES VI) (Emissions Analytics, Ltd. and UC Irvine) **(Initiated)**

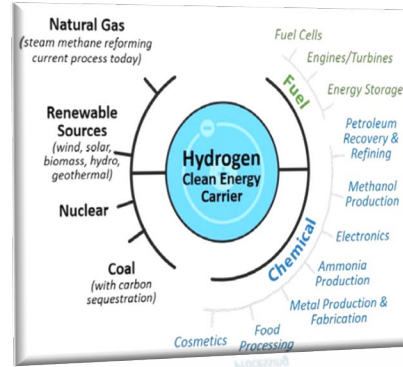
Highlighted Projects in 2024 (Cont'd)



- Development and Demonstration of Electric Powered Trailer for HD Vehicles (Range Energy, Inc.) **(On-Going)**



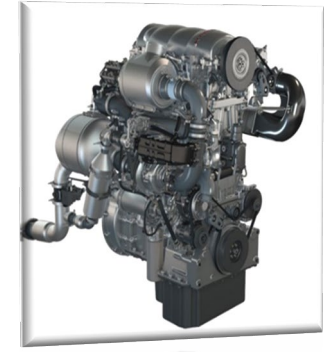
- Deployment of Zero Emission Mobile Clinics with Arrowhead Regional Medical Center (San Bernardino County) **(On-going)**



- Research on California Hydrogen Refueling Infrastructure for HD Fuel Cell trucks (DOE H2@Scale CRADA) **(Completed)**

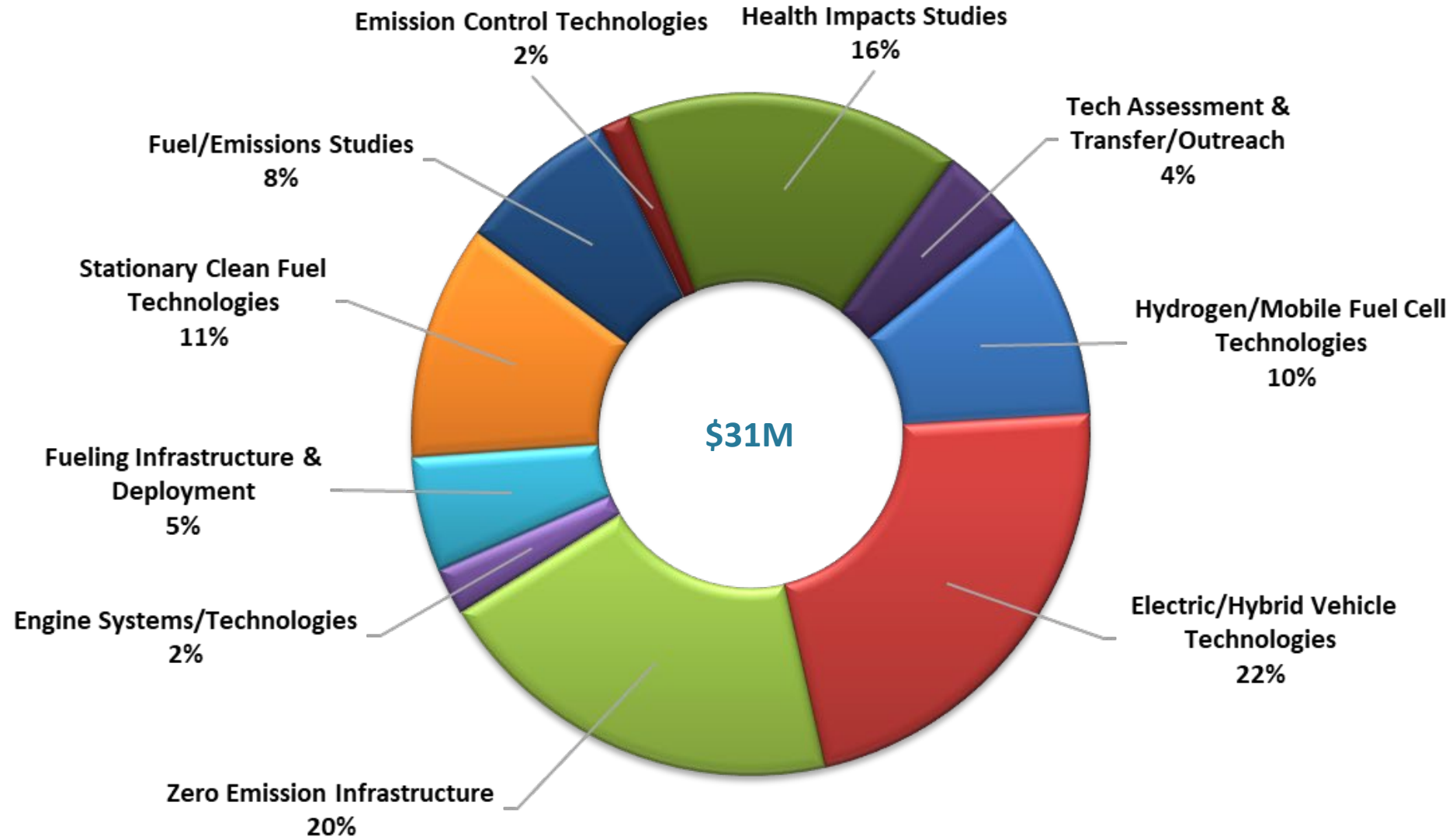


- Assessment of Emission Impact of Hydrogen-Natural Gas Blend in Near-Zero Emission Engines (UC Riverside) **(Completed)**



- Development and Demonstration of Near-Zero Emission Opposed Piston Engine (CALSTART) **(Completed)**

Potential Clean Fuels Funding for 2025



2024 Competitive Technology Grant Awards to South Coast AQMD

Over \$640M
Awarded

\$500M
US EPA
INVEST CLEAN
ZE Freight, Infrastructure,
Workforce Training

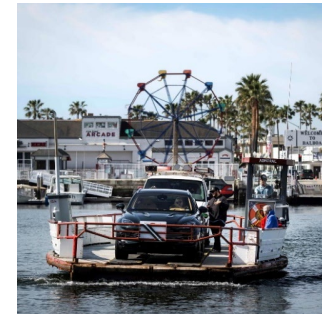
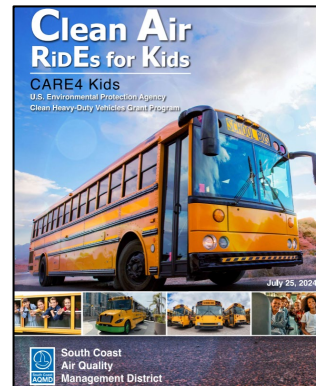
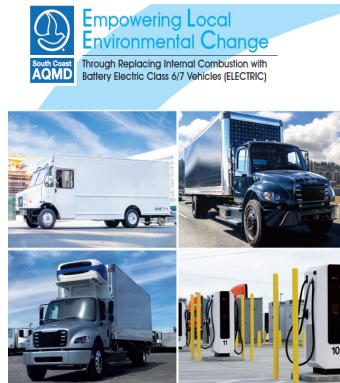
\$48M
US EPA
ELECTRIC
Battery Electric Class 6&7

\$40M
US EPA
CARE4KIDS
ZE School Buses

\$4.5M
US EPA
DERA
ZE Trucks

\$42M*
CARB & CEC
SPEED
ZE Trucks & Infrastructure

\$8M
CARB
Balboa Ferry



*Award has not yet been approved by the South Coast AQMD Governing Board

2024 Incentive Program Highlights



Commercial & Residential Lawn & Garden Equipment Programs

\$4.5M incentivized over 3,700 pieces of L&G equipment



VW Mitigation

\$19M awarded for approximately 90 ZE trucks



School Air Filtration

\$7.9M for air filtration in 234 schools



Residential Air Filtration

\$1.8M awarded 1,700 units

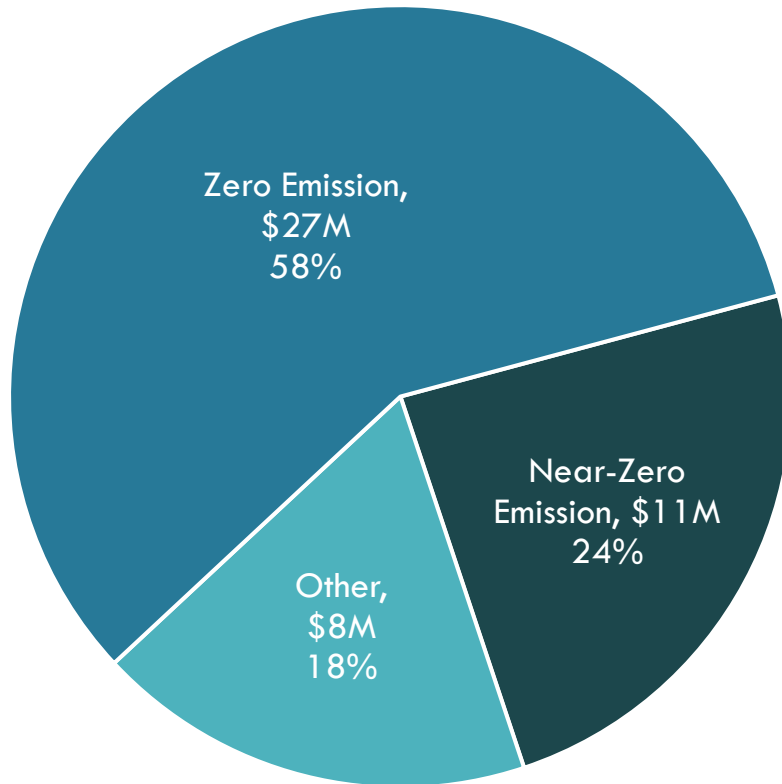


Carl Moyer Program & Clean Air Protection

\$153M awarded for approximately 1,300 Heavy Duty Charging Plugs and 10 H2 stations, 60 ZE trucks

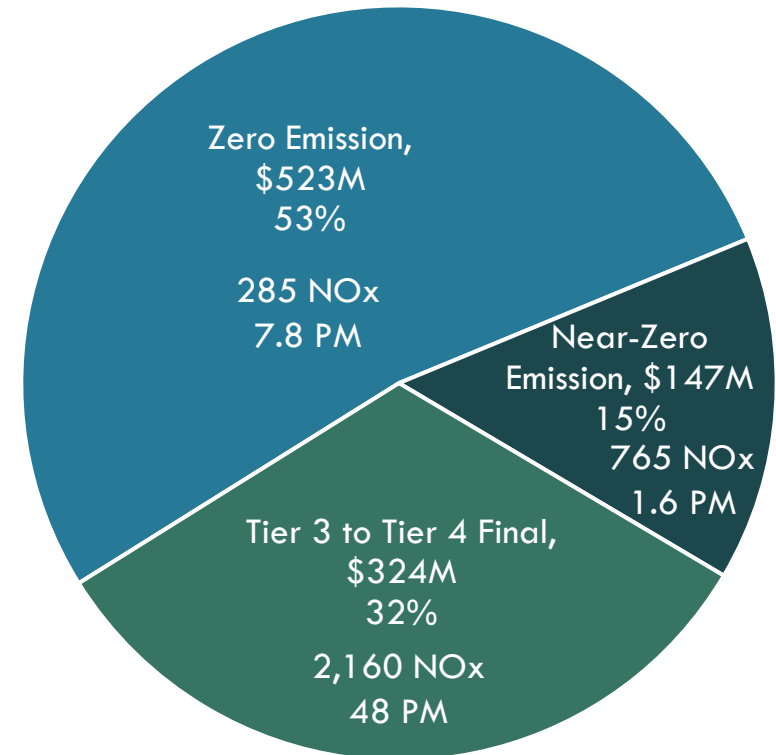
TAO Zero and Near-Zero Projects 2019 – 2024

Clean Fuels Funding, \$46.4M*
(Total Project Cost \$871M)



*Includes projected totals from 2024 approved projects

Incentive Program Funding, \$994M**



*Moyer, Prop 1B, VW, VIP, and other programs

**Emission Reductions in tons/year

FOCUS AREAS IN 2025

- Implementation of awarded grants and existing programs
- Start of Truck Loaner Program
- In Person Residential Lawn and Garden Exchange Programs



Proposed New Clean Fuels Advisory Group Members

Technology Advancement Advisory Group:

Dr. Leela Rao, Port of Long Beach

Clean Fuels Advisory Group:

Dr. Gordon Abas Goodarzi,
Magmotor Technologies, Inc.
Yassamin Kavezade, California
Building Decarbonization
Coalition

Recommended Actions

- Approve Clean Fuels Program 2024 Annual Report
- Adopt Clean Fuels Program 2025 Plan Update
- 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

South Coast AQMD Technology Showcase



- Over 20 technology partners (Battery Electric/Fuel Cell Vehicles and Equipment):

- Evolectric
- Ford
- GreenPower Motor
- Hino
- Hyundai
- Lion Electric
- Meritor
- Nikola
- Range Energy
- RockeTruck
- Schneider
- Voltu Motor
- Volvo

- Other Clean Air Technologies:

- Mobile Monitoring Laboratory Platforms
- Commercial Electric Lawn & Garden Equipment
- Air Filtration Systems



[↑ Back to Agenda](#)

BOARD MEETING DATE: March 7, 2025

AGENDA NO. 21

PROPOSAL: Approve Annual RECLAIM Audit Report for 2023 Compliance Year

SYNOPSIS: The Annual RECLAIM Audit Report for 2023 Compliance Year for the NO_x and SO_x 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 30th 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 2023 Compliance Year is also included in the report.

COMMITTEE: Stationary Source, February 21, 2025, Reviewed

RECOMMENDED ACTIONS:

Adopt the attached Resolution to:

1. Approve the Annual RECLAIM Audit Report for 2023 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 5, 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; and
3. Direct the Executive Officer to submit to CARB and U.S. EPA, the Annual RECLAIM Audit Report for 2023 Compliance Year and the August 5, 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 Nastri
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_x and SO_x. 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 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.

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 2023 Compliance Year (which encompasses the time period for Cycle 1 from January 1, 2023, to December 31, 2023, and for Cycle 2 from July 1, 2023, to June 30, 2024). Based on audited emissions in this report and previous annual reports, staff has determined that RECLAIM met its emissions goals for Compliance Year 2023, as well as for all previous compliance years with the only exception of NO_x emissions in Compliance Year 2000. For that year, NO_x emissions exceeded programmatic allocations (by 11 percent) primarily due to emissions from electric generating facilities during the California energy crisis. For Compliance Year 2023, audited NO_x emissions were 16 percent less than programmatic NO_x allocations and audited SO_x emissions were 37 percent less than programmatic SO_x allocations.

Audit Findings

The audit of the RECLAIM program's Compliance Year 2023 and trades of RTCs that occurred during calendar year 2024 show:

- **Overall Compliance** – Audited NO_x and SO_x emissions from RECLAIM facilities were below programmatic allocations.
- **Universe** – The RECLAIM universe consisted of 229 facilities as of June 30, 2023. No new facilities were included, no facilities were excluded, and one facility in the

RECLAIM universe shut down during Compliance Year 2023. This one facility cited the cost of meeting air pollution regulations and manufacturing, production, and raw material costs and as the reasons for the shutdown. The shutdown facility was in the NOx RECLAIM universe only. Thus, 228 active facilities were in the RECLAIM universe on June 30, 2024, the end of Compliance Year 2023.

- **Facility Compliance** – 94 percent of NOx facilities and 100 percent of SOx facilities in RECLAIM complied with their allocations during the 2023 Compliance Year. Thirteen facilities (six percent of total facilities) exceeded their allocations; all 13 facilities exceeded their NOx allocations, and no facilities exceeded their SOx allocations during Compliance Year 2023. The 13 facilities that exceeded their NOx allocations had total NOx emissions of 340.0 tons and did not have adequate allocations to offset 208.5 of those tons. The NOx exceedances represent 3.9 percent of total RECLAIM NOx universe allocations and 61.3 percent of total NOx emissions from the 13 facilities. No RECLAIM facility had SOx emissions that exceeded its SOx 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 South Coast AQMD staff's determinations that the facilities exceeded their Compliance Year 2023 allocations.
- **Job Impacts** – Based on a survey of RECLAIM facilities, the RECLAIM program had minimal impact on employment during the 2023 Compliance Year, which is consistent with previous years. RECLAIM facilities reported 7,969 job gains and 8,871 job losses for an overall net loss of 902 jobs, representing about 0.99 percent of their total employment. No facility cited RECLAIM as a factor contributing to the addition of any jobs during Compliance Year 2023. Two RECLAIM facilities reported 71 job losses due to RECLAIM during Compliance Year 2023. 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 2024 was lower in terms of number of overall trades (6.0 percent), lower in overall value (20.5 percent), and higher in volume for discrete-year RTCs excluding swaps (0.02 percent), when compared to calendar year 2023. Additionally, market activity in calendar year 2024 was higher with respect to the volume of Infinite-Year Block (IYB) RTCs excluding swaps (116.3 percent) compared to calendar year 2023. A total of \$1.60 billion in RTCs has been traded since the adoption of RECLAIM, of which \$9.6 million occurred in calendar year 2024 (compared to \$12.1 million in calendar year 2023), excluding swaps.

The annual average prices of traded discrete-year SOx RTCs for Compliance Years 2023 through 2025, and IYB SOx RTCs for Compliance Year 2024, traded in

calendar year 2024 were below the applicable review thresholds for average RTC prices.

The annual average prices of discrete-year NO_x RTCs for Compliance Years 2024 and 2025 traded in calendar year 2024 exceeded the Rule 2015 backstop threshold of \$15,000 per ton¹. The annual average price of IYB NO_x RTCs for Compliance Year 2024 traded in calendar year 2024 was below the applicable average NO_x RTC price review threshold.

The annual average prices of RTCs traded during calendar years 2023 and 2024 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 2023 and 2024

Year Traded	Average Price (\$/ton)				Review Thresholds (\$/ton)	
	2022 NO _x RTC	2023 NO _x RTC	2024 NO _x RTC	2025 NO _x RTC	Rule 2015 (b)(6)	Health and Safety Code §39616(f)
2023	\$13,245	\$17,686 ¹	\$25,126 ¹	None traded	\$15,000	\$56,919
2024		\$11,174	\$17,098 ¹	\$30,103 ¹		
Year Traded	2022 SO _x RTC	2023 SO _x RTC	2024 SO _x RTC	2025 SO _x RTC	Rule 2015 (b)(6)	Health and Safety Code §39616(f)
2023	\$2,631	\$2,500	None traded	None traded	\$15,000	\$40,982
2024		\$1,350	None traded	None traded		

¹ Average Price exceeds Rule 2015 (b)(6) annual average price threshold. See RTC Price Assessment section for further information.

**Table 2 – Average Prices for IYB RTCs Traded
During Calendar Years 2023 and 2024**

RTC	Average Price (\$/ton)		Review Threshold (\$/ton) [Health and Safety Code §39616(f)]
	Traded in 2023	Traded in 2024	
NOx	\$58,058	\$39,054	\$853,786
SOx	\$24,359	None traded	\$614,726

- **Role of Investors** – Compared to calendar year 2023, investor holdings of total IYB NOx RTCs decreased from 1.8 percent to 1.6 percent and remained the same at 4.1 percent for IYB SOx RTCs at the end of calendar year 2024. 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.

Staff completed the Rule 2015 evaluation and review in August 2022, following completion of the Compliance Year 2020 RECLAIM Audit Report and determination that the average discrete RTC price for NOx exceeded \$15,000 per ton.² The evaluation that was submitted to CARB and U.S. EPA concluded that the requirements of Rule 2004(d)(1) through (d)(4), in conjunction with the statutory penalty structure and other RECLAIM provisions, was adequate to ensure compliance and no modifications to the RECLAIM program were needed.

Subsequently, at the Governing Board meetings for the Annual RECLAIM Audit Reports for Compliance Years 2021 and 2022 on March 3, 2023 and March 1, 2024, respectively, since the circumstances have not changed from the August 2022 Rule 2015 evaluation, the Board determined that no additional analysis or action was required to address the continued Rule 2015 price threshold exceedance, and

² <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2022/2022-aug5-024.pdf>

directed staff to submit the Annual RECLAIM Audit Reports to CARB and U.S. EPA.

The Compliance Year 2023 RECLAIM Audit Report shows that annual average prices for Compliance Year 2024 and 2025 discrete-year NOx RTCs traded in calendar year 2024 continue to exceed the \$15,000 per ton review threshold. The annual average prices for Compliance Year 2024 and 2025 discrete-year SOx RTCs traded in calendar year 2024 remain below the threshold. Staff continues to recommend that additional assessment is not required, and no further action is warranted, since circumstances continue to remain unchanged from the August 2022 Rule 2015 evaluation.

- ***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 IYB RTCs, the same CPI adjustment was made for IYB RTCs.

The overall program review thresholds in 2024 dollars for RTC trades that occurred in calendar year 2024 were \$56,919 per ton of discrete-year NOx RTCs, \$40,982 per ton of discrete-year SOx RTCs, \$853,786 per ton of IYB NOx RTCs, and \$614,726 per ton of IYB SOx RTCs. As discussed in the Annual RECLAIM Audit Report for 2023 Compliance Year, annual average prices for all discrete-year NOx and SOx RTCs traded in calendar year 2024 were below \$56,919 per ton of discrete-year NOx, and \$40,982 per ton of discrete-year SOx program review thresholds. Additionally, annual average prices for IYB NOx and SOx RTCs traded in calendar year 2024 were also below their overall program review thresholds of \$853,786 and \$614,726 per ton at \$39,054 and “none traded” per ton of IYB NOx and SOx RTCs, respectively.

Attachments

- A. Annual RECLAIM Audit Report for 2023 Compliance Year
- B. Resolution
- C. Board Presentation

ATTACHMENT A

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Annual RECLAIM Audit Report for 2023 Compliance Year

March 7, 2025

Executive Officer

Wayne Nastri

**Deputy Executive Officer
Engineering & Permitting**

Jason Aspell

**Assistant Deputy Executive Officer
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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD**

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Senator (Ret.)
Senate Rules Committee Appointee

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NITHYA RAMAN
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CARLOS RODRIGUEZ
Mayor Pro Tem, Yorba Linda
Cities of Orange County

EXECUTIVE OFFICER:

WAYNE NASTRI

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LIST OF ABBREVIATIONS

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
CERP	Community Emission Reductions Plan
CGA	Cylinder Gas Audit
CPMS	Continuous Process Monitoring System(s)
DOE	United States Department of Energy
EDR	Electronic Data Reporting
ERC	Emission Reduction Credit
HUD	United States Department of Housing and Urban Development
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

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 2023 (January 1 through December 31, 2023, for Cycle 1 and July 1, 2023, through June 30, 2024, for Cycle 2 facilities). This annual audit report covers activities for the thirtieth 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, 2023, the overall changes in RECLAIM participants were 134 facilities included into the program, 73 facilities excluded from the program, and 226 facilities that ceased operation. Thus, the RECLAIM universe consisted of 229 active facilities at the end of Compliance Year 2022 (December 31, 2022, for Cycle 1 facilities and June 30, 2023, for Cycle 2 facilities). During Compliance Year 2023, (January 1, 2023, through December 31, 2023, for Cycle 1 facilities and July 1, 2023, through June 30, 2024, for Cycle 2 facilities), no facilities were included into the RECLAIM universe, no facilities were excluded, and one facility in the NOx universe shut down and is no longer in the active RECLAIM universe. This change resulted in a net decrease of one facility in the universe, bringing the total number of active RECLAIM facilities to 228 as of the end of Compliance Year 2023.

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 only remaining changes in RTC supply during Compliance Year 2023 were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12). The clean fuels production adjustment increased the Compliance Year 2023 NOx RTC supply by 15.4 tons and decreased SOx RTC supply by 4.0 tons.

Since the inception of the RECLAIM program in 1994, a total value of \$1.60 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 2024, there were 235 RTC trade registrations, including swap trades. There were 219 RTC trade registrations with a total value of \$9.6 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 2024 a total of 975 tons of discrete-year NOx RTCs, 344 tons of discrete-year SOx RTCs, 82 tons of IYB NOx RTCs, and 23 tons of IYB SOx RTCs were traded. The RTC trading market activity decreased during calendar year 2024 compared to calendar year 2023 in number of trades (by 6.0%) and in total value (by 20.5%). However, the total volumes of RTC traded increased during calendar year 2024 compared to calendar year 2023, for discrete-year RTCs (by 0.2%) and for IYB RTCs (by 116.3%).

Discrete-year RTC trades with price (i.e., price >\$0.00) registered during calendar year 2024 include trades for Compliance Years 2023, 2024, and 2025 NOx RTCs, and Compliance Year 2023 SOx RTCs, excluding swap trades. The annual average prices of discrete-year NOx RTCs traded during calendar year 2024 were \$11,174; \$17,098; and \$30,103 per ton for Compliance Years 2023, 2024, and 2025 RTCs, respectively. The annual average price for discrete-year SOx RTCs traded during the same period for Compliance Year 2023 was \$1,350 per ton.

The annual average price of Compliance Year 2024 and 2025 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 \$56,919 per ton of NOx and none of the SOx RTC vintages traded exceeded the \$40,982 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).¹

During calendar year 2024, the annual average price for IYB NOx RTCs was \$39,054 per ton and no IYB SOx RTCs were traded with price. Therefore, annual average IYB RTC prices did not exceed the \$853,786 per ton of IYB NOx RTCs or the \$614,726 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).

¹ 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>

At the end of calendar year 2024, investors' holdings of IYB NO_x RTCs decreased to 1.6 percent when compared to investor's holdings at 1.8 percent in calendar year 2023. Investors' holdings of IYB SO_x RTCs in calendar year 2024 did not change from 4.1 percent of the total SO_x RECLAIM RTCs in calendar year 2023.

Chapter 3: Emission Reductions Achieved

For Compliance Year 2023, aggregate NO_x emissions were below total allocations by 16 percent and aggregate SO_x emissions were below total allocations by 37 percent. No emissions associated with breakdowns were excluded from reconciliation with facility allocations in Compliance Year 2023. 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 2023. With respect to the Rule 2015 backstop provisions, Compliance Year 2023 aggregate NO_x and SO_x 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 2023, a total of six NO_x RECLAIM facilities had NSR NO_x emission increases, and no SO_x RECLAIM facilities had an NSR SO_x emission increase due to expansion or modification. Consistent with all prior compliance years, there were sufficient NO_x and SO_x 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_x emission increases and a 1-to-1 offset ratio for SO_x emission increases on a programmatic basis. In Compliance Year 2023, RECLAIM demonstrated federal equivalency with a programmatic NO_x offset ratio of 145-to-1 based on the compliance year's total unused allocations and total NSR emission increases for NO_x. There were no SO_x 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_x offset ratio for any compliance year, provided aggregate SO_x emissions under RECLAIM are lower than or equal to aggregate SO_x allocations for that compliance year. As shown in Chapter 3 (Table 3-2 and Figure 3-2), there was a surplus of SO_x RTCs during Compliance Year 2023. Therefore, RECLAIM more than complied with the federally-required SO_x offset ratio and further quantification of the SO_x 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 2023 annual audit, 216 of the 229 NO_x RECLAIM facilities (94%) complied with their NO_x allocations, and 27 of the 27 SO_x facilities (100%) complied with their SO_x allocations. Therefore, 13 facilities exceeded their allocations (all these facilities exceeded their NO_x allocations only). The 13 facilities that exceeded their NO_x allocations had aggregate NO_x emissions of 340.0 tons and did not have adequate allocations to offset 208.5 tons (or 61.3%) of their combined emissions. The NO_x exceedance amounts are relatively small compared to the overall allocations for Compliance Year 2023 (3.9% of total NO_x allocations). The exceedances from these facilities did not impact the overall RECLAIM emission reduction goals. The overall RECLAIM NO_x and SO_x emission reduction targets and goals were met for Compliance Year 2023 (*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 2023 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 2023 employment survey data gathered from APEP reports, RECLAIM facilities reported 7,969 job gains and 8,871 job losses for an overall net loss of 902 jobs, representing 0.99 percent of their total employment. No RECLAIM facility cited RECLAIM as a factor contributing to the addition of any jobs during Compliance Year 2023. Two facilities reported a total of 71 jobs lost due to RECLAIM during Compliance Year 2023.

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 2023 NO_x and SO_x emissions decreased 6 percent and 14 percent, respectively, relative to Compliance Year 2022. Quarterly calendar year 2023 NO_x emissions fluctuated within six percent of the mean NO_x emissions for the year. Quarterly calendar year 2023 SO_x emissions fluctuated within eight percent of the year's mean SO_x 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 2024, 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 NOx or SOx emission increases are required to be equipped with BACT, which minimizes to the extent feasible the increase of NOx and SOx 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

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 2023 Compliance Year Audit.

This report presents the annual program audit and progress report of RECLAIM's thirtieth compliance year (January 1 through December 31, 2023, for Cycle 1 and July 1, 2023, through June 30, 2024, for Cycle 2 RECLAIM facilities), also known as Compliance Year 2023¹. 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;

¹ Information regarding emissions, allocations, RTC supply and RTC trading activity, annual average prices, and available RTCs for prior years, alluded to, but not specifically detailed in this report, can be found here at: <https://www.aqmd.gov/home/programs/business/about-reclaim/reclaim-annual-reports>.

- 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.

CHAPTER 1 RECLAIM UNIVERSE

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, 2023, the overall changes in RECLAIM participants were 134 facilities included into the program, 73 facilities excluded from the program, and 226 facilities that ceased operation. Thus, the RECLAIM universe consisted of 229 active facilities at the end of Compliance Year 2022 (December 31, 2022, for Cycle 1 facilities and June 30, 2023, for Cycle 2 facilities). During Compliance Year 2023, (January 1, 2023, through December 31, 2023, for Cycle 1 facilities and July 1, 2023, through June 30, 2024, for Cycle 2 facilities), no facilities were included into the RECLAIM universe, no facilities were excluded, and one facility in the NOx universe shut down and is no longer in the active RECLAIM universe. This change resulted in a net decrease of one facility in the universe, bringing the total number of active RECLAIM facilities to 228 as of the end of Compliance Year 2023.

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_x and/or SO_x emissions from permitted sources above the four ton per year threshold; or
- It ceased to be categorically excluded and its reported NO_x and/or SO_x 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_x Reductions from RECLAIM Assessment to achieve an additional five tons per day NO_x 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_x) and Oxides of Sulfur (SO_x), to initiate the transition of the NO_x and SO_x 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_x and SO_x 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 transition 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, 2023, (the last day of Compliance Year 2022 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 226 facilities. Thus, the net change in the RECLAIM universe from October 15, 1993, through June 30, 2023, was a decrease of 165 facilities from 394 to 229 facilities. In Compliance Year 2023 (January 1, 2023, through December 31, 2023, for Cycle 1 facilities and July 1, 2023, through June 30, 2024, for Cycle 2 facilities), no facilities were included, no facilities were excluded, and one facility shut down. This change brought the total number of facilities in the RECLAIM universe to 228 facilities. The Compliance Year 2023 RECLAIM universe includes 201 NO_x only, no SO_x-only, and 27 both NO_x and SO_x RECLAIM facilities. The list of active facilities in the RECLAIM universe as of the end of Compliance Year 2023 is provided in Appendix A.

Facility Inclusions and Exclusions

No RECLAIM facilities were included in or excluded from the RECLAIM universe during Compliance Year 2023 (Appendix B).

Facilities Permanently Ceasing Operations

One NO_x-only RECLAIM facility permanently ceased operations in Compliance Year 2023. This facility cited manufacturing, production, or raw material cost and the cost of meeting air pollution regulations as reasons for the shutdown. Appendix C lists this facility and provides a brief description of the reported reasons for its closure.

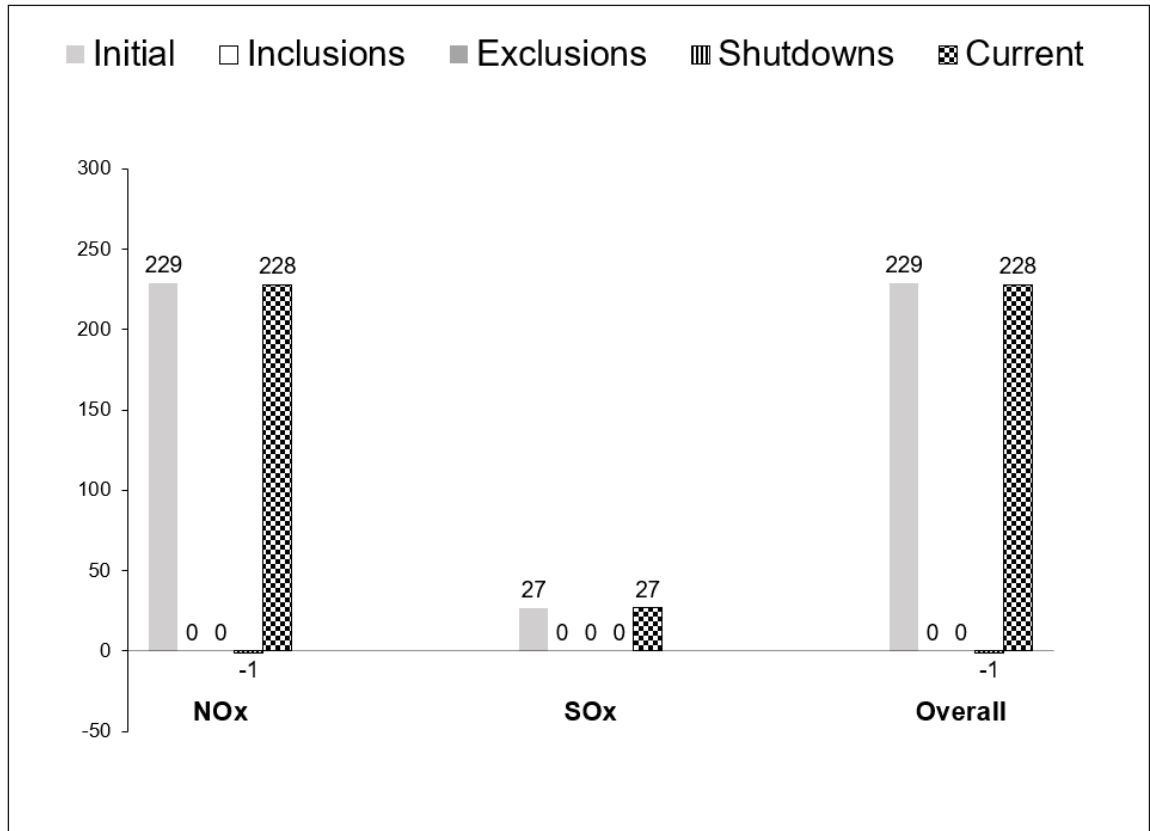
The above-mentioned change to the RECLAIM universe resulted in a net decrease of one facility in the RECLAIM universe during Compliance Year 2023. Table 1-1 summarizes overall changes in the RECLAIM universe between the start of the program and end of Compliance Year 2023 (December 31, 2023, for Cycle 1 facilities and June 30, 2024, for Cycle 2 facilities). Changes to the RECLAIM universe that occurred in Compliance Year 2023 are illustrated in Figure 1-1.

**Table 1-1
RECLAIM Universe Changes**

	NOx Facilities	SOx Facilities	Total* Facilities
Universe – October 15, 1993 (Start of Program)	392	41	394
Inclusions – October 15, 1993, through Compliance Year 2022	134	13	134
Exclusions – October 15, 1993, through Compliance Year 2022	-72	-4	-73
Shutdowns – October 15, 1993, through Compliance Year 2022	-225	-23	-226
Universe – June 30, 2023	229	27	229
Inclusions – Compliance Year 2023	0	0	0
Exclusions – Compliance Year 2023	0	0	0
Shutdowns – Compliance Year 2023	1	0	1
Universe – End of Compliance Year 2023	228	27	228

* “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 2023



CHAPTER 2

RTC ALLOCATIONS AND TRADING

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 only remaining changes in RTC supply during Compliance Year 2023 were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12). The clean fuels production adjustment increased the Compliance Year 2023 NOx RTC supply by 15.4 tons and decreased SOx RTC supply by 4.0 tons.

Since the inception of the RECLAIM program in 1994, a total value of \$1.60 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 2024, there were 235 RTC trade registrations, including swap trades. There were 219 RTC trade registrations with a total value of \$9.6 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 2024 a total of 975 tons of discrete-year NOx RTCs, 344 tons of discrete-year SOx RTCs, 82 tons of IYB NOx RTCs, and 23 tons of IYB SOx RTCs were traded. The RTC trading market activity decreased during calendar year 2024 compared to calendar year 2023 in number of trades (by 6.0%) and in total value (by 20.5%). However, the total volumes of RTC traded increased during calendar year 2024 compared to calendar year 2023, for discrete-year RTCs (by 0.2%) and for IYB RTCs (by 116.3%).

Discrete-year RTC trades with price (i.e., price >\$0.00) registered during calendar year 2024 include trades for Compliance Years 2023, 2024, and 2025 NOx RTCs, and Compliance Year 2023 SOx RTCs, excluding swap trades. The annual average prices of discrete-year NOx RTCs traded during calendar year 2024 were \$11,174; \$17,098; and \$30,103 per ton for Compliance Years 2023, 2024, and 2025 RTCs, respectively. The annual average price for discrete-year SOx RTCs traded during the same period for Compliance Year 2023 was \$1,350 per ton.

The annual average price of Compliance Year 2024 and 2025 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 \$56,919 per ton of NOx and none of the SOx RTC vintages traded exceeded the \$40,982 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).¹

During calendar year 2024, the annual average price for IYB NOx RTCs was \$39,054 per ton and no IYB SOx RTCs were traded with price. Therefore, annual average IYB RTC prices did not exceed the \$853,786 per ton of IYB NOx RTCs or the \$614,726 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).

At the end of calendar year 2024, investors' holdings of IYB NOx RTCs decreased to 1.6 percent when compared to investor's holdings at 1.8 percent in calendar year 2023. Investors' holdings of IYB SOx RTCs in calendar year 2024 did not change from 4.1 percent of the total SOx RECLAIM RTCs in calendar year 2023.

Background

At the time of inclusion into RECLAIM, each RECLAIM facility was issued 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 qualified² 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 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 NOx or SOx 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.

¹ 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>

² Only external offsets provided at a one-to-one offset ratio after the base year were used as the basis for allocation quantification purposes.

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 2023 data, new RTC trade data discussed in this chapter is for RTC trades that occurred during calendar year 2024.

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,³ 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 2023 are discussed below.

Allocations Adjustments Due to Inclusion and Exclusion of Facilities

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. Previous to this amendment, facilities existing prior to October 1993 and entering RECLAIM after 1994 may have received allocations just like facilities that were included at the beginning of the program. 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_x or SO_x in a year, any RTCs it was issued upon entering RECLAIM are removed from the market upon its exclusion.

³ 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.

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.⁴ No facilities were excluded during Compliance Year 2023. Therefore, there were no changes to the NOx or SOx supplies in Compliance Year 2023 due to facility exclusions from RECLAIM.

No facilities were included in the RECLAIM program in Compliance Year 2023. Therefore, there are no changes to the NOx or SOx RTC supplies in Compliance Year 2023 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 NOx 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.

One RECLAIM facility shut down during Compliance Year 2023. It was not listed in Table 8 of Rule 2002, was not issued initial allocations pursuant to Rule 2002 (b), and therefore was not subject to the facility shutdown provisions. .

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. 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). For Compliance Year 2023, 15.4 tons of NOx RTCs (0.3% of total NOx allocation for Compliance Year 2023) were credited and 4.0 tons of SOx RTCs (0.2% of total SOx allocation for Compliance

⁴ Except for shutdown facilities that are subject to Rule 2002(i); see discussion in the next section.

Year 2023) were deducted from refineries' Compliance Year 2023 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.⁵ There were no changes in RTC allocations due to activity corrections in Compliance Year 2023.

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. No new RTCs were issued by conversion of other types of emission reduction credits in Compliance Year 2023.

Net Changes in RTC Supplies

The changes to RTC supplies described in the above sections resulted in a net increase of 15.4 tons of NOx RTCs (0.3% of the total) and a decrease of 4.0 tons of SOx RTCs (0.2% of the total) for Compliance Year 2023. Table 2-1 summarizes the changes in NOx and SOx RTC supplies that occurred in Compliance Year 2023 pursuant to Rule 2002.

**Table 2-1
Changes in NOx and SOx RTC Supplies during Compliance Year 2023 (tons per year)**

Source	NOx	SOx
Universe changes	0	0
Clean Fuel/Reformulated Gasoline	15.4	-4.0
Activity corrections	0	0
MSERCs	0	0
Net change	15.4	-4.0

Note: The data in this table represents the changes that occurred over the course of Compliance Year 2023 to the Compliance Year 2023 aggregate NOx and SOx RTC supplies originally issued pursuant to Rule 2002, not the difference between 2023 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-

⁵ 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.

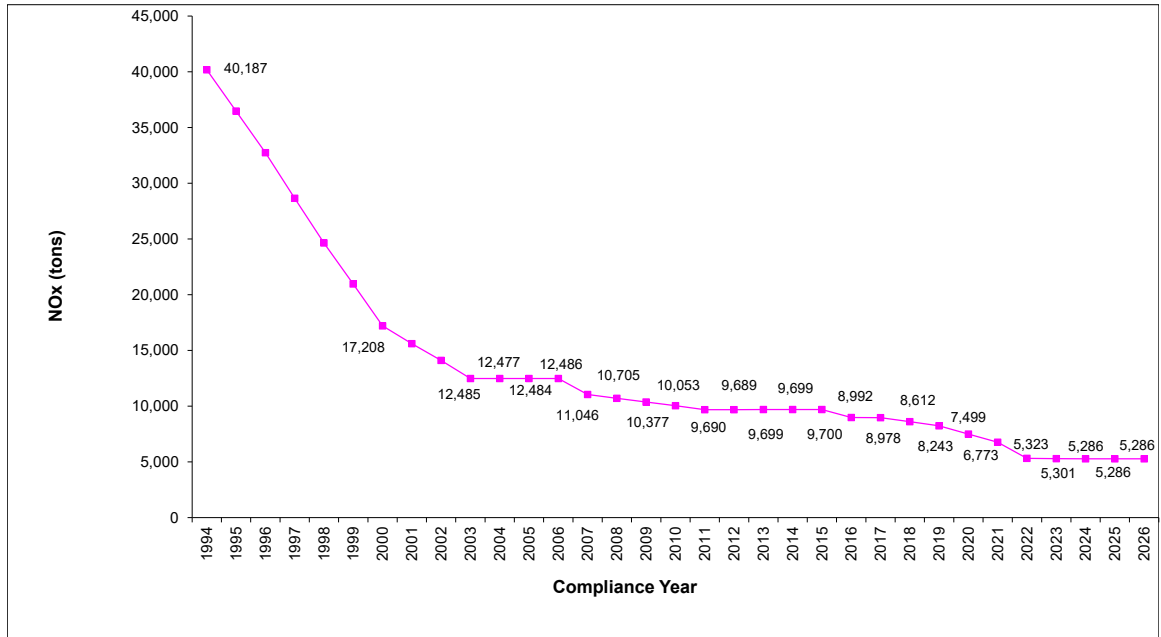
assess the RECLAIM program to ensure that RECLAIM achieves equivalent emission reductions to the command-and-control BARCT rules it subsumes. This assessment is done periodically as part of AQMP development. This process first resulted in 2003 AQMP Control Measure CMB-10 – Additional NOx Reductions for RECLAIM (NOx) calling for additional NOx reductions from RECLAIM sources. 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. 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.

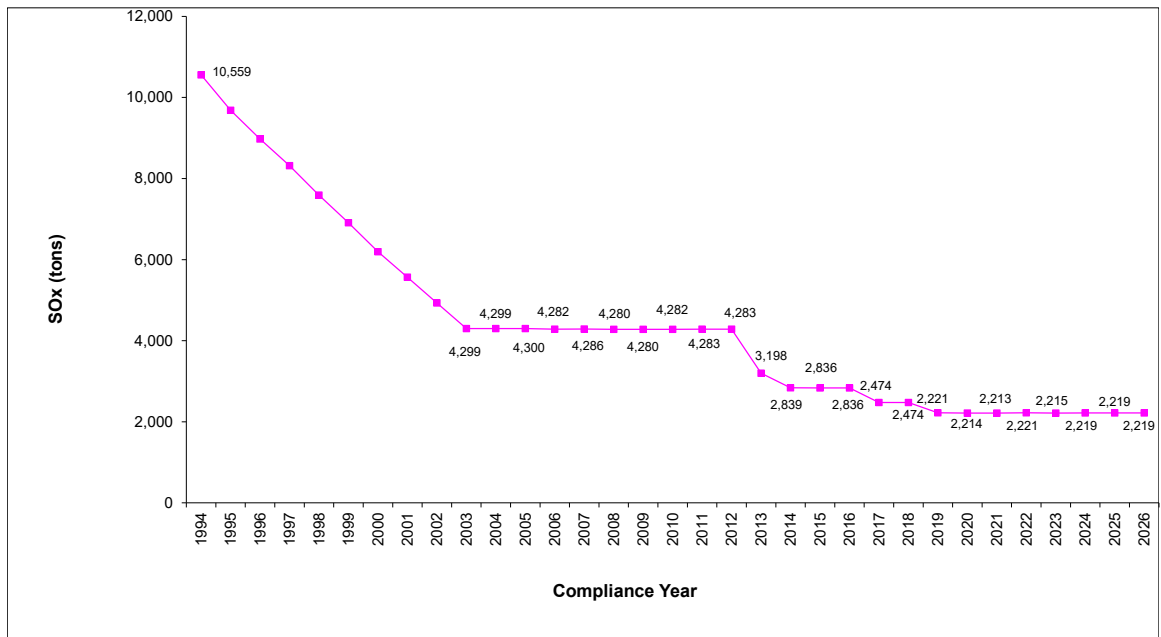
Similarly, the 2012 AQMP included Control Measure CMB-01 - Further NOx Reductions for RECLAIM that identified a new group of RECLAIM NOx emitting equipment that should be reviewed for new BARCT. On December 4, 2015, the Board adopted amendments to the RECLAIM rules that resulted in an additional reduction of 12 tons of NOx per day (45.2% reduction) when fully implemented in Compliance Year 2022.

Figures 2-1 and 2-2 illustrate the total NOx and SOx RTC supplies, respectively, through the end of Compliance Year 2026, 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 NO_x or SO_x 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.

As reported in the Annual RECLAIM Audit Report for the 2020 Compliance Year, NO_x RTC prices had exceeded \$15,000 per ton for Compliance Years 2021, 2022, and 2023. At the August 5, 2022, Board Meeting⁶, 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.⁷ 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. While NO_x RTC prices have

⁶ Agenda Item No. 24 - Minutes (<https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2022/2022-Sept2-002.pdf>)

⁷ The Executive Officer notified CARB and U.S. EPA August 17, 2022, within six months of the Board's determination at the March 4, 2022, hearing of the Annual RECLAIM Audit Report for 2020 Compliance Year.

continued to exceed the \$15,000 per ton threshold, the Governing Board determined at the March 3, 2023 and March 1, 2024 meetings 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 2023, 2024, and 2025 NOx RTCs were \$11,174, \$17,098, and \$30,103 per ton, respectively. NOx RTCs from 2024 and 2025 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.

Rule 2002(f)(1)(H) 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. Upon Board concurrence, 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.

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 2024, the overall program review thresholds⁸ in 2024 dollars, pursuant to Health and Safety Code Section 39616(f), are \$56,919 per ton of discrete-year NOx RTCs, \$40,982 per ton of discrete-year SOx RTCs, \$853,786 per ton of IYB NOx RTCs, and \$614,726 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 2024 was lower than the market

⁸ These program review thresholds were adjusted using the August 2024 CPI, due to the unavailability of the December 2024 CPI by the end of January 2024 when this report was compiled.

activity in calendar year 2023 in terms of the number of trades. Table 2-2 compares NOx and SOx trade registrations for calendar years 2024 and 2023.

Table 2-2
Trade Registrations in Calendar Years 2024 and 2023, Including Swaps

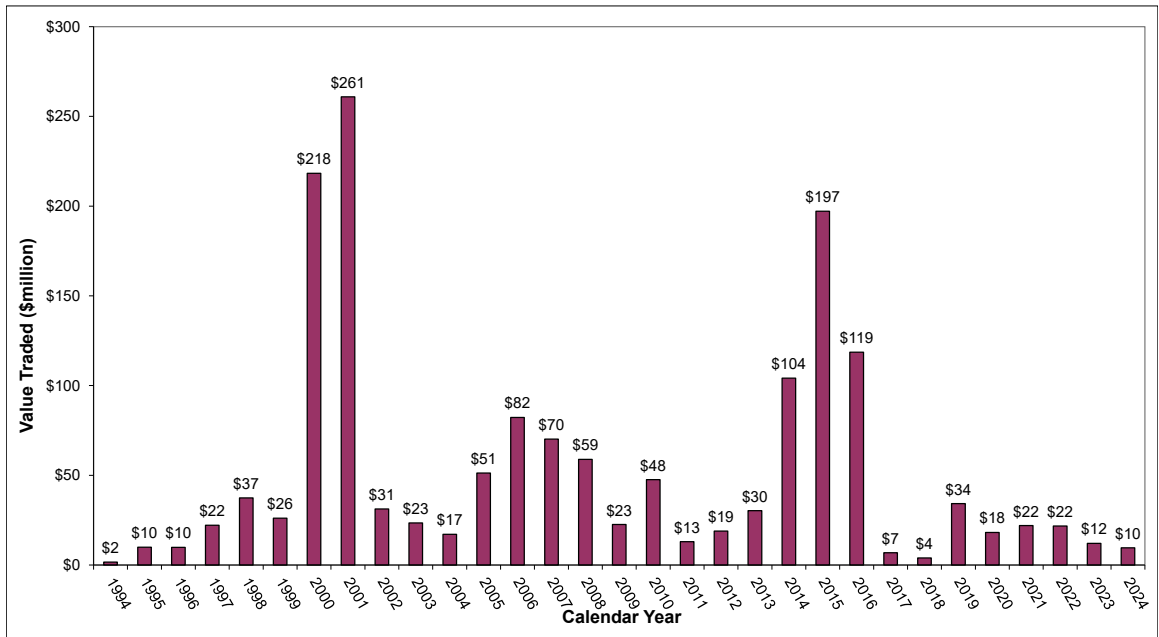
RTC	2024	2023
NOx	225	234
SOx	10	16
Total	235	250

The total value of RTCs traded in calendar year 2024 was lower than in calendar year 2023, excluding swap trades. Table 2-3 compares the value of NOx and SOx RTCs traded in calendar years 2024 and 2023. 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 2024 and 2023, Excluding Swaps (millions of dollars)

RTC	2024	2023
NOx	\$9.58	\$11.99
SOx	\$0.05	\$0.12
Total	\$9.63	\$12.11

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 higher for SOx in calendar year 2024 than in calendar year 2023. Trades of IYB RTCs of NOx and SOx in calendar year 2024 were higher than the trading volume in 2023. Tables 2-4 and 2-5 compare 2024 and 2023 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 2024 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 2024 and 2023, Excluding Swaps (tons)

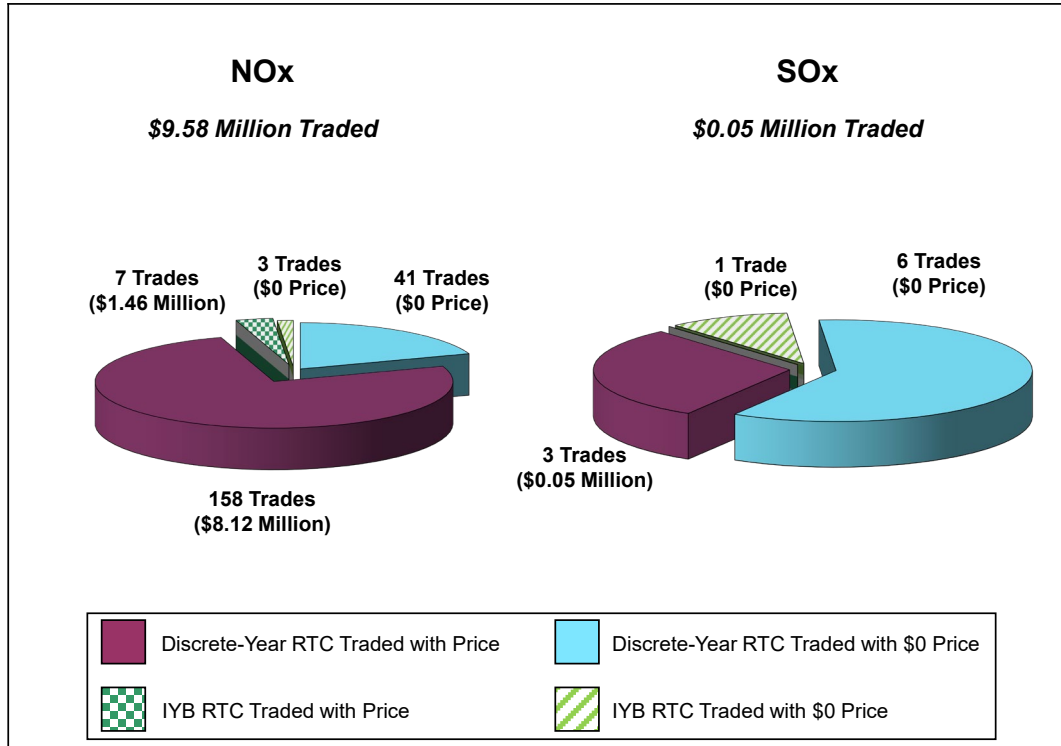
RTC	2024	2023
NOx	975	1,017
SOx	344	300
Total	1,319	1,317

Table 2-5
Volume of IYB RTCs Traded in Calendar Years 2024 and 2023, Excluding Swaps (tons)

RTC	2024	2023
NOx	82	45
SOx	23	4
Total	106*	49

* Due to rounding, some totals may not correspond with the sum of the separate figures.

Figure 2-4
Calendar Year 2024 Overall Trading Activity (Excluding Swaps)



There were 51 trades with zero price in calendar year 2024. 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 2024, the majority of the 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 2024, there were a total of 199 discrete-year NOx RTC trades and 9 discrete-year SOx RTC trades, excluding swap trades. The trading of discrete-year NOx RTCs included RTCs for Compliance Years 2023 through 2025 (see Table 2-14). The trading of discrete-year SOx RTCs included RTCs for Compliance Years 2023 through 2024 (see Table 2-15). Table 2-6 compares the number of trade registrations in 2024 and 2023, both with price and with zero price.

Table 2-6
Discrete-Year Trade Registrations in Calendar Years 2024 and 2023 by Price, Excluding Swaps

Year	RTC	With Price	With \$0 Price	Total
2024	NOx	158	41	199
	SOx	3	6	9
	Total	161	47	208
2023	NOx	166	44	210
	SOx	4	8	12
	Total	170	52	222

Total discrete-year RTC trading values decreased for NOx and increased for SOx on a relative basis in calendar year 2024 when compared to calendar year 2023. Table 2-7 compares the total value of the discrete-year RTC trades in 2024 and 2023.

Table 2-7
Discrete-Year RTC Value Traded in 2024 and 2023, Excluding Swaps (millions of dollars)

RTC	2024	2023
NOx	\$8.12	\$10.81
SOx	\$0.05	\$0.03
Total	\$8.18*	\$10.84

* Due to rounding, some totals may not correspond with the sum of the separate figures.

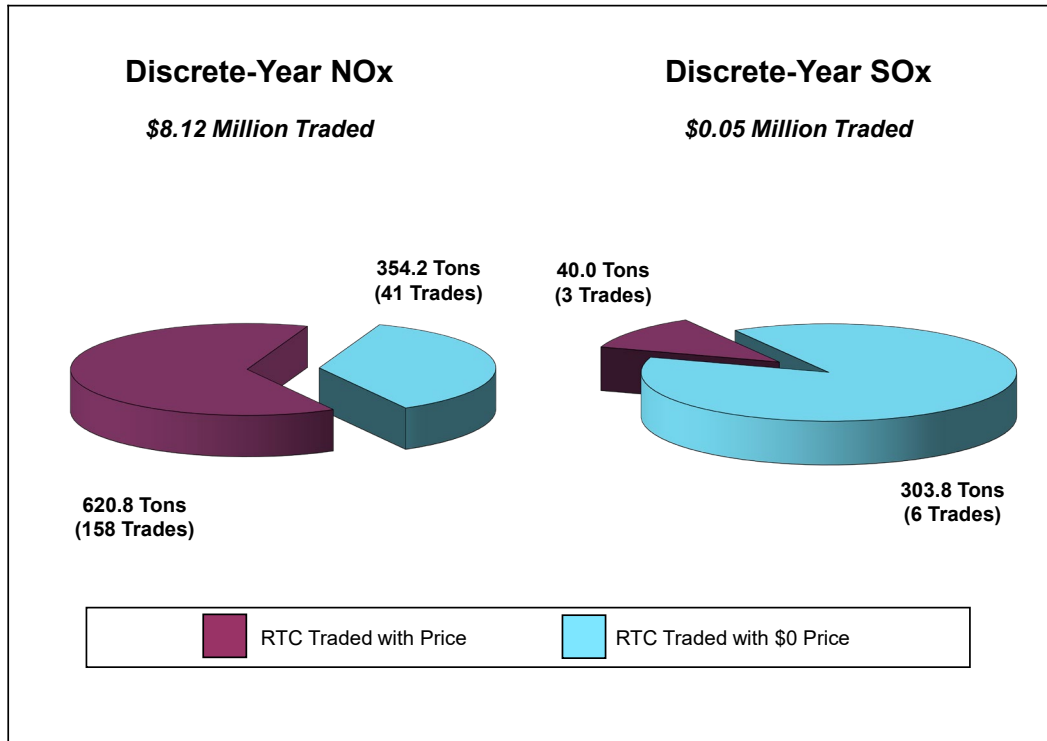
In calendar year 2024, the overall quantities of discrete-year NOx and SOx RTCs traded slightly increased compared to calendar year 2023. Table 2-8 compares the volume of NOx and SOx RTCs traded in calendar years 2024 and 2023, excluding swap trades. Figure 2-5 illustrates the trading activity of discrete-year RTCs (excluding swaps) for calendar year 2024.

Table 2-8
Discrete-Year RTC Volume Traded in Calendar Years 2024 and 2023 by Price, Excluding Swaps (tons)

Year	RTC	With Price	With \$0 Price	Total
2024	NOx	621	354	975
	SOx	40	304	344
	Total	661	658	1,319
2023	NOx	731	287	1,017*
	SOx	13	286	300*
	Total	744	573	1,317

* Due to rounding, some totals may not correspond with the sum of the separate figures.

Figure 2-5
Calendar Year 2024 Trading Activity for Discrete-Year RTCs (Excluding Swaps)



IYB RTC Trading Activity

In calendar year 2024, there were 10 IYB NOx trades and one IYB SOx trade, excluding swaps. The IYB NOx trades included RTCs with Compliance Years 2023 through 2025 as start years, while the IYB SOx trade was for RTCs with a Compliance Year 2024 start year. Table 2-9 compares the number of IYB RTC trade registrations from 2024 and 2023.

Table 2-9
IYB Trade Registrations in Calendar Years 2024 and 2023 by Price

Year	RTC	With Price	With \$0 Price	Total
2024	NOx	7	3	10
	SOx	0	1	1
	Total	7	4	11
2023	NOx	6	5	11
	SOx	4	0	4
	Total	10	5	15

Total IYB RTC trade values increased in calendar year 2024 compared to calendar year 2023. Table 2-10 compares the NOx and SOx IYB RTC trade values in calendar years 2024 and 2023.

Table 2-10
IYB RTC Value Traded in 2024 and 2023, Excluding Swaps (millions of dollars)

RTC	2024	2023
NOx	\$1.45	\$1.18
SOx	\$0	\$0.09
Total	\$1.45	\$1.27

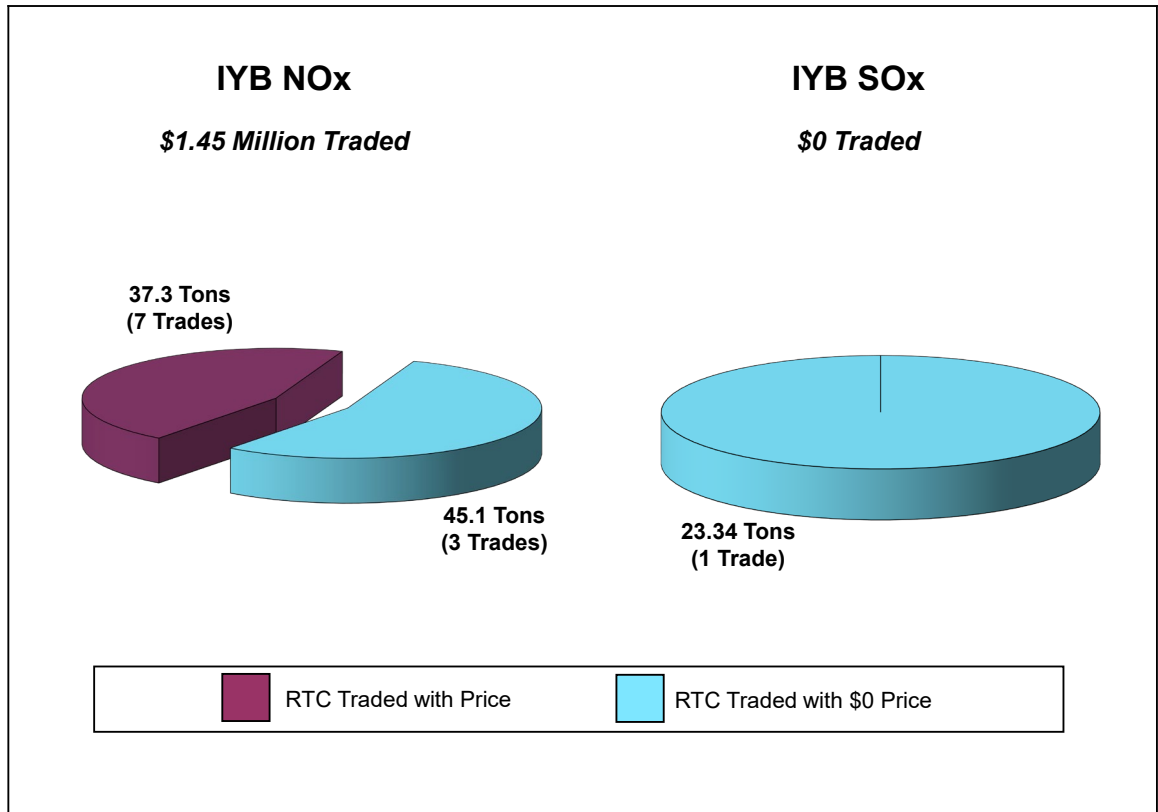
In calendar year 2024, the total volume of IYB RTCs traded (excluding swap trades) was higher compared to calendar year 2023. Table 2-11 compares the NOx and SOx IYB RTCs trade volumes in calendar years 2024 and 2023. As described earlier, the majority of trades with zero price were between facilities under common ownership and facilities that had a change of operator. Figure 2-6 illustrates the calendar year 2024 IYB RTC trading activity excluding swap trades.

Table 2-11
IYB RTC Volume Traded in Calendar Years 2024 and 2023 by Price, Excluding Swaps (tons)

Year	RTC	With Price	With \$0 Price	Total
2024	NOx	37	45	82
	SOx	0	23	23
	Total	37	68	106*
2023	NOx	20	25	45
	SOx	4	0	4
	Total	24	25	49

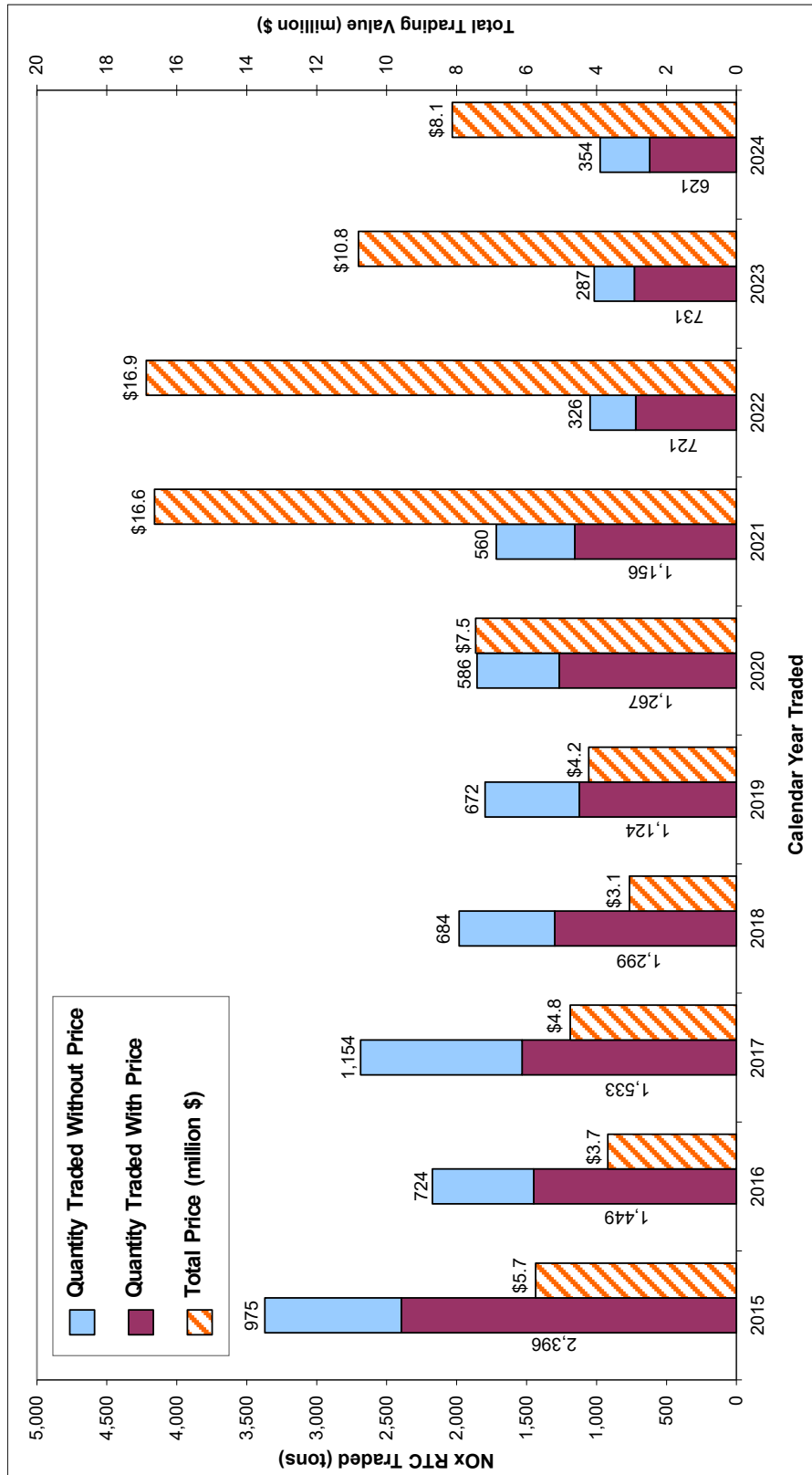
* Due to rounding, some totals may not correspond with the sum of the separate figures.

Figure 2-6
Calendar Year 2024 Trading Activity for IYB RTCs (Excluding Swaps)



Trading activity for the previous ten calendar years 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. Historical trading activity since the inception of the RECLAIM program can be found in Figures 2-7 through 2-10 of the Compliance Year 2022 Annual RECLAIM Audit Report and in prior reports.

**Figure 2-7
Discrete-Year NOx RTC Trades (Excluding Swaps)**



**Figure 2-8
Discrete-Year SOx RTC Trades (Excluding Swaps)**

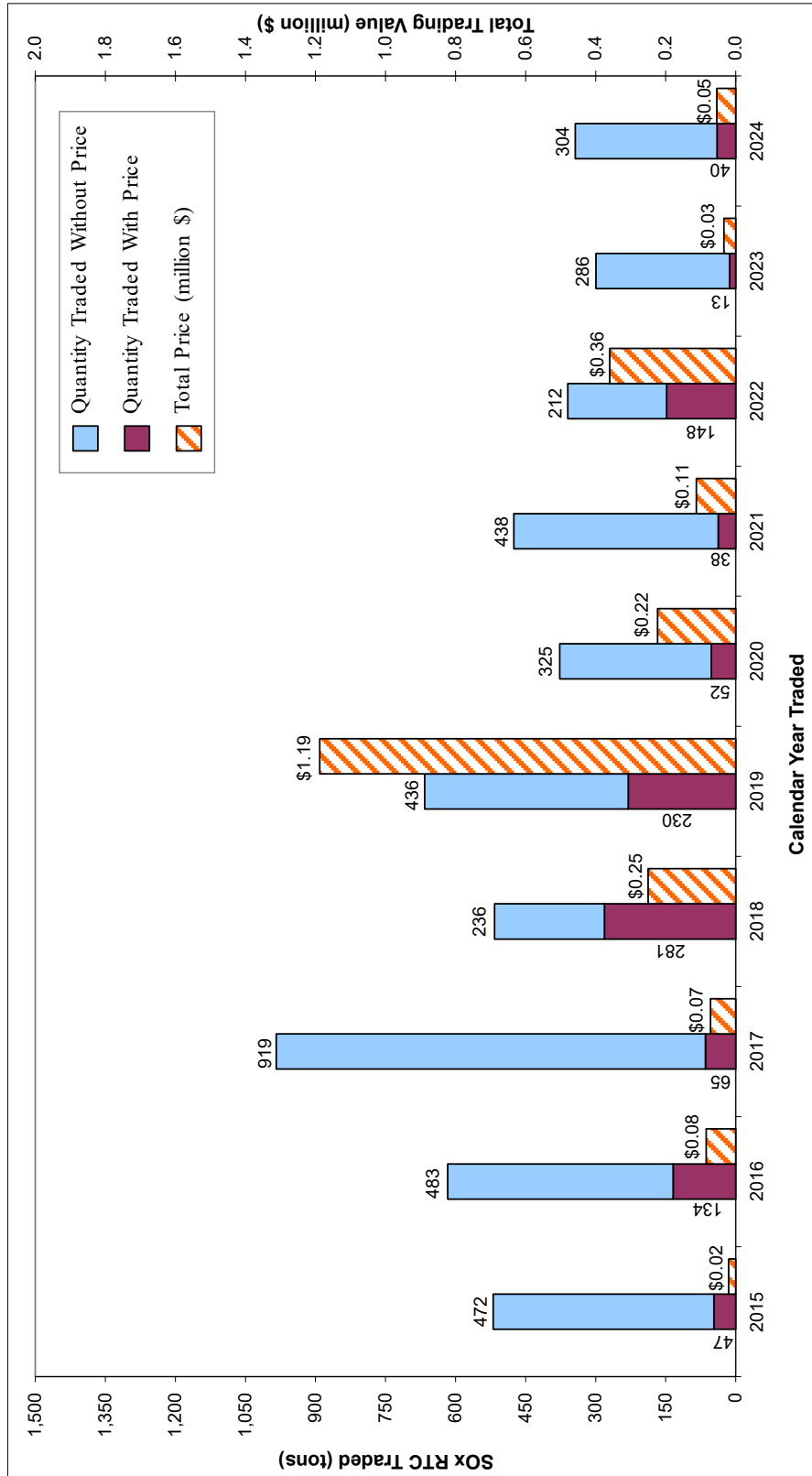


Figure 2-9
IYB NOx RTC Trades (Excluding Swaps)

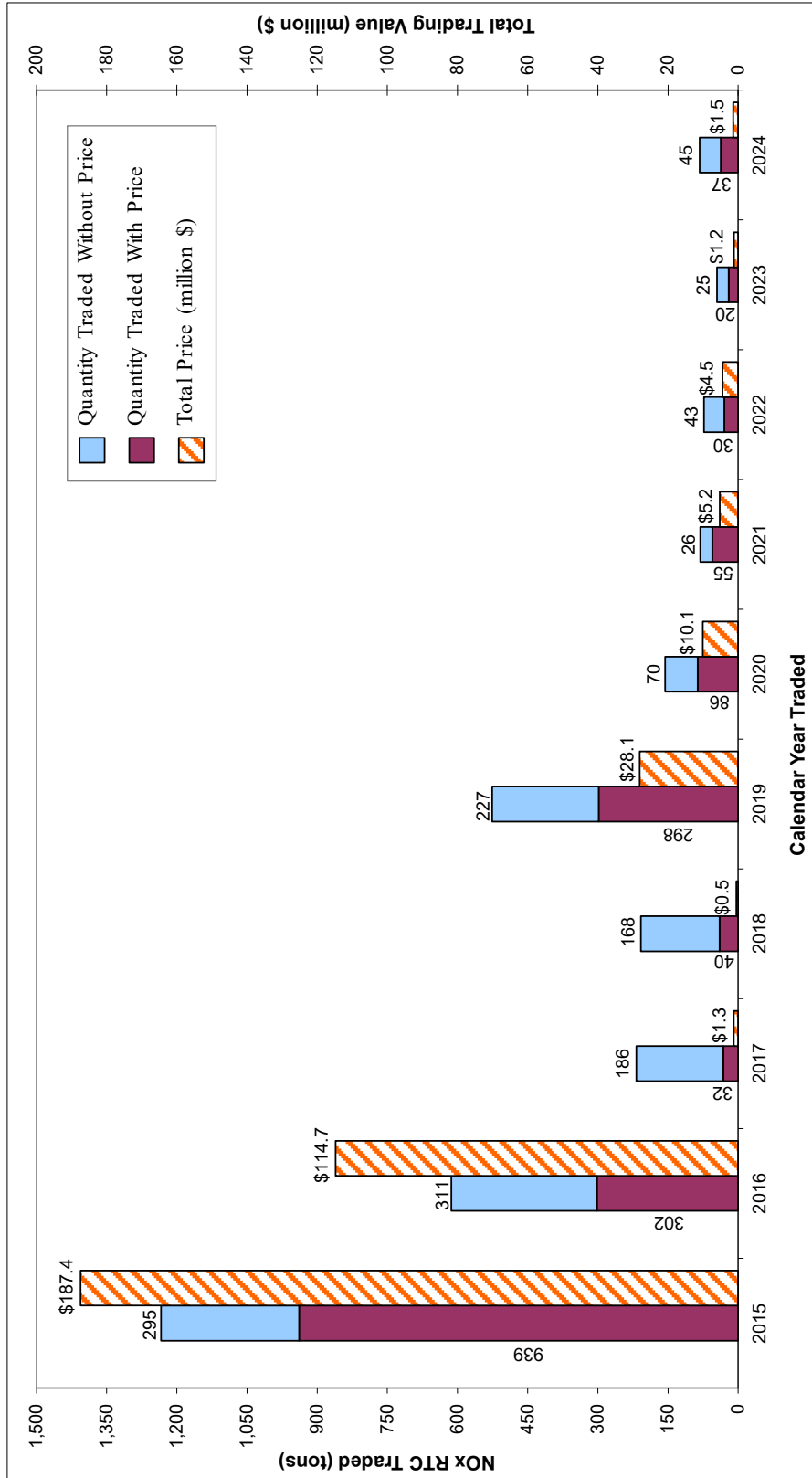
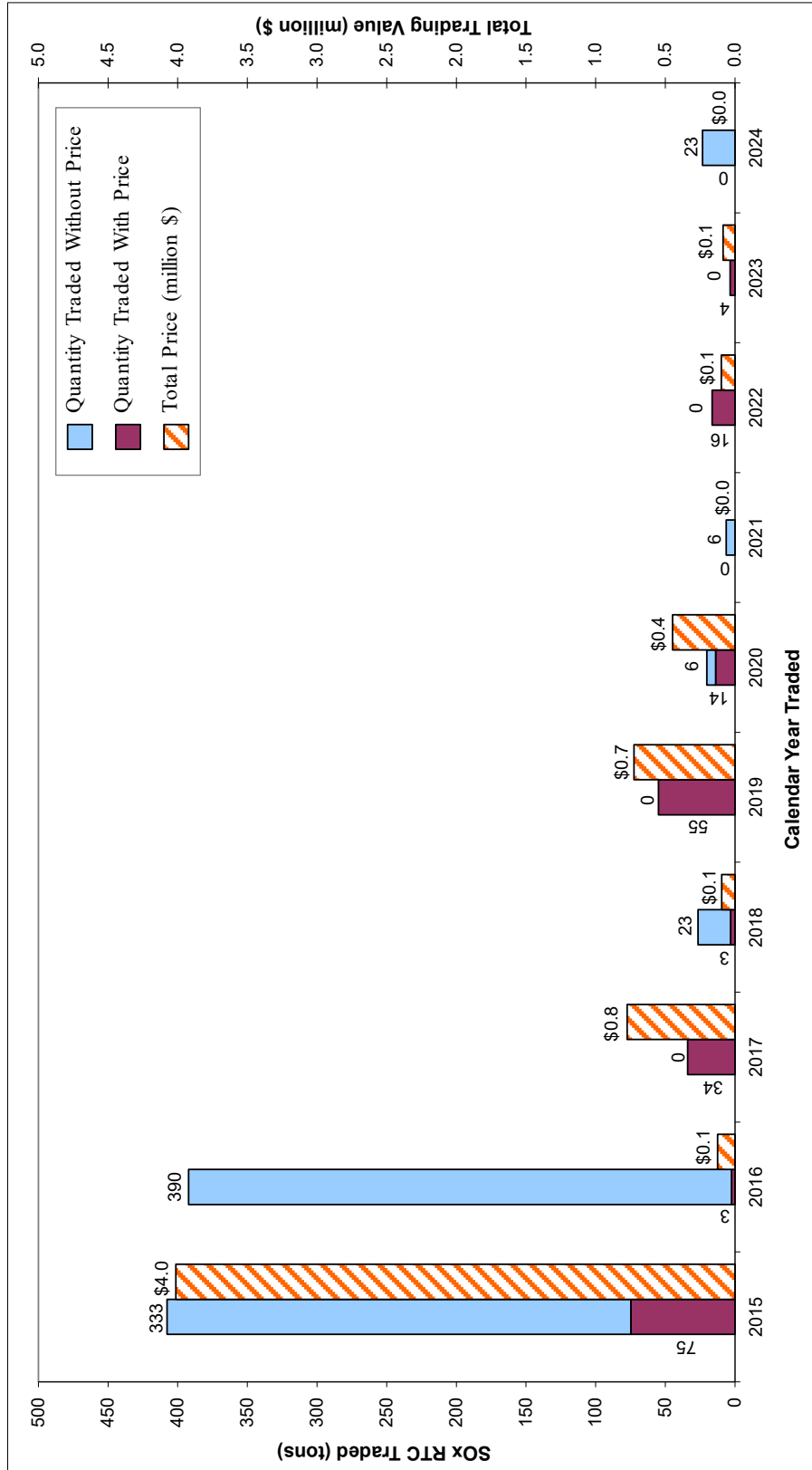


Figure 2-10
IYB SOx RTC Trades (Excluding Swaps)



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.

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 NOx 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. In addition, trades between facilities or RTC holders under common ownership or intimate business affiliation are categorized as swap trades because the trades were not at arm's-length. The reported prices for these trades are not necessarily representative of market prices. Tables 2-12 and 2-13 present the calendar years' 2001 through 2024 RTC swaps for NOx and SOx, 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
2024	\$0.97	0	93.1	16	16

* 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
2024	\$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 2019 through 2024. The table shows that the annual average price of 2024 and 2025 discrete NOx RTCs traded in Calendar Year 2024 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 \$56,919 per ton of NOx and all SOx RTC vintages traded remain below the \$40,982 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 2021 through 2024 (price per ton)

RTC Compliance Year	Calendar Year during which RTCs Traded			
	2021	2022	2023	2024
2017				
2018				
2019				
2020	5,603.36			
2021	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	11,173.88
2024		59,190.61	25,125.85	17,098.43
2025		60,000.00		30,102.68
2026				

Table 2-15
Annual Average Prices for Discrete-Year SOx RTCs during Calendar Years 2021 through 2024 (price per ton)

RTC Compliance Year	Calendar Year during which RTCs Traded			
	2021	2022	2023	2024
2017				
2018				
2019				
2020				
2021	3,000.00	5,900.00		
2022		2,000.00	2,631.31	
2023			2,500.00	1,350.00
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)(I) 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.

IYB RTC Prices

The annual average price for IYB NOx RTCs traded in calendar year 2024 was \$39,054 per ton, which is significantly lower than the annual average price of \$58,058 per ton traded in calendar year 2023. There were no IYB SOx RTCs traded with price in calendar year 2024. 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 2-16 and 2-17, respectively. In calendar year 2024, the annual average IYB RTC prices did not exceed the \$853,786 per ton of NOx RTCs or the \$614,726 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 2-16
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
2024	\$1.46	37.3	7	\$39,054

* No information regarding swap trades was reported until May 9, 2001.

Table 2-17
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
2024	\$0.0	0.0	0	N/A

* No information regarding swap trades was reported until May 9, 2001.

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 options are posted on South Coast AQMD's website. One option was submitted and executed in calendar year 2024. Two forward trades submitted in calendar year 2023 were also executed in calendar year 2024.

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. No RTC trades of this type occurred during calendar year 2024.

Market Participants

RECLAIM market participants have traditionally included RECLAIM Facility Permit holders and non-Facility Permit holders, such as brokers, commodity traders, and private investors. For purposes of discussion in this report, "investors" include all parties who hold RTCs other than RECLAIM Facility Permit holders and brokers.

RECLAIM Facilities and Brokers

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. They usually do not purchase or own RTCs, but only facilitate trades.

Investors

Commodity traders and private investors invest in and own RTCs in order to seek profits by trading them. They do not need RTCs to offset or reconcile any emissions. 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. Similarly, mutual fund investors no longer hold RTCs.

As of the end of calendar year 2024, investors' holding of IYB NO_x RTCs went down to 1.6% when compared to the end of calendar year 2023 at 1.8%. Investors' holding of IYB SO_x RTCs stayed the same at 4.1 percent when compared to the end of calendar year 2023.

RTC Availability

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 NO_x-only RECLAIM facility shut down during Compliance Year 2023. This facility did not hold on to any NO_x RTC allocations.

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 2023, the total RECLAIM NOx emissions were 4,432 tons, while the total NOx RTC allocation was 5,301 tons. This NOx RTC surplus of 869 tons (16% of allocation and 20% of emissions) is above the 10 percent compliance margin reportedly held by RECLAIM facilities. As seen in Figure 2-1, the total RECLAIM NOx allocation for Compliance Year 2024 is 5,286 tons. To maintain a 10% NOx RTC allocation surplus, facilities need to maintain their NOx emissions at the Compliance Year 2023 level.

CHAPTER 3 EMISSION REDUCTIONS ACHIEVED

Summary

For Compliance Year 2023, aggregate NOx emissions were below total allocations by 16 percent and aggregate SOx emissions were below total allocations by 37 percent. No emissions associated with breakdowns were excluded from reconciliation with facility allocations in Compliance Year 2023. 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 2023. With respect to the Rule 2015 backstop provisions, Compliance Year 2023 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. 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 2015 amendment 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 emissions reports and records submitted by RECLAIM facilities. The audit process is described in further detail in Chapter 5 – Compliance. 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. The operators may 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 2023. No facility audits for Compliance Years 1994 through 2022 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.

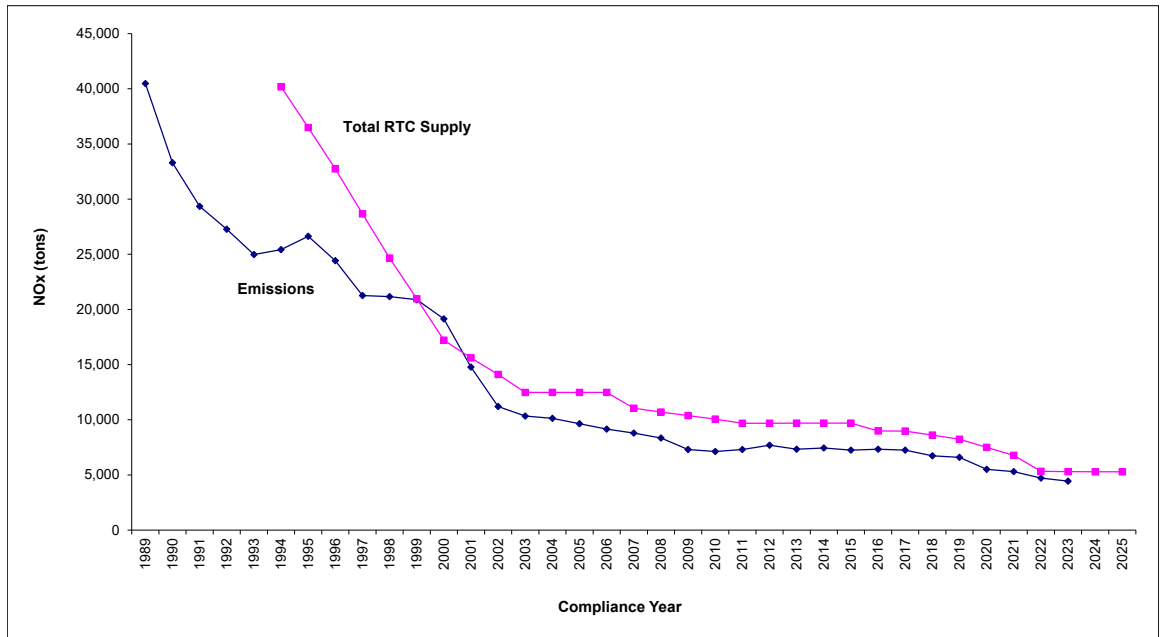
Table 3-1
Annual NOx Emissions for Compliance Years 1994 through 2023

Compliance Year	Audited Annual NOx Emissions ¹ (tons)	Audited Annual NOx Emissions Change from 1994 (%)	Total NOx RTCs ² (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%
2023	4,432	-83%	5,301	869	16%

¹ 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.

² 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. In Compliance Year 2023, SOx emissions have decreased to 1,398 tons (see Chapter 7). The amount of unused RTCs increased in Compliance Year 2023 to 37%. 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.

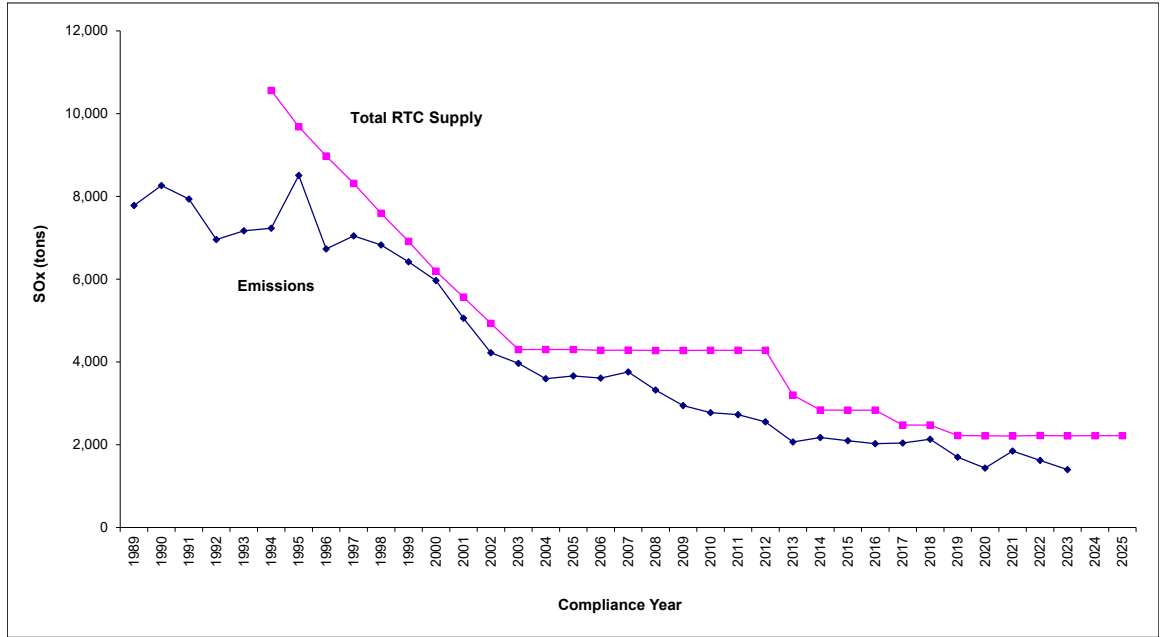
Table 3-2
Annual SOx Emissions for Compliance Years 1994 through 2023

Compliance Year	Audited Annual SOx Emissions ¹ (tons)	Audited Annual SOx Emissions Change from 1994 (%)	Total SOx RTCs ² (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%
2023	1,398	-81%	2,215	817	37%

¹ 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.

² 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 rules¹ 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 transition² 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 2023, have been previously addressed in Table 3-3 of last year’s “Annual RECLAIM Audit Report for 2022 Compliance Year”.

¹ See Tables 1 and 2 of Rule 2001.

² 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.

During Compliance Year 2023, the Governing Board amended two rules not subsumed by RECLAIM: amended Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces, and amended Rule 1118 – Control of Emissions from Refinery Flares.

Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces, was originally adopted by the Board on December 1, 1978, and first amended on November 6, 2009 to implement the 2007 AQMP Control Measure CMB03 by lowering the NOx emission limit from 40 to 14 nanograms per Joule (ng/J) for three major categories of residential furnaces – condensing (high efficiency), non-condensing (standard), and weatherized furnaces. These categories of furnaces were to meet this new limit by limit by October 1, 2014, October 1, 2015, and October 1, 2016, respectively. Furthermore, new mobile home heating units, which were unregulated prior to the 2009 amendment, were required to meet a NOx limit of 40 ng/J by October 1, 2012, and 14 ng/J by October 1, 2018. The rule was later amended in 2014, and amended several times between 2018 and 2021, to provide and extend an alternate compliance option to allow manufacturers to pay a per-unit mitigation fee, in lieu of meeting the lower NOx emission limit, for up to five years past the applicable compliance date. Finally, the latest amendment by the Board on September 1, 2023 to Rule 1111 extended the mitigation fee alternate compliance option end date from September 30, 2023, to September 30, 2025, for mobile home furnaces since all other types of furnaces subject to Rule 1111 had fully implemented the 14 ng/J NOx limit.

On April 5, 2024, the Board amended Rule 1118 – Control of Emissions from Refinery Flares, which was the second phase of a two-phased rule amendment that began on July 7, 2017, to reduce flaring and flare-related emissions at refineries, hydrogen production plants, and sulfur recovery plants. This second phase was designed not only to align Rule 1118 with requirements of U.S. EPA's Refinery Sector Rule for flares, but also to realize further emission reductions from refinery flares by achieving four out of the seven Assembly Bill 617 air quality objectives for the Wilmington, Carson, West Long Beach communities. This was accomplished by establishing a more stringent sulfur dioxide (SO₂) performance target, a new performance target for NOx emissions from flares at hydrogen production plants, and a throughput threshold for liquified petroleum gas flares at refineries.

Since amended Rule 1111 and amended Rule 1118 were not subsumed under RECLAIM and contained no exemptions from their applicability to RECLAIM NOx or SOx 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 NOx and SOx sources under RECLAIM with NOx and SOx sources of non-RECLAIM facilities.

Consequently, during Compliance Year 2023, both rules subsumed by RECLAIM and rules not subsumed by RECLAIM, did not result in any disparate impacts between NOx and SOx sources at RECLAIM and NOx and SOx 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_x Reductions from RECLAIM Assessment to achieve an additional five tons per day NO_x 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 NO_x RECLAIM program. Rule 2001 specifically exempts RECLAIM facilities from a number of existing command-and-control NO_x rules (see Table 1 of Rule 2001). As part of the transition process, these command-and-control rules were amended and additional new NO_x BARCT command-and-control rules were adopted (collectively referred to as “Landing Rules”) to ensure that when a facility transitions out of RECLAIM, its NO_x equipment has explicit BARCT emission limits and an appropriate time frame to achieve compliance.

To initiate the transition of NO_x 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 NO_x and SO_x RECLAIM programs as of January 5, 2018. Amended Rule 2002 contained notification procedures for facilities that will 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_x or SO_x 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. Two facilities that requested to opt out of the NO_x RECLAIM Program pursuant to Rule 2001 were issued Final Determination Notifications and were exited from the NO_x RECLAIM program.

Rule 2001 was then subsequently 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.

On November 3, 2023, the Board amended Rule 2011 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SO_x) Emissions and Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO_x) to provide SO_x and NO_x 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. The 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_x sources out of RECLAIM. The following 29 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 1159.1 – Control of NOx Emissions from Nitric Acid Tanks
- 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"> 1. For Rule 218 facilities: <ul style="list-style-type: none"> • 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> 2. For Rule 218.2 facilities: <ul style="list-style-type: none"> • Provides implementation schedule for transition. • 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. • 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> 3. For Rule 218.3 facilities: <ul style="list-style-type: none"> • Provides implementation schedule for transition. • Provides CEMS performance specifications and revises the provisions retained from Rule 218.1 with key modifications on: <ul style="list-style-type: none"> ➤ span range, ➤ data acquisition and handling system, ➤ relative accuracy test audit, and ➤ calibration gas requirements. • Incorporates a new provision to provide specifications on: <ul style="list-style-type: none"> ➤ the data handling method for data measured below 10 percent or above 95 percent of the upper span value, ➤ emission data averaging method, ➤ CEMS data availability requirements, and, ➤ CEMS out-of-control period and alternative data acquisition.

Rule(s)	Focus Area	Description
		<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"> 1. For Rule 218.2 facilities: <ul style="list-style-type: none"> • Clarifies that the Executive Officer discretion on recertification requirement will only apply if modification would not impact data accuracy. • Extends recordkeeping from a minimum period of two years to three years. • Clarifies exemption that the Executive Officer discretion does not apply if the rule or permit specified CEMS requirements are less stringent. 2. For Rule 218.3 facilities: <ul style="list-style-type: none"> • Provides detailed instruction on the test sequence and the number of data points required when conducting the linearity error check procedure. • Extends a low-level data validation option from being applicable to lowest vendor guaranteed span range to any span range. • Includes: <ul style="list-style-type: none"> ➤ mass emission calculation methodology, ➤ data substitution procedure when a facility is complying with a mass emission limitation, ➤ method to calculate mass emissions for a startup or shutdown period, and ➤ data substitution procedures for startup or shutdown missing minute data when a facility is complying with a mass emission limitation for startup or shutdown. • Allows the owner or operator to report valid zero emissions data while the unit is not operating, and no emissions are generated. • Clarifies exemption that the Executive Officer discretion does not apply if the rule or permit specified CEMS requirements are less stringent. <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>
429, 429.1 and 429.2	<p>Start-up and Shutdown Provisions of Oxides of Nitrogen from:</p> <p>Rule 429 - Start-Up and Shutdown Exemption</p>	<p>Revises NOx emission provisions for start-up and shutdown events.</p> <ol style="list-style-type: none"> 1. For applicable Rule 429 equipment: <ul style="list-style-type: none"> • Establishes exemption from Rules 1134, 1146, 1147, 1147.1, and 1147.2 NOx and CO

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"> ➤ when fuel is only used for the pilot light, and ➤ units with existing permit conditions that allow the use of a bypass to conduct maintenance. <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"> • Establishes exemption for electric generating units from Rule 1135 NOx concentration limits for specific time durations. • Establishes two sets of startup and shutdown time duration limits for each equipment type based on the date of equipment installation. • Requires startup period to end when: <ul style="list-style-type: none"> ➤ the electric generating unit reaches stable conditions, ➤ the NOx post-combustion control equipment reaches minimum operating temperature, and ➤ all NOx post-combustion controls are fully deployed. • Limits number of scheduled events to: <ul style="list-style-type: none"> ➤ 12 per year for electric generating units not permitted to perform distillate fuel oil readiness testing, and ➤ 64 per year for electric generating units permitted to perform distillate fuel oil readiness testing. • Includes best management practices to minimize emissions during events. • Establishes reporting and recordkeeping procedures. • 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"> ➤ startup and shutdown duration limits, ➤ limits to number of scheduled startups, and ➤ installation of a temperature measuring device until December 31, 2029. <p style="text-align: right;"><i>(Adopted January 7, 2022)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p>

Rule(s)	Focus Area	Description
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"> • Implementation schedule for equipment meeting applicability under Rules 1146 and 1146.1. <i>(Adopted December 7, 2018)</i> • Implementation schedule for equipment meeting applicability under Rule 1110.2. <i>(Amended November 1, 2019)</i> • 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> <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 plants at petroleum refineries)</p>	<p>Establishes NOx emission limits to reflect BARCT for equipment located at a refinery.</p> <ol style="list-style-type: none"> 1. For Rule 1109 facilities: <ul style="list-style-type: none"> • Rule 1109 rescinded upon adoption of Rule 1109.1. <i>(Rule rescinded November 5, 2021)</i> 1. For Rule 1109.1 facilities: <ul style="list-style-type: none"> • 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. • Includes provisions for using alternative compliance plans, the approval process, and when an approved plan must be modified. • 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

Rule(s)	Focus Area	Description
		<p>backsliding of emissions per the federal Clean Air Act Section 110(l).</p> <ul style="list-style-type: none"> Includes monitoring, reporting, and recordkeeping requirements, and exemptions for low-use units and other units that are exempt from the rule. <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	<p>Emissions from:</p> <p>Rule 1110.2 – Gaseous and Liquid-Fueled Engines</p> <p><i>Applicability:</i> All stationary and portable engines over 50 rated brake horsepower</p>	<ol style="list-style-type: none"> Maintains existing BARCT levels for NOx, VOC, and CO emission limits, and allows: <ul style="list-style-type: none"> interim alternate emission limits for compressor gas lean-burn engines, concentration based limits for linear generator technology, and interim VOC based emission limits for certain electricity generating engines. Specifies emission averaging time. Includes additional monitoring requirements for engines at former RECLAIM facilities. Revises exemptions for: <ul style="list-style-type: none"> diesel engines operated at remote radio transmission sites, tuning of an engine and/or associated emission control equipment, replacement of catalytic equipment as a major repair, and diesel engines powering cranes located on offshore platforms, provided specific criteria are met. <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>
	<p>Rule 1110.2 – Gaseous and Liquid-Fueled Engines</p> <p><i>Applicability:</i> All stationary and portable engines over 50 rated brake horsepower, excluding linear generators</p>	<ol style="list-style-type: none"> 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. <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>
	<p>Rule 1110.3 – Linear Generators</p> <p><i>Applicability:</i> Linear generators</p>	<ol style="list-style-type: none"> Allows for specific considerations of the technology and capabilities of linear generators. Establishes NOx, CO, and VOC emission limits for linear generators. Establishes provisions for source testing, monitoring, reporting and recordkeeping by requiring: <ul style="list-style-type: none"> a net output meter and parametric monitoring system,

Rule(s)	Focus Area	Description
		<ul style="list-style-type: none"> • inspection and maintenance of parametric monitoring system per manufacturer’s recommendations, • records to kept for a period of five years and made available to staff, • source tests every five years with options for pooled source testing every three years for facilities with six or more units, • diagnostic emissions checks required every two years, and • source test results to be submitted to Executive Officer. <p>4. Provides exemptions for:</p> <ul style="list-style-type: none"> • laboratory units, • emergency units, and • units used for fire-fighting and flood control. <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>
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"> 1. Updates NOx and SOx emission limits to reflect current BARCT for container glass melting and sodium silicate furnaces: <ul style="list-style-type: none"> • 0.75 lb. of NOx per ton of glass pulled on a rolling 30-day average for container glass melting furnaces, • 0.50 lb. of NOx per ton of product pulled on a rolling 30-day average for sodium silicate furnaces, as well as • 1.1 lbs. of SOx per ton of material pulled on a rolling 30-day average for both container glass melting and sodium silicate furnaces. 2. Revises monitoring, reporting, and recordkeeping requirements. 3. Includes provisions to reduce emissions for idling, startup, and shutdown of furnaces. 4. Includes NOx emission limits for auxiliary combustion equipment associated with container glass melting operations: <ul style="list-style-type: none"> • 30 ppmvd NOx at 3% O2 or 0.036 lb. per MMBTU of heat input. <p style="text-align: right;"><i>(Amended June 5, 2020)</i></p> <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></p>	<ol style="list-style-type: none"> 1. Establishes NOx, VOC, and CO emission limits to reflect current BARCT for new, replaced, or relocated flares.

Rule(s)	Focus Area	Description
	<p>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>	<p>2. Establishes industry-specific capacity thresholds for existing flares. Flares that exceed the applicable capacity threshold in two consecutive calendar years shall either be:</p> <ul style="list-style-type: none"> • modified to comply with the established limit, or • implement plan to reduce the amount of gas flaring. <p>3. Establishes monitoring, reporting, recordkeeping and source testing requirements.</p> <p>4. Provides exemptions for low-use and low-emitting flares.</p> <p style="text-align: right;"><i>(Adopted January 4, 2019)</i></p> <p><i>[Estimated emission reductions: 0.18 tons of NO_x 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>	<p>1. Updates NO_x and ammonia emission limits to reflect current BARCT, effective beginning January 1, 2024.</p> <p>2. Provides implementation timeframes to facilitate transition.</p> <ul style="list-style-type: none"> • Alternative compliance date for compressor gas turbines, provided the facility demonstrates 25% or more NO_x emission reductions beginning December 31, 2023. • Extension of up to 36 months to comply with ammonia emission limits, provided: <ul style="list-style-type: none"> ➢ an ammonia continuous emissions monitoring system is installed, and ➢ the turbine operates less than one thousand hours per year. <p>3. Revises monitoring, reporting, and recordkeeping requirements.</p> <p>4. Provides exemptions for units that are shown to be not cost effective for retrofit or replacement such as:</p> <ul style="list-style-type: none"> • low-use turbines, and • turbines achieving emissions close to the established limit. <p style="text-align: right;"><i>(Amended April 5, 2019)</i></p> <p><i>[Estimated emission reductions: 2.8 tons of NO_x per day.]</i></p> <p>1. Removes ammonia emission limits (addressed during permitting).</p> <p>2. Removes startup and shutdown provisions and clarifies startup and shutdown periods are pursuant to Rule 429.</p> <p>3. Establishes an interim NO_x 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 NO_x limit under Rule 1134.</p>

Rule(s)	Focus Area	Description
		<ol style="list-style-type: none"> 4. Clarifies that recuperative gas turbines are under “Other” turbines category. 5. Removes references to Rule 2012 for former RECLAIM facilities. 6. Includes Rules 218.2 and 218.3 requirements for former RECLAIM and non-RECLAIM facilities. 7. Incorporates a narrow liquid fuel usage exemption for turbines located at health facilities during emergencies. <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"> 1. Updates emission limits to reflect current BARCT: <ul style="list-style-type: none"> • NOx and ammonia emission limits for boilers and gas turbines, and • NOx, ammonia, carbon monoxide, volatile organic compounds, and particulate matter for internal combustion engines. 2. Revises monitoring, reporting, and recordkeeping requirements. 3. Provides exemptions for units that are shown to be not cost effective for retrofit: <ul style="list-style-type: none"> • low-use units, • units achieving emissions close to the established limits, and • units required to be shut down in the near term. <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"> 1. Removes ammonia emission limits. 2. Removes startup and shutdown provisions addressed in Rule 429.2. 3. For engines at Santa Catalina Island: <ul style="list-style-type: none"> • 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"> ➤ an initial NOx emission cap of 50 tons per year in 2024, then lower the cap to 45 tons per year in 2025 (Represents replacing two or three diesel engines with Tier 4 Final engines); and ➤ a final NOx emission cap of 13 tons per year beginning in 2026. • requires new diesel engines to meet the BARCT emissions limits in Table 2,

Rule(s)	Focus Area	Description
		<ul style="list-style-type: none"> • revises the NOx concentration averaging period for new diesel engines from one hour to three hours, and • prohibits installation of any new diesel engines on Santa Catalina Island on and after January 1, 2024. <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>
1146, 1146.1, and 1146.2	<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> Boilers, process heaters, and steam generators that are greater than 2 MMBtu/hr or and less than 5 MMBtu/hr</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"> • establishes NOx and ammonia emission limits for boilers, steam generators, and heaters, and • specifies compliance schedule in Rule 1100. <p>2. For Rule 1146.2 units:</p> <ul style="list-style-type: none"> • 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. <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"> • removes ammonia slip limit which is currently addressed under Regulation XIII. <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> <p>1. For Rule 1146.2 facilities:</p> <ul style="list-style-type: none"> • requires a zero-emission (0 ppmv) NOx limit for new installations of applicable large water heaters, small boilers, and process heaters.

Rule(s)	Focus Area	Description
	<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>	<ul style="list-style-type: none"> • establishes future zero-emission limit compliance dates for units installed in new or existing buildings. • allows for alternative compliance option and a low-use exemption for units used for residential structures and small businesses. • clarifies and updates rule language, restructures the rule, and removes obsolete language. <p style="text-align: right;"><i>(Amended June 7, 2024)</i></p> <p><i>[Estimated emission reductions: 5.6 tons of NOx per day by 2058.]</i></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 \geq 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"> 1. Establishes NOx emission limits of: <ul style="list-style-type: none"> • 9 ppmv for micro-turbines, and • between 20 to 60 ppmv for all remaining equipment categories. 2. Establishes interim NOx emission limits of: <ul style="list-style-type: none"> • existing Rule 1147 limits for non-RECLAIM facilities, or • 102 ppmv or existing NOx permit limit, whichever is lower, for former RECLAIM facilities. 3. Establishes a CO concentration limit of 1,000 ppmv for all applicable equipment categories. 4. Establishes monitoring, reporting, recordkeeping, and source testing requirements. 5. Includes two implementation schedules: <ul style="list-style-type: none"> • one for units that do not have a permit limit at the current Rule 1147 limits (primarily RECLAIM facilities); and • one for units meeting the current Rule 1147 limits (primarily non- RECLAIM facilities). 6. Provides exemptions for: <ul style="list-style-type: none"> • solid fuel-fired combustion equipment, • heating equipment associated with fuel cells, • 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 • unit(s) used in equipment that endothermically decompose solid waste in an environment with little to no oxygen. <p style="text-align: right;"><i>(Amended May 6, 2022)</i></p>

Rule(s)	Focus Area	Description
	<p>Rule 1147.1 - Aggregate Dryers</p> <p><i>Applicability:</i> Owners or operators of gaseous fuel-fired aggregate dryers with NOx emissions > 1 lb. per day with rated heat input greater than 2MMBtu/hr at non-RECLAIM, RECLAIM, and former RECLAIM facilities</p>	<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"> 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. 2. Establishes interim NOx emission limits of: <ul style="list-style-type: none"> • 40 ppm for non-RECLAIM facilities, and • 102 ppm for former RECLAIM facilities. 3. Provides periodic source testing based on equipment size: <ul style="list-style-type: none"> • < 10 MMBtu/hr – every 5 calendar years, • < 40 and ≥ 10 MMBtu/hr– every 3 calendar years, and • ≥ 40 MMBtu/hr – every calendar year. 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. 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. 6. Provides exemption for tunnel dryers subject to Rule 1147. <p style="text-align: right;"><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><i>Applicability:</i> 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"> 1. Establishes NOx and CO emission limits to reflect current BARCT for metal melting, metal heat treating, and metal heating and forging furnaces. 2. Establishes transitional NOx concentration limits for units at non-RECLAIM and former RECLAIM facilities. 3. Provides implementation schedules based on units': <ul style="list-style-type: none"> • burner age, • rated heat input capacity, and • current NOx concentration limits. 4. Provides an alternative staggered implementation schedule for facilities operating multiple impacted units subject to the rule. 5. Requires periodic source testing for all units not equipped with a Continuous Emissions Monitoring System (CEMS).

Rule(s)	Focus Area	Description
		<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"> • demonstrate NOx emissions of less than one pound per day, averaged over a calendar month, and • are equipped with a CEMS during periods of refractory dry-out, startup, and shutdown. <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> <p>1. Establishes NOx emission limits that represent BARCT for each class and category of equipment in two phases:</p> <ul style="list-style-type: none"> • Phase I - 15 ppmv for tortilla ovens heated solely by infrared burners and 30 ppmv for all other commercial food oven categories; and • 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. <p>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.</p> <p>3. Establishes requirements and a compliance schedule for Phase I emission limits which includes:</p> <ul style="list-style-type: none"> • submitting permit application by July 1st of the calendar year when the burner is 7 years of age; and • not operating a commercial food oven that exceeds Phase I limits: <ul style="list-style-type: none"> ➤ 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 ➤ when the burner in commercial food oven is 10 years old. <p>4. Sets a compliance schedule for Phase II emission limits effective on and after January 1, 2027.</p>

Rule(s)	Focus Area	Description
		<p>5. Decommissions the commercial food oven:</p> <ul style="list-style-type: none"> • once the oven is 25 year or older and the burner is 10 years; or • as of January 1, 2036, when the unit reaches 25 years of age. <p>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).</p> <p>7. Establishes monitoring, reporting, recordkeeping requirements.</p> <p>8. Establishes source testing requirements:</p> <ul style="list-style-type: none"> • units subject to Phase I emission limits must conduct simultaneous source tests for NOx and CO to demonstrate compliance with applicable limits, and • source testing shall be conducted every five calendar years, but no earlier than 48 months after the previous source test. <p>9. Clarifies and provides exemptions for:</p> <ul style="list-style-type: none"> • commercial food oven with a rated heat input capacity less than 325,000 Btu/hour are exempt from the rule requirements, • 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 • 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. <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	<p>Control of NOx Emissions from Nitric Acid Processing Tanks</p> <p><i>Applicability:</i> Nitric acid processing tanks</p>	<p>Establishes NOx emission limits to reflect current BARCT for nitric acid tanks at RECLAIM, former RECLAIM, and non-RECLAIM facilities.</p> <p>1. Requires facilities to control NOx emissions from nitric acid units by either meeting:</p> <ul style="list-style-type: none"> • the BARCT emission limit of 0.30 pound per hour (lb/hr), or • a control efficiency of 99% per air pollution control device. <p>2. Allows for compliance by either:</p> <ul style="list-style-type: none"> • a one-time source test, or • recordkeeping of nitric acid usage to demonstrate emissions or usage are less than thresholds established by rule.

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Rule(s)	Focus Area	Description
		<p>3. Establishes implementation schedules, as well as requirements for parametric monitoring, source testing, and recordkeeping: <i>(Adopted December 6, 2024)</i> <i>[Estimated emission reductions: 0.11 tons of NOx per day.]</i></p>
2000	<p>Definitions governing the RECLAIM program</p> <p><i>Applicability:</i> Definition of terms found in Regulation XX - RECLAIM</p>	<p>1. For all RECLAIM sources:</p> <ul style="list-style-type: none"> • 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 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>
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>	<p>1. Prevents new NOx RECLAIM facility inclusions as of January 5, 2018. <i>(Amended January 5, 2018)</i></p> <p>2. Allows facilities to opt-out of RECLAIM, if certain conditions are met. <i>(Amended October 5, 2018)</i></p> <p>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></p>
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>	<p>1. Establishes NOx RECLAIM facility exit notification requirements.</p> <p>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.</p> <p>3. Prohibits exited facilities from selling or transferring future compliance year RECLAIM Trading Credits. <i>(Amended January 5, 2018)</i></p> <p>1. Provides option for facilities that received an initial determination notification to stay in RECLAIM for a limited time.</p> <p>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.</p>

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Rule(s)	Focus Area	Description
		<i>(Amended October 5, 2018)</i>
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> <p>1. Allows a RECLAIM facility replacing existing basic equipment that is combined with the installation or modification of air pollution control equipment to:</p> <ul style="list-style-type: none"> • comply with a command-and-control NOx emission limit for a Regulation XI rule (Rule 1109.1), • apply the BACT requirement for a SOx emission increase under Rule 1303 – Requirements, instead of BACT under Rule 2005, and • use the limited BACT exemption in Rule 1304 subdivision (f). <p style="text-align: right;"><i>(Amended November 5, 2021)</i></p>
2011 and 2012	<p>Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SOx) Emissions</p> <p>and</p> <p>Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions</p> <p><i>Applicability:</i> Facilities with major sources monitored by CEMS operating under the RECLAIM program</p>	<p>For both RECLAIM NOx and SOx major sources monitored by CEMS:</p> <p>1. Allows a compliance pathway for CEMS during extended basic equipment shutdowns provided that:</p> <ul style="list-style-type: none"> • NOx and/or SOx source must be non-operational for an extended period (at least 168 consecutive hours), • CEMS must operate for a minimum of four hours after basic equipment shutdown and show zero emissions before being brought offline, • submit a report of the CEMS shutdown to South Coast AQMD, • CEMS must pass a calibration error test and run for a minimum of four hours before any emissions are generated and operations resume, and • all required electronic reports are submitted within 48 hours of passing the calibration error test for Missing data procedures not to apply. <p>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.</p> <p style="text-align: right;"><i>(Amended November 3, 2023)</i></p>

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 update 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. With the adoption of Rule 1159.1 – Control of NOx Emissions from Nitric Acid Tanks, the development efforts for the Landing Rules has been completed.

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 2023 found that no facilities requested to exclude breakdown emissions from being counted against their allocations. Thus, for Compliance Year 2023, no additional RTCs are required to offset breakdown emissions pursuant to Rule 2015(d)(3).

**Table 3-4
Breakdown Emission Comparison for Compliance Year 2023**

Pollutant	Compliance Year 2023 Unused RTCs (tons)	Unmitigated Breakdown Emissions¹ (tons)	Remaining Compliance Year 2023 RTCs (tons)
NOx	869	0	869
SOx	817	0	817

¹ 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.³ 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.⁴ 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 2023, no facilities were included or excluded from the NOx or SOx universes, and one NOx only facility shut down. Compliance Year 2023 NOx and SOx audited emissions and initial Compliance Year 2023 allocations for facilities that were shut down during Compliance Year 2023 are summarized in Tables 3-5 and 3-6.

**Table 3-5
NOx Emissions Impact from the Changes in Universe (Tons)**

Category	Compliance Year 2023 NOx Emissions (tons)	Initial Compliance Year 2023 NOx Allocations (tons)
Shutdown Facilities	0.9	0
Excluded Facilities	Not applicable	Not applicable
RECLAIM Universe	4,432	5,301

³ 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).

⁴ 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.

Table 3-6
SOx Emissions Impact from the Changes in Universe (Tons)

Category	Compliance Year 2023 SOx Emissions (tons)	Initial Compliance Year 2023 SOx Allocations (tons)
Shutdown Facilities	0	0
Excluded Facilities	Not applicable	Not applicable
RECLAIM Universe	1,398	2,215

Backstop Provisions

Rule 2015 requires that South Coast AQMD review the RECLAIM program and implement necessary measures to amend it whenever aggregate emissions exceed the aggregate allocations by five percent or more. Compliance Year 2023 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 2023.

CHAPTER 4

NEW SOURCE REVIEW ACTIVITY

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 2023, a total of six NO_x RECLAIM facilities had NSR NO_x emission increases, and no SO_x RECLAIM facilities had an NSR SO_x emission increase due to expansion or modification. Consistent with all prior compliance years, there were sufficient NO_x and SO_x 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_x emission increases and a 1-to-1 offset ratio for SO_x emission increases on a programmatic basis. In Compliance Year 2023, RECLAIM demonstrated federal equivalency with a programmatic NO_x offset ratio of 145-to-1 based on the compliance year's total unused allocations and total NSR emission increases for NO_x. There were no SO_x 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_x offset ratio for any compliance year, provided aggregate SO_x emissions under RECLAIM are lower than or equal to aggregate SO_x allocations for that compliance year. As shown in Chapter 3 (Table 3-2 and Figure 3-2), there was a surplus of SO_x RTCs during Compliance Year 2023. Therefore, RECLAIM more than complied with the federally-required SO_x offset ratio and further quantification of the SO_x 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.¹

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.*, NOx and VOC).

The federal offset requirement for major SO₂ 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 SO₂ standards, SOx is a precursor to PM2.5. This Basin is in Serious Non-attainment with the 2006 Federal 24-hour average standard and 2012 Federal annual standard for PM2.5. The applicable offset ratio for PM2.5 is at least 1-to-1, thus, the applicable offset ratio for SOx 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 SOx and state NNI requirements for both SOx and NOx. 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.

¹ Federal NSR applies to federal major sources [sources with the potential to emit at least 10 tons of NOx or 70 tons of SOx 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 NOx sources and to SOx 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 NOx or SOx 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 facilities² 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_x on an aggregate basis as explained earlier. This annual program audit report assesses NSR permitting activities for Compliance Year 2023 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 2023 shows that RECLAIM facilities were able to expand and modify their operations while complying with NSR requirements. During Compliance Year 2023, a total of six NO_x RECLAIM facilities (two facilities in Cycle 1 and four facilities in Cycle 2) were issued permits to operate, which resulted in a total of 6.022 tons per year of NO_x emission increases from starting operations of new or modified sources. There were no SO_x 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_x: 869 tons, SO_x: 817 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_x and at least 1-to-1 for SO_x) 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.

² 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 since Compliance Year 2005. 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 six RECLAIM facilities resulted in 6.022 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 2023), 869 tons of Compliance Year 2023 NOx RTCs remained unused. Therefore, the Compliance Year 2023 NOx programmatic offset ratio calculated from this methodology is 145-to-1 as shown below:

$$\begin{aligned} \text{NOx Offset Ratio} &= \left(1 + \frac{869 \text{ tons}}{6.022 \text{ tons}} \right)\text{-to-1} \\ &= 145\text{-to-1} \end{aligned}$$

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 145-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 SOx is 1-to-1. Since RECLAIM facilities are required to secure, at a minimum, adequate RTCs to cover their actual emissions, the SOx 1-to-1 offset ratio is met automatically provided there is no programmatic exceedance of aggregate SOx allocations for that compliance year. As identified in Table 3-2 (Annual SOx Emissions for Compliance Years 1994 through 2023), there were 817 tons of excess (unused) SOx RTCs for Compliance Year 2023. Since there were no SOx 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 SOx offset ratio and the California NNI requirement for SOx 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 2023 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 NOx or SOx 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 2023, one RECLAIM facility was subject to the 40-ton modeling requirement for NOx emissions, and no facilities for SOx emissions.

This modeling is performed with an U.S. EPA approved air dispersion model to assess the impact of a facility's NOx or SOx 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 NOx or SOx emission increases are added to the highest background NOx or SOx 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_x allocations in 1994 and exceeded their initial allocations by more than 40 tons in Compliance Year 2023. The facility submitted modeling that demonstrated that NO_x emissions from their major sources during 2023 will not cause an exceedance of any state or federal NO₂ AAQS.

CHAPTER 5 COMPLIANCE

Summary

Based on the South Coast AQMD Compliance Year 2023 annual audit, 216 of the 229 NO_x RECLAIM facilities (94%) complied with their NO_x allocations, and 27 of the 27 SO_x facilities (100%) complied with their SO_x allocations. Therefore, 13 facilities exceeded their allocations (all these facilities exceeded their NO_x allocations only). The 13 facilities that exceeded their NO_x allocations had aggregate NO_x emissions of 340.0 tons and did not have adequate allocations to offset 208.5 tons (or 61.3%) of their combined emissions. The NO_x exceedance amounts are relatively small compared to the overall allocations for Compliance Year 2023 (3.9% of total NO_x allocations). The exceedances from these facilities did not impact the overall RECLAIM emission reduction goals. The overall RECLAIM NO_x and SO_x emission reduction targets and goals were met for Compliance Year 2023 (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 2023 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, except for rules adopted or amended after October 5, 2018. 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 RECLAIM facilities 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 2023, a total of 230 facility compliance audits were completed. The compliance audit process may also include conducting field inspections to check process equipment, monitoring devices, and operational records. Additionally, emissions calculations are subject to review during this process 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 2023, the results of this process 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), failed to use the proper bias adjustment factor, used emission calculation methodologies not allowed under the rules, failed to properly apply MDP, or failed to report emissions required under the RECLAIM program.

Following a determination during the course of a facility audit that a facility's reported emissions are inaccurate, 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 13 RECLAIM facilities were unable to reconcile their emissions (all facilities exceeded their NO_x Allocations only). Eleven of these 13 facilities were unable to acquire adequate RTCs to offset their reported emissions, in addition to their audited emissions. The remaining two facilities exceeded allocations based on their audited emissions only. The list of facilities that were unable to reconcile their emissions during Compliance Year 2023 is provided in Appendix D.

Based on audit findings, four facilities were found to have under-reported their NO_x emissions and didn't hold sufficient NO_x RTCs to reconcile their audited emissions. Among the four facilities found to have under-reported their emissions, the reasons for the under-reporting include one or more of the following causes:

- did not report emissions reportable under RECLAIM,
- did not submit emission reports, and
- did not properly apply MDP.

Overall, the Compliance Year 2023 allocation compliance rates for facilities are 94 percent (216 out of 229 facilities) for NO_x RECLAIM and 100 percent (27 out of 27 facilities) for SO_x RECLAIM. For purposes of comparison, the allocation compliance rates for Compliance Year 2022 were 93 percent and 96 percent for NO_x and SO_x RECLAIM facilities, respectively. In Compliance Year 2023, the 13 facilities that had NO_x emissions in excess of their individual NO_x allocations had 340.0 tons of NO_x emissions and didn't have adequate RTCs to cover 208.5 tons of their combined emissions (or 61.3% of their total emissions). The NO_x exceedance amounts are relatively small compared to the overall allocations for Compliance Year 2023 (3.9% of aggregate NO_x allocations). Pursuant to Rule 2010(b)(1)(A), all affected facilities had their NO_x and SO_x 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 2023 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"¹ 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.²

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, 81 NOx facilities and 14 SOx facilities used MDP in reporting portions of their annual emissions during Compliance Year 2023. In terms of mass emissions, 5.3 percent of the total reported NOx emissions and 9.5 percent of the total reported SOx emissions in the APEP reports were calculated using MDP for Compliance Year 2023. Table 5-1 compares the impact of MDP on reported annual emissions for the last few compliance years to the second compliance year, 1995 (MDP was not fully implemented during Compliance Year 1994).

¹ Based on uncontrolled emission factor at maximum rated capacity of the source and 24 hours per day operation.

² Based on averaged emissions during periods before and after the period for which data is not available.

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)
2023	5.3% (81 ; 225)	9.5% (14 ; 133)

* 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. For example, in Compliance Year 1995, 65 facilities reported 6,070 tons of NOx emissions using MDP (23% of total NOx emissions). However, in Compliance Year 2023, 81 facilities reported 225 tons of NOx emissions using MDP (5.3% of total NOx emissions). 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 five percent of reported NO_x annual emissions were calculated using MDP in Compliance Year 2023. 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 five 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 2023, a significant portion of NO_x MDP emissions data (75%) and of SO_x MDP emissions data (94%) 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_x sources into major sources, large sources, process units, and equipment exempt from obtaining a written permit pursuant to Rule 219. All SO_x 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 2023, even though the number of major sources monitored by either CEMS or ACEMS represent 18 percent and 68 percent of all permitted RECLAIM NOx and SOx sources, respectively, reported emissions revealed that 78 percent of all RECLAIM NOx emissions and 98 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 RATA results. The RATA report verifies the quality of the CEMS by comparing the CEMS data against data taken concurrently by a LAP-approved source testing contractor. In order to have a passing RATA, the relative accuracy performance criteria for pollutant concentration, stack flow rate, and pollutant mass emission rate must be met. In addition, the RATAs reveal whether CEMS data must be adjusted for low readings (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 2023 and 2024 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 2023 and 2024 passing rates are calculated from RATA data submitted before January 10, 2024, and December 31, 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 Calendar Year 2023¹**

Concentration						Stack Flow Rate				Mass Emissions			
NOx		SO ₂		Total ² Sulfur		In-Stack Monitor		F-Factor Based Calc.		NOx		SOx ³	
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

¹ The calculation of passing rates includes all RATAs submitted by January 10, 2024.

² Includes Cylinder Gas Audit (CGA) tests.

³ Does not include SOx emissions calculated from total sulfur analyzers.

**Table 5-4
Passing Rates Based on RATAs of Certified CEMS in Calendar Year 2024¹**

Concentration						Stack Flow Rate				Mass Emissions			
NOx		SO ₂		Total ² Sulfur		In-Stack Monitor		F-Factor Based Calc.		NOx		SOx ³	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
372	100	123	100	10	100	53	100	346	100	338	100	80	100

¹ The calculation of passing includes all RATAs submitted by December 31, 2024.

² Includes Cylinder Gas Audit (CGA) tests.

³ Does not include SOx emissions calculated from total sulfur analyzers.

As indicated in Tables 5-3 and 5-4, the passing rates for NO_x/SO₂ 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 2024, 99 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 within specified five-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 has continued 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

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 2023 employment survey data gathered from APEP reports, RECLAIM facilities reported 7,969 job gains and 8,871 job losses for an overall net loss of 902 jobs, representing 0.99 percent of their total employment. No RECLAIM facility cited RECLAIM as a factor contributing to the addition of any jobs during Compliance Year 2023. Two facilities reported a total of 71 jobs lost due to RECLAIM during Compliance Year 2023.

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 2023 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 2023 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 2023.

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 2023 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 2023 APEP reports and follow-up contacts with facilities. A total of 120 facilities reported 7,969 job gains, and 117 facilities reported a total of 8,871 job losses. Net job gains were reported in one category: non-manufacturing (782). Net job losses were reported in the final two categories: manufacturing (1,669) and sales of products (15). Table 6-1 shows a total net loss of 902 jobs, which represents a net decrease of 0.99 percent at RECLAIM facilities during Compliance Year 2023.

Table 6-1
Job Impacts at RECLAIM Facilities for Compliance Year 2023

Description	Manufacturing	Sales of Products	Non-Manufacturing	Total*
Initial Jobs	35,234	441	55,001	90,676
Overall Job Gain	2,260	42	5,667	7,969
Overall Job Loss	3,929	57	4,885	8,871
Final Jobs	33,565	426	55,783	89,774
Net Job Change	-1,669	-15	782	-902
Percent (%) Job Change	-4.74%	-3.40%	1.42%	-0.99%
Facilities Reporting Job Gains	87	19	62	120
Facilities Reporting Job Losses	75	15	78	117

* 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.

The data for the RECLAIM facility that ceased operation in Compliance Year 2023, as listed in Appendix C, are included in Table 6-1. The facility cited the cost of meeting air pollution regulations and manufacturing, production, and raw materials costs as factors in their shutdown. According to the APEP report, the shutdown of this facility led to a total loss of 50 manufacturing jobs.

Two RECLAIM facilities attributed job losses or gains to RECLAIM as required in Part III, Section B, of their APEP for Compliance Year 2023. The two facilities reported a combined total of 71 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

Summary

Annually audited RECLAIM emissions have been in an overall downward trend since the program's inception. Compliance Year 2023 NO_x and SO_x emissions decreased 6 percent and 14 percent, respectively, relative to Compliance Year 2022. Quarterly calendar year 2023 NO_x emissions fluctuated within six percent of the mean NO_x emissions for the year. Quarterly calendar year 2023 SO_x emissions fluctuated within eight percent of the year's mean SO_x 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 2024, 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_x or SO_x emission increases are required to be equipped with BACT, which minimizes to the extent feasible the increase of NO_x and SO_x 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,¹ and include all the quarterly emissions maps presented in previous annual program audit reports. This chapter addresses the following criteria in the South Coast Air Basin (SCAB)²:

- Emission trends for RECLAIM facilities;
- Seasonal fluctuations in emissions;
- Per capita exposure to air pollution; and
- Toxics impacts.

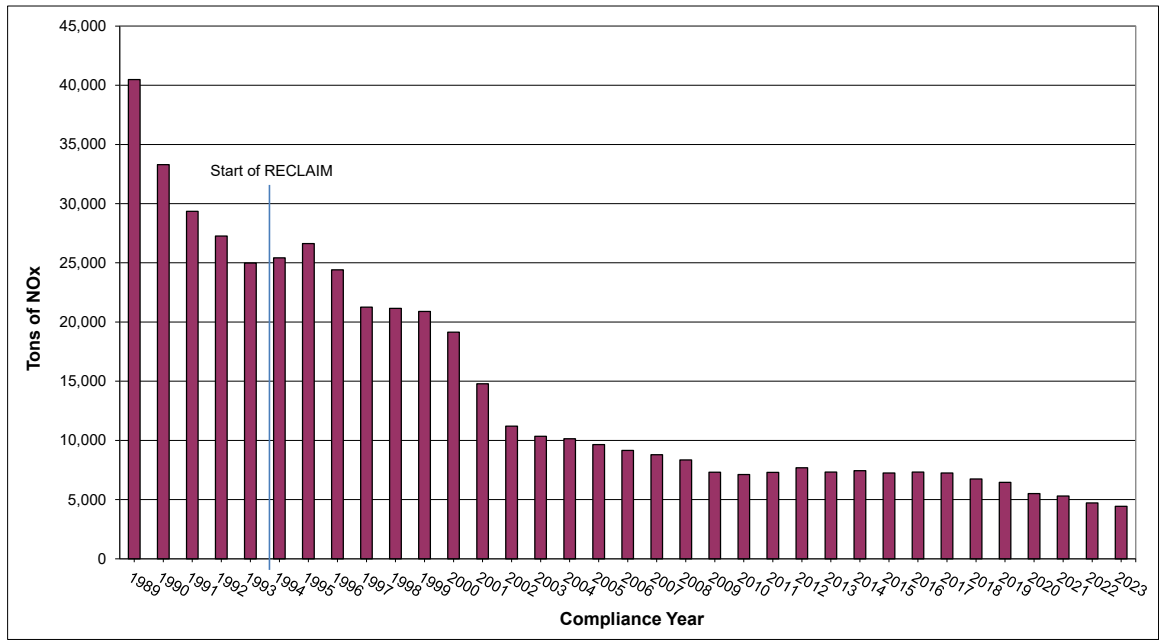
Emission Trends for RECLAIM Sources

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 NO_x and SO_x 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.

¹ Quarterly emission maps from 1994 to present can be found at: <http://www.aqmd.gov/home/programs/business/about-reclaim/quarterly-emission-maps>.

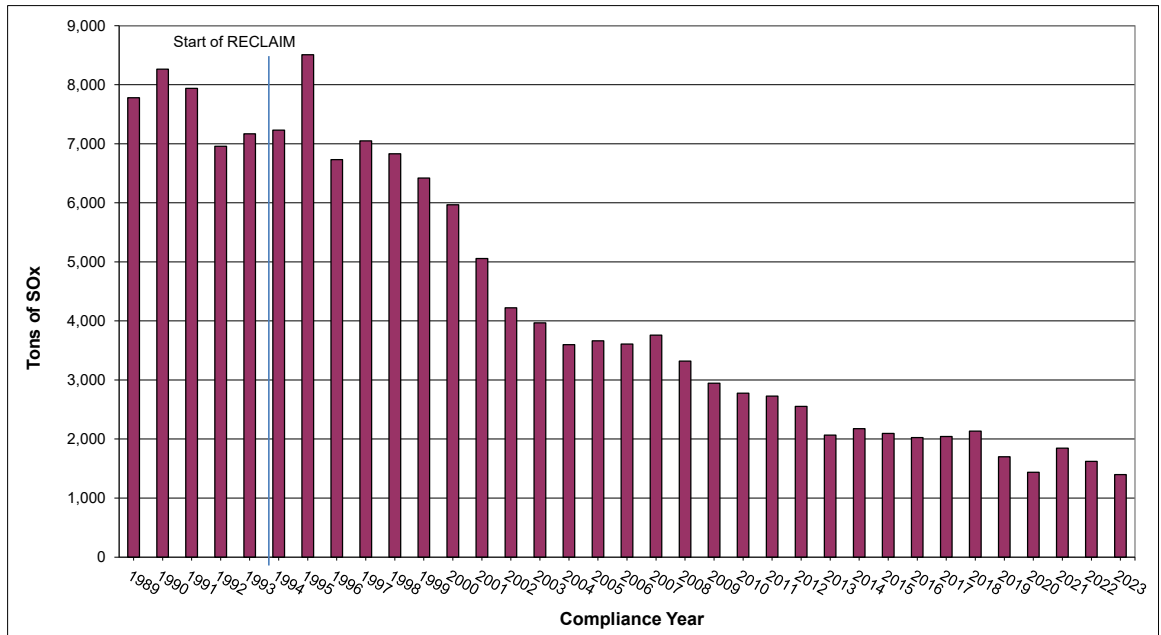
² The RECLAIM universe of facilities consists of facilities primarily in the South Coast Air Basin, also referred to as the Basin in this report, and two additional RECLAIM facilities located in the Riverside County portion of the Salton Sea Air Basin, or Non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

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.

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.

Annual NOx and SOx emissions have generally been trending downward since Compliance Year 1995, hitting a record low of 4,432 tons of NOx and 1,398 tons of SOx in Compliance Year 2023. Consistent with the overall trend of reduced NOx and SOx emissions during the program, Compliance Year 2023 NOx and SOx emissions decreased by 6 and 14 percent, respectively, when compared to Compliance Year 2022. RECLAIM facilities did not increase their actual aggregate emissions during the early years of the program, and as discussed in Chapter 3, NOx and SOx 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 2023 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 2023 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 7-6.³

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:

³ 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.

- NOx emissions from RECLAIM facilities are dominated by refineries and power plants.
- SOx 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 (NOx and SOx) and from power plants (NOx) 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 2023 mean quarterly NOx emission level, which is the average of the aggregate audited emissions for each of the four quarters, and the 2023 audited quarterly emissions. Figure 7-4 compares the 2023 quarterly NOx emissions with the quarterly emissions from 2012 through 2022. During calendar year 2023, quarterly NOx emissions varied from six percent above the mean in the third quarter (July through September) to about four percent below the mean in the fourth quarter (October through December). Figure 7-4 shows that the calendar year 2023 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 2023 there has not been a significant shift in NOx emissions from the winter months to the summer months.

Figure 7-3
Calendar Year 2023 NOx Quarterly Emissions

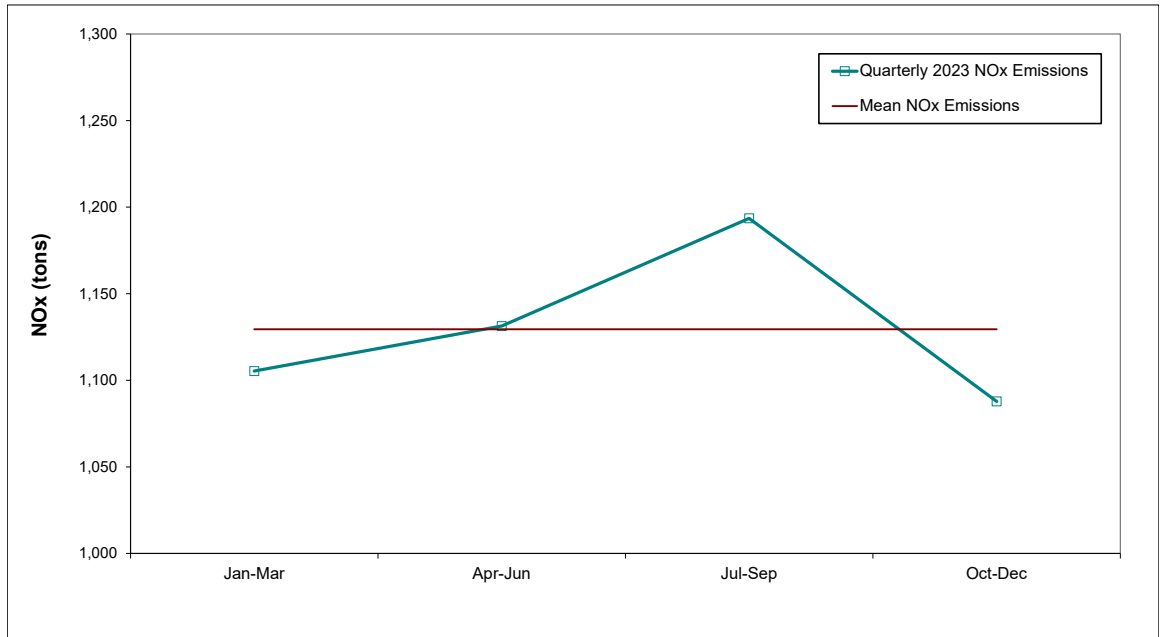
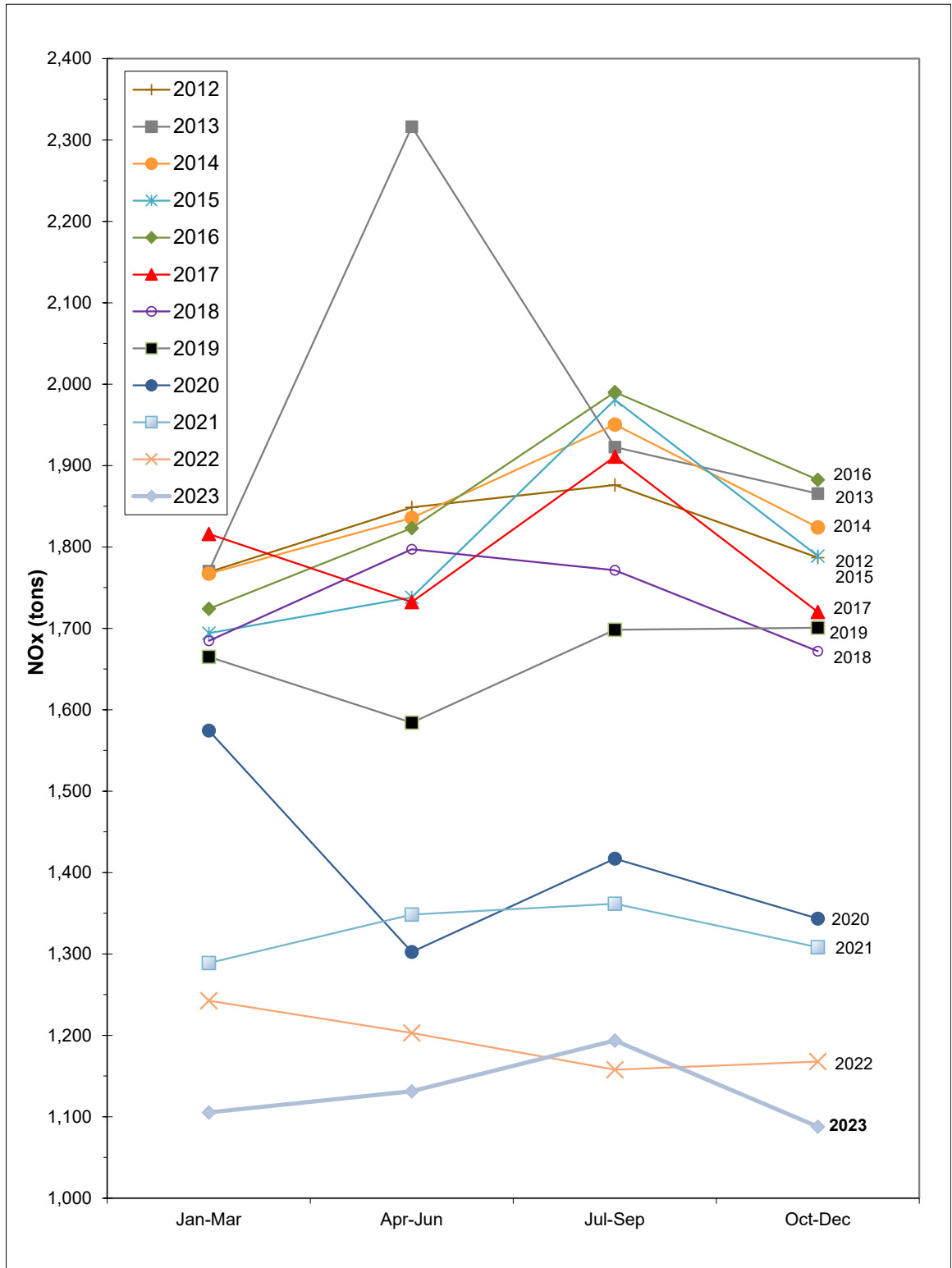


Figure 7-4
Quarterly NOx Emissions from Calendar Years 2012 through 2023



Similar to Figure 7-3 and 7-4 for NOx quarterly emissions, Figure 7-5 presents the 2023 mean quarterly SOx emissions and the 2023 audited quarterly emissions, while Figure 7-6 compares the 2023 quarterly SOx emissions with the quarterly emissions from 2012 through 2022. Figure 7-5 shows that quarterly SOx emissions during calendar year 2023 varied from 8 percent above the mean in the second quarter (April through June) to about 6 percent below the mean in the first quarter (January through March). Figure 7-6 shows that the calendar year 2023 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 2023 there was not a significant shift in SOx emissions from the winter months to the summer months.

Figure 7-5
Calendar Year 2023 SOx Quarterly Emissions

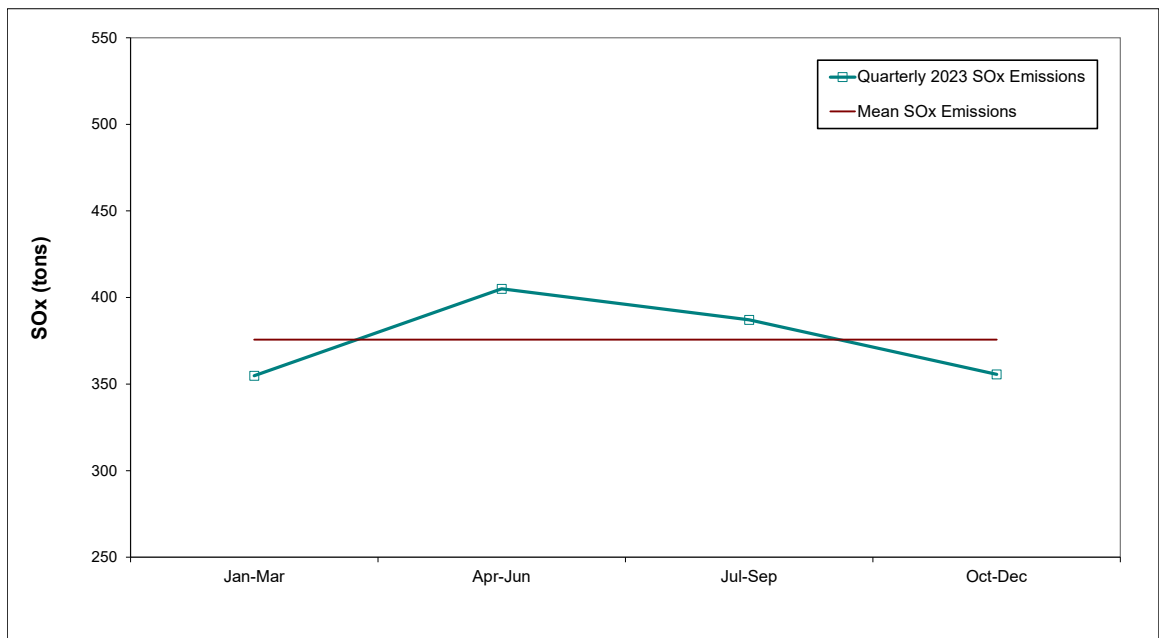
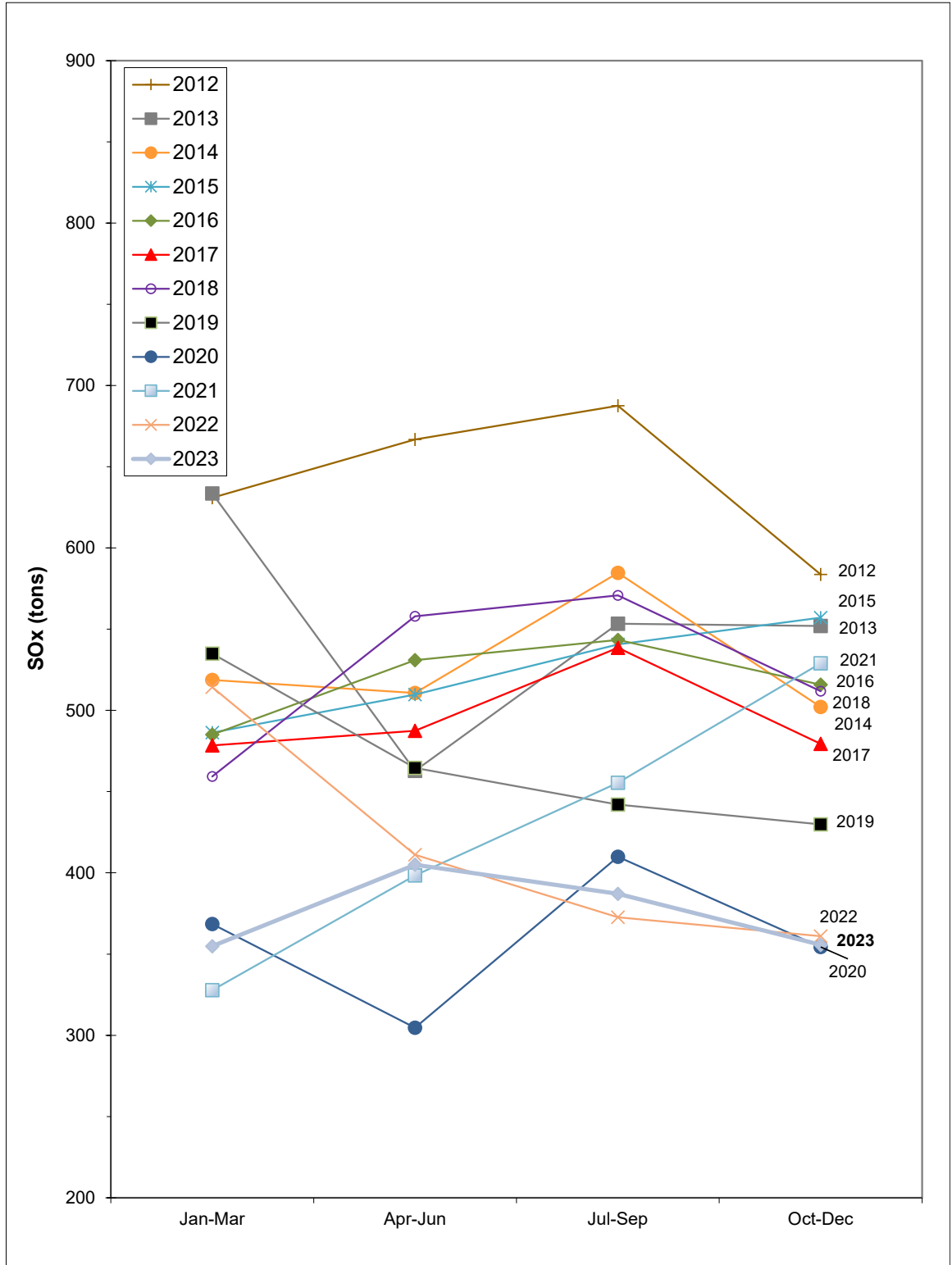


Figure 7-6
Quarterly SOx Emissions from Calendar Years 2012 through 2023



Per Capita Exposure to Pollution

The predicted effects of RECLAIM on air quality and public health were thoroughly analyzed through modeling during program development. One of the criteria examined in the analysis was per capita population exposure, which reflects the length of time each person is exposed to unhealthful air quality.

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, in addition to the 1-hour ozone standard (0.09 ppm) already in place, CARB adopted a new 8-hour ozone standard (0.070 ppm), which became effective May 17, 2006.

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. Then, effective May 27, 2008, the 8-hour NAAQS for ozone was reduced to 0.075 ppm. Finally, 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 summarizes ozone data for calendar years 2001 through 2024 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. 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 138 days and 141 days, respectively, in 2024. 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. This table shows that the number of days that exceeded each standard in 2024 increased when compared to 2023.

Table 7-1
Summary of Ozone Data⁴

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	126	106	123	0.155	0.122
2023	76	115	94	115	0.155	0.118
2024	109	141	123	138	0.147	0.131

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”⁵) to ozone

⁴ 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. Calendar year 2024 exceedance statistics and maximum concentrations are based on preliminary data and are subject to change.

⁵ 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

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 per capita exposure continues to remain much lower than the CCAA targets. Relative to calendar year 2023, the 2024 per capita exposures were higher for the Basin at large, including Los Angeles, Orange, Riverside, and San Bernardino Counties. For calendar year 2024, the actual per capita exposure for the Basin was 4.57 hours, which represents a 94.3 percent reduction from the 1986-88 baseline level.

total person-hours in a county experiencing ozone higher than the state ozone standard is determined by 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 ¹	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
2024 actual	4.57	2.76	1.49	4.62	14.81
1997 target ²	48.3	45.5	16.3	56.5	115.6
2000 target ³	40.2	37.9	13.6	47	96.3

¹ Average over three years, 1986 through 1988.

² 60% of the 1986-88 baseline exposures.

³ 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_x or SO_x emission increases are also required to be equipped with BACT, which minimizes to the extent feasible NO_x and SO_x 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_x, SO_x, 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)⁶. 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 and rule development, and for rule

⁶ Additional information on CTR can be found at: <https://ww2.arb.ca.gov/our-work/programs/criteria-and-toxics-reporting>

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 procedures⁷ 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 2023 Annual Report on the AB 2588 Air Toxics "Hot Spots" Program⁸, staff has reviewed and approved 360 HRAs as of the end calendar of year 2023. 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 65 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, 32 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 2021.⁹ 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_x and SO_x RECLAIM for the command-and-control rules and the measures RECLAIM subsumes caused a significant increase in public

⁷ The toxics prioritization procedures can be found at: <https://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588/prioritization>.

⁸ The 2023 AB 2588 Annual Report can be found at: <https://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-annual-report/ab-2588-2023-annual-report---final.pdf?sfvrsn=16>.

⁹ 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 2023 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
199260	2	AMAZON.COM SERVICES LLC – DJT4	NOx
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
40034	1	BENTLEY PRINCE STREET INC	NOx
166073	1	BETA OFFSHORE	NOx
132068	1	BIMBO BAKERIES USA INC	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
25638	2	BURBANK CITY, BURBANK WATER & POWER	NOx

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Facility ID	Cycle	Facility Name	Program
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
83102	2	CUSTOM ALLOY SALES, INC.	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
117227	2	DTRS SANTA MONICA, LLC	NOx
180908	1	ECO SERVICES OPERATIONS CORP.	NOx/SOx

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Facility ID	Cycle	Facility Name	Program
8547	1	ECOBAT RESOURCES CALIFORNIA, INC.	NOx/SOx
115663	1	EL SEGUNDO ENERGY CENTER LLC	NOx
195782	2	EMERALD SOCAL, LLC	NOx
186899	1	ENERY HOLDINGS LLC/LGHThP_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
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

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Facility ID	Cycle	Facility Name	Program
144455	2	LIFOAM INDUSTRIES, LLC	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
171109	1	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	NOx/SOx

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Facility ID	Cycle	Facility Name	Program
11435	2	PQ LLC	NOx/SOx
136	2	PRESS FORGE CO	NOx
105903	1	PRIME WHEEL	NOx
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
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
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

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Facility ID	Cycle	Facility Name	Program
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
199197	1	TEX-TECH ENGINEERED COMPOSITES INC.	NOx
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
9755	2	UNITED AIRLINES INC	NOx
800149	2	US BORAX INC	NOx

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Facility ID	Cycle	Facility Name	Program
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
1073	1	WESTLAKE ROYAL ROOFING LLC	NOx
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

As discussed in Chapter 1, no facilities were added to the RECLAIM universe in Compliance Year 2023. As of January 5, 2018, inclusion of new facilities is not allowed pursuant to amendments to Rule 2001.

APPENDIX C

RECLAIM FACILITIES CEASING OPERATION OR EXCLUDED

South Coast AQMD staff is aware of the following RECLAIM facility that permanently shut down all operations, inactivated all their RECLAIM permits, or were excluded from the RECLAIM universe during Compliance Year 2023. The reasons for shutdowns and exclusions cited below are based on the information provided by the facility and other information available to South Coast AQMD staff.

Facility ID	141295
Facility Name	LEKOS DYE AND FINISHING, INC
City and County	Compton, Los Angeles County
SIC	2269
Pollutant(s)	NOx
1994 Allocation	0 lbs.
Reason for Shutdown	The facility shut down in March 2024. The facility stated they could not afford to pay RECLAIM fees and air-related charges, and cited manufacturing, production, or raw material cost as the reasons for shutdown.

APPENDIX D
FACILITIES THAT EXCEEDED THEIR ANNUAL ALLOCATION
FOR COMPLIANCE YEAR 2023

The following is a list of facilities that did not have enough RTCs to cover their NOx emissions in Compliance Year 2023 based on the results of audits conducted by South Coast AQMD staff.

Facility ID	Facility Name	Compliance Year	Pollutant
11435	PQ LLC	2023	NOx/SOx
20203	Reconserve of California – Los Angeles Inc	2023	NOx
20604	Ralphs Grocery Co	2023	NOx
107656	Calmat Co	2023	NOx
124808	INEOS Polypropylene LLC	2023	NOx/SOx
141295	Lekos Dye and Finishing, Inc	2023	NOx
166073	Beta Offshore	2023	NOx
183832	AST Textile Group, Inc	2023	NOx
190051	Bridge Point Long Beach LLC	2023	NOx/SOx
191677	Vorteq Pacific	2023	NOx
196134	Honor Rancho Wayside Canyon Holdings LLC	2023	NOx
800129	SFPP, L.P.	2023	NOx
800393	Valero Wilmington Asphalt Plant	2023	NOx

APPENDIX E

REPORTED JOB IMPACTS ATTRIBUTED TO RECLAIM

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 2023 as reported in Part III – B. Socioeconomic Impacts.

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 Loss: 50
Comments: The facility claims that the cost of complying with RECLAIM rules and the manufacturing, production, and raw material costs were too expensive.

Facility ID: 174591
Facility Name: TESORO REF & MKTG CO LLC, CALCINER
City and County: Long Beach, Los Angeles County
SIC: 2999
Pollutant(s): NOx/SOx
Cycle: 1
Job Loss: 21
Comments: The facility claims that the proposed BARCT for NOx control under the 2015 NOx shave and Rule 1109.1 were not cost effective, and that there are no known proven NOx reduction technologies implemented on existing coke calciners.

ATTACHMENT B

RESOLUTION NO. 25-_____

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 2023 Compliance Year and presented the annual program audit of the RECLAIM program on March 7, 2025;

WHEREAS, the Executive Officer determined that NOx RTC prices exceeded \$15,000 per ton as part of the Annual RECLAIM Audit Report for 2023 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, evaluation 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 2023 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 5, 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 2023 Compliance Year and the August 5, 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 2023 Compliance Year

Board Meeting

March 7, 2025

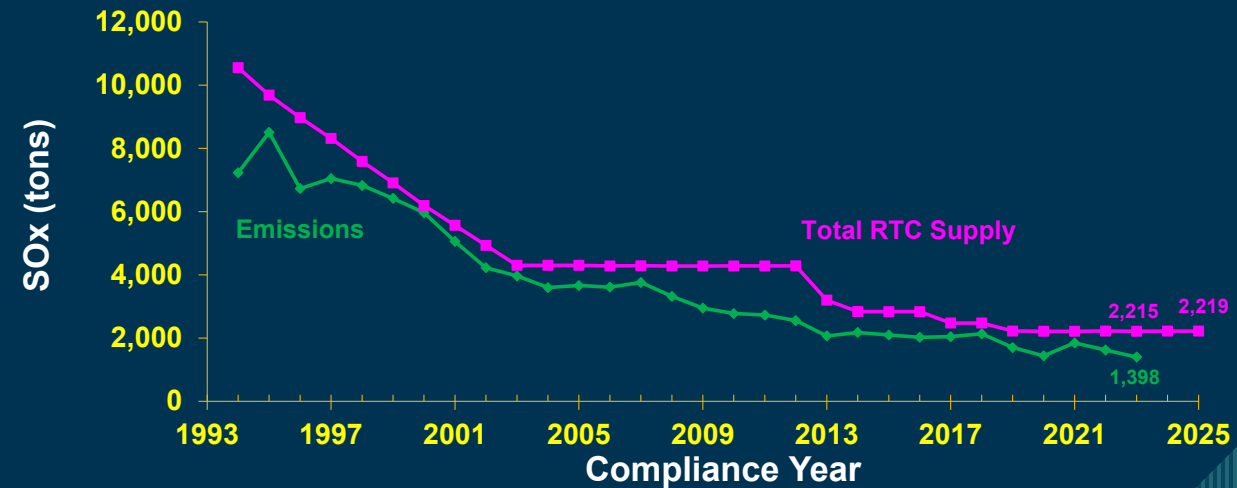
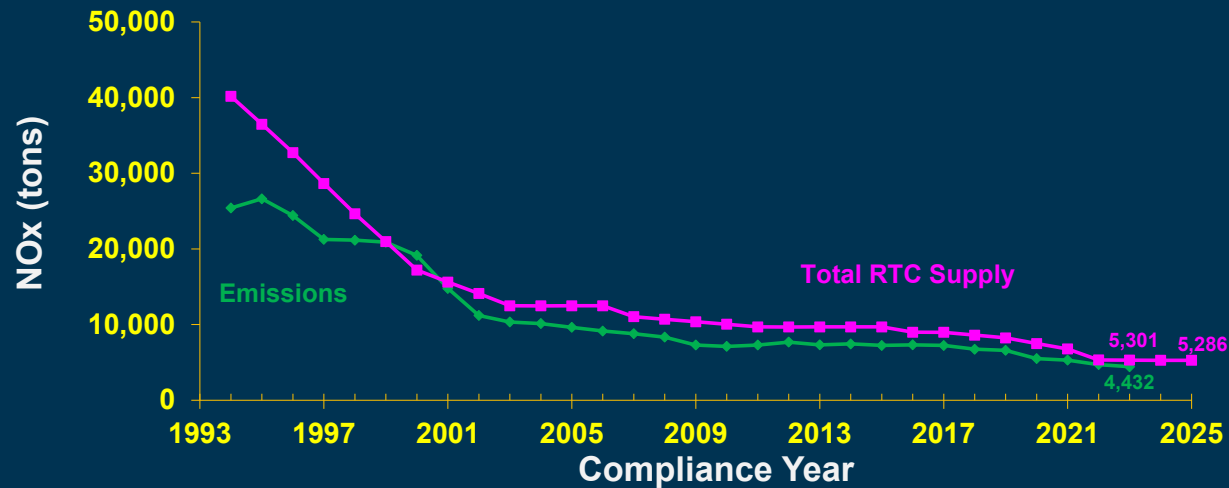
Background

- Regional Clean Air Incentives Market (RECLAIM) – Adopted October 1993
 - Cap and trade program for largest NO_x and SO_x 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)
 - 29 landing rules have been amended and/or adopted by the Board
 - RTCs cannot be used to meet NO_x limits in these rules
- Rule 2015 requires an annual audit of the RECLAIM program
 - This is the Annual RECLAIM Audit Report for Compliance Year 2023

NOx and SOx Emissions and Allocations Trend

**NOx Emissions in Compliance Year 2023
Below Allocations by 869 Tons (16%)**

**SOx Emissions in Compliance Year 2023
Below Allocations by 817 Tons (37%)**



2023 Annual RECLAIM Audit Findings



Number of Facilities

228 facilities at the end
of Compliance Year
2023

1 less facility than
Compliance Year 2022



Overall Goals

Met overall NO_x and
SO_x program goals
Implemented NO_x/SO_x
allocation shaves



Compliance Rate

High rate of facility
compliance for holding
sufficient RTCs to
reconcile emissions

94% of NO_x facilities
100% of SO_x facilities



RTC Price

Annual average discrete
prices for future NO_x
RTCs below \$56,919/ton*
threshold

Compliance Year 2024:
\$17,098

Compliance Year 2025:
\$30,103

* Health and Safety Code 39616 program review. Adjusted by August 2024 CPI.

NOx RTC Price Exceedances

Summary and Recommendation

Rule 2015 Threshold
\$15,000 per ton

RTC prices have exceeded Rule 2015 threshold since calendar year 2021

Required analysis of RECLAIM program performed and reported to Board in 2022

Board determined that the program continue without change and directed staff to send report to CARB and U.S. EPA

Circumstances have not changed since previous analysis and staff recommends no additional analysis and no further action

Health and Safety Code 39616 Threshold
\$56,919 per ton

Adjusted annually by CPI

Annual average discrete-year prices for future NOx RTCs are below threshold

No action required

Summary

- Programmatic compliance achieved (NOx and SOx emissions were 16% and 37% below allocations, respectively)
- Individual facility compliance rate remained high (94% and 100% for NOx and SOx, respectively)
- Annual average discrete-year NOx prices below H&SC threshold of \$56,919
- Annual average discrete-year NOx prices for Compliance Years 2024 and 2025 RTCs traded in Calendar Year 2024 continue to exceed the \$15,000 per ton Rule 2015 backstop threshold (SOx prices remained under threshold)
- For continuing RTC price exceedances, staff recommends no additional analysis because circumstances have not changed since the prior review

Staff Recommendations

- Approve the Annual RECLAIM Audit Report for 2023 Compliance Year
- 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
- Direct the Executive Officer to submit to CARB and U.S. EPA, the Annual RECLAIM Audit Report for 2023 Compliance Year 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