BAY AREA AIR QUALITY MANAGEMENT DISTRICT

BOARD OF DIRECTORS MEETING May 4, 2022

THIS MEETING WILL BE CONDUCTED UNDER PROCEDURES AUTHORIZED BY ASSEMBLY BILL 361 (RIVAS 2021) ALLOWING REMOTE MEETINGS. THIS MEETING WILL BE ACCESSIBLE VIA WEBCAST, TELECONFERENCE, AND ZOOM, AS WELL AS IN PERSON. A ZOOM PANELIST LINK WILL BE SENT SEPARATELY TO COMMITTEE OR BOARD MEMBERS

- **THE PUBLIC MAY OBSERVE THIS MEETING THROUGH THE WEBCAST BY CLICKING THE LINK AVAILABLE ON THE AIR DISTRICT'S AGENDA WEBPAGE AT**

www.baaqmd.gov/bodagendas

- **MEETING ATTENDEES MAY, IN LIEU OF REMOTE PARTICIPATION, ATTEND IN PERSON FOR PUBLIC COMMENT AND/OR OBSERVATION AT 375 BEALE STREET, BOARD ROOM (1ST FLOOR). IN-PERSON ATTENDEES MUST PASS REQUIRED HEALTH SCREENINGS AND ADHERE TO POSTED PUBLIC HEALTH PROTOCOLS WHILE IN THE BULIDING. THE PUBLIC MAY PARTICIPATE REMOTELY VIA ZOOM AT THE FOLLOWING LINK OR BY PHONE**

https://bayareametro.zoom.us/j/86477547246

(669) 900-6833 or (408) 638-0968

WEBINAR ID: 864 7754 7246

- **THOSE PARTICIPATING BY PHONE WHO WOULD LIKE TO MAKE A COMMENT CAN USE THE "RAISE HAND" FEATURE BY DIALING "*9". IN ORDER TO RECEIVE THE FULL ZOOM EXPERIENCE, PLEASE MAKE SURE YOUR APPLICATION IS UP TO DATE**

BOARD OF DIRECTORS MEETING
AGENDA

WEDNESDAY, MAY 4, 2022
9:00 AM

Chairperson, Karen Mitchoff

1. **Call to Order - Roll Call**

2. **Pledge of Allegiance**

3. **Public Meeting Procedure**

The Board Chair shall call the meeting to order and the Clerk of the Boards shall take roll of the Board members.

This meeting will be webcast. To see the webcast, please visit www.baaqmd.gov/bodagendas at the time of the meeting. Closed captioning may contain errors and omissions and are not certified for their content or form.

Public Comment on Agenda Items: *The public may comment on each item on the agenda as the item is taken up. Members of the public who wish to speak on matters on the agenda for the meeting, will have two minutes each to address the Board. No speaker who has already spoken on that item will be entitled to speak to that item again.*

CONSENT CALENDAR (Items 4 - 14)

4. Remote Teleconferencing per Assembly Bill (AB) 361 (Rivas)

The Board of Directors will consider approving a resolution reauthorizing Air District Board and Committee meetings remote teleconferencing through June 3, 2022.

5. Approval of the Minutes of April 20, 2022

The Board of Directors will consider approving the draft minutes of the Board of Directors Meeting of April 20, 2022.

6. Board Communications Received from April 20, 2022 through May 3, 2022

A copy of communications directed to the Board of Directors received by the Air District from April 20, 2022 through May 3, 2022 if any, will be distributed to the Board Members by way of email.

7. Notices of Violations Issued and Settlements in Excess of $10,000 in the Month of March 2022

In accordance with Resolution No. 2012-08 the Board of Directors will receive a list of all Notices of Violations issued, and all settlements for amounts in excess of $10,000 during the month of March 2022.

8. Authorization to Amend Contract with Communities for a Better Environment, for Partnership, Outreach and Engagement, and Research Support for the Assembly Bill (AB) 617 Community Emissions Reduction Plan (CERP) Process for East Oakland

The Board of Directors will consider authorizing the Interim Acting Executive Officer/APCO to amend a contract with Communities for a Better Environment in an amount not to exceed $410,000 and extend the contract term end date to December 31, 2023, to support the development of a community-based steering committee and the development of a community emissions reduction plan for East Oakland.

9. Authorization to Amend Contract with RBA Creative LLC in an Amount Not to Exceed $201,500 for Facilitation, Technical Support and Steering Committee Member Outreach for the Community Advisory Council (CAC) and the Community Steering Committee (CSC) for the Assembly Bill (AB) 617 West Oakland Community Action Plan

The Board will consider authorizing staff to amend a Professional Services Contract with RBA Creative LLC in an amount not to exceed $201,500 to provide lead facilitation, technical support and Steering Committee member outreach strategy for the Community Advisory Council and the AB 617 West Oakland Community Action Plan Community Steering Committee.

10. Report of the Stationary Source & Climate Impacts Committee Meeting of April 18, 2022

The Board of Directors will receive a report of the Stationary Source & Climate Impacts Committee Meeting of April 18, 2022.

11. Report of the Administration Committee Meeting of April 20, 2022

The Board of Directors will receive a report of the Administration Committee Meeting of April 20, 2022.

12. Report of the Richmond Area Community Emissions Reduction Plan Steering Committee Meeting of April 25, 2022

The Board of Directors will receive a report of the Richmond Area Community Emissions Reduction Plan Steering Committee Meeting of April 25, 2022.

13. Report of the Budget and Finance Committee Meeting of April 27, 2022

The Board of Directors will receive a report of the Budget and Finance Committee meeting of April 27, 2022.

14. Report of the Mobile Source & Climate Impacts Committee meeting of April 28, 2022

The Board of Directors will receive a report of the Mobile Source & Climate Impacts Committee meeting of April 28, 2022.

PUBLIC HEARING(S)

15. Public Hearing to Consider Adoption of Proposed New Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants and Proposed Amendments of Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations; and Certification of a Final Environmental Impact Report Pursuant to the California Environmental Quality Act

Public Hearing to Consider Adoption of Proposed New Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants and Proposed Amendments of Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations; and Certification of a Final Environmental Impact Report Pursuant to the California Environmental Quality Act. This is an action item and will be presented by Victor Douglas, Rule Development Manager.

CLOSED SESSION

16. **PUBLIC EMPLOYEE APPOINTMENT AND EMPLOYMENT**

Pursuant to Government Code Section 54957(b)

Title: District Counsel

17. **CONFERENCE WITH LABOR NEGOTIATIONS**

Pursuant to Government Code Section 54957.6

Agency Designated Representatives: Board Chair Karen Mitchoff, Board Vice Chair John Bauters, John Chiladakis, DeeAnne Gillick, Sloan Sakai, Yeung & Wong

Unrepresented Employees: District Counsel

OPEN SESSION

OTHER BUSINESS

18. Public Comment on Non-Agenda Matters

Pursuant to Government Code Section 54954.3
Members of the public who wish to speak on matters not on the agenda for the meeting, will have two minutes each to address the Board.

19. Board Member Comments

Any member of the Board, or its staff, on his or her own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter or take action to direct staff to place a matter of business on a future agenda. (Gov't Code § 54954.2)

20. Report of the Interim Executive Officer/APCO

21. Chairperson's Report

22. Time and Place of Next Meeting

Wednesday, May 18, 2022, at 9:00 a.m., in person or via webcast, teleconference, or Zoom, pursuant to procedures in accordance with Assembly Bill 361 (Rivas 2021).

23. Adjournment

The Board meeting shall be adjourned by the Board Chair.

CONTACT:
MANAGER, EXECUTIVE OPERATIONS **(415) 749-4941**
375 BEALE STREET, SAN FRANCISCO, CA 94105 **FAX: (415) 928-8560**
vjohnson@baaqmd.gov **BAAQMD homepage:**
www.baaqmd.gov

- Any writing relating to an open session item on this Agenda that is distributed to all, or a majority of all, members of the body to which this Agenda relates shall be made available at the Air District's offices at 375 Beale Street, Suite 600, San Francisco, CA 94105, at the time such writing is made available to all, or a majority of all, members of that body.

Accessibility and Non-Discrimination Policy

The Bay Area Air Quality Management District (Air District) does not discriminate on the basis of race, national origin, ethnic group identification, ancestry, religion, age, sex, sexual orientation, gender identity, gender expression, color, genetic information, medical condition, or mental or physical disability, or any other attribute or belief protected by law.

It is the Air District's policy to provide fair and equal access to the benefits of a program or activity administered by Air District. The Air District will not tolerate discrimination against any person(s) seeking to participate in, or receive the benefits of, any program or activity offered or conducted by the Air District. Members of the public who believe they or others were unlawfully denied full and equal access to an Air District program or activity may file a discrimination complaint under this policy. This non-discrimination policy also applies to other people or entities affiliated with Air District, including contractors or grantees that the Air District utilizes to provide benefits and services to members of the public.

Auxiliary aids and services including, for example, qualified interpreters and/or listening devices, to individuals who are deaf or hard of hearing, and to other individuals as necessary to ensure effective communication or an equal opportunity to participate fully in the benefits, activities, programs, and services will be provided by the Air District in a timely manner and in such a way as to protect the privacy and independence of the individual. Please contact the Non-Discrimination Coordinator identified below at least three days in advance of a meeting so that arrangements can be made accordingly.

If you believe discrimination has occurred with respect to an Air District program or activity, you may contact the Non-Discrimination Coordinator identified below or visit our website at www.baaqmd.gov/accessibility to learn how and where to file a complaint of discrimination.

Questions regarding this Policy should be directed to the Air District's Non-Discrimination Coordinator, Suma Peesapati, at (415) 749-4967 or by email at speesapati@baaqmd.gov.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
375 BEALE STREET, SAN FRANCISCO, CA 94105
FOR QUESTIONS PLEASE CALL (415) 749-4941

EXECUTIVE OFFICE:
MONTHLY CALENDAR OF AIR DISTRICT MEETINGS

MAY 2022

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Special Meeting Budget Hearing	Wednesday	4	8:30 a.m.	1st Floor, Board Room (In person option available) and REMOTE pursuant to Assembly Bill 361
Board of Directors Meeting	Wednesday	4	9:00 a.m.	1st Floor, Board Room (In person option available) and REMOTE pursuant to Assembly Bill 361
Board of Directors Community Equity, Health and Justice Committee	Thursday	5	9:30 a.m.	Webcast only pursuant to Assembly Bill 361
Board of Directors Legislative Committee	Monday	9	1:00 p.m.	Webcast only pursuant to Assembly Bill 361
Technology Implementation Office (TIO) Steering Committee	Friday	13	1:00 p.m.	Webcast only pursuant to Assembly Bill 361
Board of Directors Stationary Source and Climate Impacts Committee	Monday	16	9:00 a.m.	Webcast only pursuant to Assembly Bill 361
Path to Clean Air Community Emissions Reduction Plan Steering Committee	Monday	16	5:30 p.m.	Webcast only pursuant to Assembly Bill 361
Board of Directors Meeting	Wednesday	18	9:00 a.m.	1st Floor, Board Room (In person option available) and REMOTE pursuant to Assembly Bill 361
Board of Directors Administration Committee	Wednesday	18	11:00 a.m.	1st Floor, Board Room (In person option available) and REMOTE pursuant to Assembly Bill 361
Board of Directors Budget and Finance Committee	Wednesday	25	9:30 a.m.	Webcast only pursuant to Assembly Bill 361
Board of Directors Mobile Source and Climate Impacts Committee	Thursday	26	9:30 a.m.	Webcast only pursuant to Assembly Bill 361

JUNE 2022

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Meeting	**Wednesday**	**1**	**9:00 a.m.**	**1st Floor, Board Room (In person option available) and REMOTE pursuant to Assembly Bill 361**
Board of Directors Community Equity, Health and Justice Committee	**Thursday**	**2**	**9:30 a.m.**	**Webcast only pursuant to Assembly Bill 361**
Advisory Council Meeting	**Monday**	**13**	**8:30 a.m.**	**Webcast only pursuant to Assembly Bill 361**
Board of Directors Legislative Committee	**Monday**	**13**	**1:00 p.m.**	**Webcast only pursuant to Assembly Bill 361**
Board of Directors Meeting	**Wednesday**	**15**	**9:00 a.m.**	**1st Floor, Board Room (In person option available) and REMOTE pursuant to Assembly Bill 361**
Board of Directors Administration Committee	**Wednesday**	**15**	**11:00 a.m.**	**1st Floor, Board Room (In person option available) and REMOTE pursuant to Assembly Bill 361**
Board of Directors Stationary Source and Climate Impacts Committee	**Monday**	**20**	**9:00 a.m.**	**Webcast only pursuant to Assembly Bill 361**
Board of Directors Budget and Finance Committee	**Wednesday**	**22**	**9:30 a.m.**	**Webcast only pursuant to Assembly Bill 361**
Board of Directors Mobile Source and Climate Impacts Committee	**Thursday**	**23**	**9:30 a.m.**	**Webcast only pursuant to Assembly Bill 361**
Path to Clean Air Community Emissions Reduction Plan Steering Committee	**Monday**	**27**	**5:30 p.m.**	**Webcast only pursuant to Assembly Bill 361**

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Remote Teleconferencing per Assembly Bill (AB) 361 (Rivas)

RECOMMENDED ACTION

The Board of Directors will consider approving a resolution reauthorizing Air District Board and Committee meetings remote teleconferencing through June 3, 2022.

BACKGROUND

AB 361 (R. Rivas 2021) – Open meetings: state and local agencies: teleconferences.
Allows until January 1, 2024, a local agency to use teleconferencing without complying with certain teleconferencing requirements imposed by the Ralph M. Brown Act, when a legislative body of a local agency holds a meeting during a declared state of emergency, as that term is defined, when state or local health officials have imposed or recommended measures to promote social distancing, during a proclaimed state of emergency held for the purpose of determining, by majority vote, whether meeting in person would present imminent risks to the health or safety of attendees, and during a proclaimed state of emergency when the legislative body has determined that meeting in person would present imminent risks to the health or safety of attendees, as provided. The law requires a resolution every 30 days to provide this flexibility.

DISCUSSION

When the COVID-19 pandemic started, local agency boards struggled to conduct their meetings in compliance with the Brown Act's public accessibility requirements while still abiding by stay-at-home orders. As a result, Governor Newsom signed several executive orders to grant local agencies the flexibility to meet remotely during the COVID-19 pandemic. The Governor's executive orders allowed public agencies to meet remotely and did not require physical public access to those meeting locations. Those executive orders expired on September 30, 2021. The State of Emergency Declaration of March 4, 2020, continues to remain in effect.

AB 361 provides additional flexibility for local agencies looking to meet remotely during a proclaimed state of emergency, however, the legislative body is required to consider and vote on this flexibility on a monthly basis. Excerpts of the bill amending Section 54953 of the Government Code provide the following guidance:

(e) (1) A local agency may use teleconferencing without complying with the requirements of paragraph (3) of subdivision (b) if the legislative body complies with the requirements of paragraph (2) of this subdivision in any of the following circumstances:

(A) The legislative body holds a meeting during a proclaimed state of emergency, and state or local officials have imposed or recommended measures to promote social distancing.

(B) The legislative body holds a meeting during a proclaimed state of emergency for the purpose of determining, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

(C) The legislative body holds a meeting during a proclaimed state of emergency and has determined, by majority vote, pursuant to subparagraph (B), that, as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

The following guidance on exercising this flexibility is also contained in the amended Section 54953(e) of the Government Code:

(3) If a state of emergency remains active, or state or local officials have imposed or recommended measures to promote social distancing, in order to continue to teleconference without compliance with paragraph (3) of subdivision (b), the legislative body shall, not later than 30 days after teleconferencing for the first time pursuant to subparagraph (A), (B), or (C) of paragraph (1), and every 30 days thereafter, make the following findings by majority vote:

(A) The legislative body has reconsidered the circumstances of the state of emergency.

(B) Any of the following circumstances exist:

(i) The state of emergency continues to directly impact the ability of the members to meet safely in person.

(ii) State or local officials continue to impose or recommend measures to promote social distancing.

(4) For the purposes of this subdivision, "state of emergency" means a state of emergency proclaimed pursuant to Section 8625 of the California Emergency Services Act (Article 1 (commencing with Section 8550) of Chapter 7 of Division 1 of Title 2).

(f) This section shall remain in effect only until January 1, 2024, and as of that date is repealed.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Alan Abbs
Reviewed by: Alexander Crockett

ATTACHMENTS:

1. Draft AB 361 Subsequent Resolution

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

RESOLUTION NO. 2022-XX

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT PROCLAIMING A LOCAL EMERGENCY PERSISTS, RE-RATIFYING THE PROCLAMATION OF A STATE OF EMERGENCY BY GOVERNOR NEWSOM ON MARCH 20, 2020, AND RE-AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE LEGISLATIVE BODIES OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT FOR THE PERIOD MAY 4 TO JUNE 3, 2022 PURSUANT TO BROWN ACT PROVISIONS.

WHEREAS, the Bay Area Air Quality Management District (District) is committed to preserving and nurturing public access and participation in meetings of the Board of Directors; and

WHEREAS, all meetings of Bay Area Air Quality Management District's legislative bodies are open and public, as required by the Ralph M. Brown Act (Cal. Gov. Code 54950 – 54963), so that any member of the public may attend, participate, and watch the District's legislative bodies conduct their business; and

WHEREAS, the Brown Act, Government Code section 54953(e), makes provision for remote teleconferencing participation in meetings by members of a legislative body, without compliance with the requirements of Government Code section 54953(b)(3), subject to the existence of certain conditions; and

WHEREAS, a required condition is that a state of emergency is declared by the Governor pursuant to Government Code section 8625, proclaiming the existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions as described in Government Code section 8558; and

WHEREAS, a proclamation is made when there is an actual incident, threat of disaster, or extreme peril to the safety of persons and property within the jurisdictions that are within the District's boundaries, caused by natural, technological, or human-caused disasters; and

WHEREAS, it is further required that state or local officials have imposed or recommended measures to promote social distancing, or, the legislative body meeting in person would present imminent risks to the health and safety of attendees; and

WHEREAS, the Board of Directors previously adopted Resolutions on October 6, 2021 and thereafter, finding that the requisite conditions exist for the legislative bodies of the District to conduct remote teleconference meetings without compliance with paragraph (3) of subdivision (b) of section 54953; and

WHEREAS, as a condition of extending the use of the provisions found in section 54953(e), the Board of Directors must reconsider the circumstances of the state of emergency that exists in the District, and the Board of Directors has done so; and

WHEREAS, emergency conditions persist in the District, specifically, the Covid 19 state of emergency remains active and Governor Newsom's Covid-19 Emergency Proclamation of March 4, 2020 remains in effect to prevent, mitigate, and respond to the spread of COVID-19; and

WHEREAS, social distancing has been ordered and strongly recommended by state and local public health authorities due to the imminent health and safety risks of in person contacts and meetings during the COVID-19 emergency; and

WHEREAS, the Board of Directors does hereby find that the COVID-19 public health emergency, and its imminent health risks to attendees of public meetings have caused, and will continue to cause, conditions of peril to the safety of persons within the District that are likely to be beyond the control of services, personnel, equipment, and facilities of the District, and desires to affirm a local emergency exists and re-ratify the proclamation of state of emergency by the Governor of the State of California; and

WHEREAS, as a consequence of the local emergency persisting, the Board of Directors does hereby find that the legislative bodies of the District shall continue to conduct their meetings without compliance with paragraph (3) of subdivision (b) of Government Code section 54953, as authorized by subdivision (e) of section 54953, and that such legislative bodies shall continue to comply with the requirements to provide the public with access to the meetings as prescribed in paragraph (2) of subdivision (e) of section 54953; and

WHEREAS, the District is publicizing in its meeting agendas zoom and webcast links and phone numbers for members of the public to participate remotely in meetings of the District's legislative bodies.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. Recitals. The Recitals set forth above are true and correct and are incorporated into this Resolution by this reference.

Section 2. Affirmation that Local Emergency Persists. The Board of Directors hereby considers the conditions of the state of emergency related to Covid 19 in the District, proclaims that a local emergency persists throughout the Bay Area Air Quality Management District due to COVID-19, observes that social distancing has been ordered and strongly recommended by the public health authorities, and finds that in person meetings present imminent health risks during the COVID-19 pandemic.

Section 3. Re-ratification of Governor's Proclamation of a State of Emergency. The Board hereby ratifies the Governor of the State of California's Proclamation of State of Emergency, effective as of its issuance date of March 4, 2020.

Section 4. Remote Teleconference Meetings. The staff and legislative bodies of the District are hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution including, continuing to conduct open and public meetings in accordance with Government Code section 54953(e) and other applicable provisions of the Brown Act.

Section 5. Effective Date of Resolution. This Resolution shall take effect immediately upon its adoption and shall be effective until the earlier of (i) June 3, 2022 or such time the Board of Directors adopts a subsequent resolution in accordance with Government Code section 54953(e)(3) to extend the time during which the legislative bodies of the District may continue to teleconference without compliance with paragraph (3) of subdivision (b) of section 54953.

The foregoing resolution was duly regularly introduced, passed, and adopted at a regular meeting of the Board of Directors of the Bay Area Air Quality Management District on the motion of _____, seconded by _____, on the 4TH day of MAY 2022, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Karen Mitchoff
Chair of the Board of Directors

ATTEST:

_____
Davina Hurt
Secretary of the Board of Directors

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Approval of the Minutes of April 20, 2022

RECOMMENDED ACTION

Approve the attached draft minutes of the Board of Directors meeting of April 20, 2022.

BACKGROUND

None.

DISCUSSION

Attached for your review and approval are the draft minutes of the Board of Directors meeting of April 20, 2022.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

ATTACHMENTS:

1. Draft Minutes of the Board of Directors Meeting of April 20, 2022

Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
(415) 749-5073

Board of Directors Regular Meeting
Wednesday, April 20, 2022

DRAFT MINUTES

Note: Audio recordings of the meeting are available on the website of the Bay Area Air Quality Management District at
www.baaqmd.gov/bodagendas

This meeting was conducted under procedures authorized by Assembly Bill 361 (Rivas 2021), allowing remote meetings. Members of the Board of Directors participated both by teleconference (via Zoom) and in person.

CALL TO ORDER

1. **Opening Comments:** Board of Directors (Board) Chairperson, Karen Mitchoff, called the meeting to order at 9:04 a.m.

   Roll Call:

   Present: Chairperson Karen Mitchoff; Vice Chairperson John Bauters; Secretary Davina Hurt (Zoom); and Directors Margaret Abe-Koga (Zoom), Teresa Barrett, Pauline Russo Cutter, John Gioia (Zoom), David Haubert (Zoom), Lynda Hopkins (Zoom), David Hudson, Tyrone Jue, Sergio Lopez, Nate Miley (Zoom), Rob Rennie (Zoom), Katie Rice, Mark Ross (Zoom), Brad Wagenknecht, Shamann Walton (Zoom), and Steve Young.

   Absent: Directors David Canepa, Carole Groom, Erin Hannigan, Myrna Melgar.

2. **PLEDGE OF ALLEGIANCE**

3. **PUBLIC MEETING PROCEDURE**

CONSENT CALENDAR (ITEMS 4 – 12)

4. Approval of the Minutes of April 6, 2022
5. Remote Teleconferencing per Assembly Bill (AB) 361 (Rivas)
6. Board Communications Received from April 6, 2022 through April 19, 2022
7. Air District Personnel on Out-of-State Business Travel for the Month Ending March 2022
8. Authorization to Amend Contract with Dell Marketing, LP, to Support Development of CEQA Screening Tools
9. Report of the Community Equity, Health and Justice Committee Meeting of April 7, 2022
10. Report of the Community Equity, Health and Justice Committee Meeting of April 7, 2022

11. Report of the Legislative Committee Meeting of April 11, 2022
12. Report of the Advisory Council Meeting of April 11, 2022

Public Comments

No requests received.

Board Comments

No Board comments were made prior to the approval of the Consent Calendar. A discussion occurred between the Board and Air District staff after the Board returned from Closed Session, long after the Consent Calendar had been approved, concerning an error identified in the Board Resolution language of Item 5 (Remote Teleconferencing per AB 361.) Air District staff explained that the language should have read, *"…and authorizing remote teleconference meetings of the legislative bodies of the Bay Area Air Quality Management District for the period April 20 to May 20, 2022,"* but instead read *"…and authorizing remote teleconference meetings of the legislative bodies of the Bay Area Air Quality Management District for the period April 6 to May 6, 2022."* Concern over this matter was expressed, and the nature of clerical/Scrivener's errors, versus substantive errors, was discussed. The consensus of Board members present was that action did not need to be taken to retroactively correct this error. It was decided that the Board would revisit this issue at the May 4, 2022 Board meeting.

Board Action

Director Hudson made a motion, seconded by Director Wagenknecht, to **approve** Consent Calendar Items 4 through 12, inclusive; and the motion **carried** by the following vote of the Board:

AYES:	Abe-Koga, Bauters, Barrett, Cutter, Gioia, Haubert, Hopkins, Hudson, Hurt, Jue, Lopez, Mitchoff, Rennie, Rice, Ross, Wagenknecht, Walton, Young.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Canepa, Groom, Hannigan, Melgar, Miley.

COMMENDATIONS/PROCLAMATIONS/AWARDS

13. RECOGNITION OF JACK P. BROADBENT

The Board of Directors recognized Jack P. Broadbent for his 18 years of service, dedication, and leadership in creating a healthy breathing environment for every Bay Area resident, while protecting and improving public health, air quality, and the global climate.

NOTED PRESENT: Director Miley was noted present at 9:16 a.m.

Remarks were given by the following guests: Bill Quinn, Jean Roggenkamp, Wayne Nastri, Alberto Ayala, John Dunlap, Richard Corey, Andrew Fremier, Larry Goldzband, Lauren Weston, Brian Sheridan, Frances Keeler, Miles Keogh, Aeron Arlin Genet, and Larry Greene.

Public Comments

Public comments were given by Bob Brown, Western States Petroleum Association; LaDonna Williams, All Positives Possible; Jill Whynot; Tung Le, California Air Pollution Control Officers Association; and Lonnie Mason, First Generation Environmental Health and Economic Development.

Board Comments

Various Board members acknowledged Mr. Broadbent's leadership and service.

Board Action

None; receive and file.

14. 2022 SPARE THE AIR LEADERSHIP AWARD

The Board of Directors presented the 2022 Spare the Air Leadership Award to Marin Clean Energy (MCE) for its Low-Income Family and Tenants (LIFT) program, a two-year pilot program that offers funds for energy efficiency improvements and appliances to income-qualified multifamily communities in MCE's service area.

Public Comments

No requests received.

Board Comments

Board members whose jurisdictions are served by MCE, or who currently serve on MCE's Board of Directors, accepted the award on MCE's behalf, as no representative was present.

Board Action

None; receive and file.

15. ADOPTION OF CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) THRESHOLDS FOR EVALUATING THE SIGNIFICANCE OF CLIMATE IMPACTS FROM LAND USE PROJECTS AND PLANS.

Henry Hilken, Director of Planning and Climate Protection, gave the staff presentation *Proposed CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*, including: outcome; outline; requested action; background and context; proposed thresholds: land use developments and long-range plans; Justification Report; stakeholder engagement and input; and feedback requested/prompt.

Public Comments

Public comments were given by Debbie Mytels, Peninsula Interfaith Climate Action Network; Leah Louis-Prescott, Rocky Mountain Institute; Jan Warren, Interfaith Climate Action Network of Contra Costa County; Diane Bailey, Menlo Spark; Bruce Naegel; Jenny Green, Mothers Out Front; Amanda

Bancroft, 350 Silicon Valley; Brian Schuster, California A Association of Environmental Professionals Climate Change Committee; and LaDonna Williams, All Positives Possible.

Board Comments

The Board and staff discussed whether the recommended thresholds would be mandatory or optional for jurisdictions to adopt; when the thresholds would become effective, if adopted by the Board; concerns that such thresholds would impact the restaurant industry, the request that restaurants be exempt from the recommended thresholds, whether the Air District has received feedback from restaurants on this issue, whether propane emissions impact human health, and the percentage of natural gas usage that is attributable to restaurants; concerns about building electric vehicle (EV) charging infrastructure (parking for new or existing multifamily residential and nonresidential buildings) without being able to project the demand for it, and the rationale for EV readiness targets; concerns that the per-capita Vehicle Miles Traveled (VMT) reductions necessary to attain 2050 greenhouse gas (GHG) reduction targets are not realistic or practical, when considering required work commute travel; whether jurisdictions would be granted time extensions for implementation; whether the recommended thresholds encompass construction activities and building materials; and whether the Board may adopt the recommended thresholds and then make subsequent revisions.

Board Action

Director Rice made a motion, seconded by Director Lopez, to **adopt** the proposed CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans; and the motion **carried** by the following vote of the Board:

AYES:	Abe-Koga, Bauters, Barrett, Cutter, Gioia, Hopkins, Hudson, Hurt, Jue, Lopez, Miley, Mitchoff, Rennie, Rice, Ross, Wagenknecht.
NOES:	Young.
ABSTAIN:	None.
ABSENT:	Canepa, Groom, Hannigan, Haubert, Melgar, Walton.

OTHER BUSINESS

16. **PUBLIC COMMENT ON NON-AGENDA MATTERS (OUT OF ORDER, ITEM 19)**

No requests received.

17. **REPORRT OF THE INTERIM EXECUTIVE OFFICER/APCO (ITEM 21)**

Mr. Crockett announced that the Air District issued a press release on April 20, 2022, called “Air District Seeks to Shut Down Diesel Generators at Green Sage Cannabis Facilities in Oakland,” which will result in an abatement action brought before the Hearing Board.

18. **BOARD MEMBER COMMENTS (ITEM 20)**

None.

19. **CHAIRPERSON'S REPORT (ITEM 22)**

Chair Mitchoff repeated her welcome to the newest Board members (Lopez and Young).

20. **TIME AND PLACE OF NEXT MEETING (ITEM 23)**

Wednesday, May 4, 2022, at 9:00 a.m., in person or via webcast, teleconference, or Zoom, pursuant to procedures in accordance with Assembly Bill 361 (Rivas 2021).

CLOSED SESSION (11:58 a.m.)

21. **CONFERENCE WITH LEGAL COUNSEL (ITEM 16)**

ANTICIPATED LITIGATION

Initiation of Litigation pursuant to Section 54956.9(c): one potential case

Reportable Action: Acting Senior Assistant Counsel, Joel Freid, reported that the Board approved initiation of litigation (parties yet to be disclosed, as the matter is not yet filed.)

22. **PUBLIC EMPLOYEE APPOINTMENT AND EMPLOYMENT (ITEM 17)**

Pursuant to Government Code Section 54957(b)

Title: District Counsel

Reportable Action: Chair Mitchoff said there was nothing to report.

23. **CONFERENCE WITH LABOR NEGOTIATIONS (ITEM 18)**

Pursuant to Government Code Section 54957.6

Agency Designated Representatives: Board Chair Karen Mitchoff, Board Vice Chair John Bauters, John Chiladakis, DeeAnne Gillick, Sloan Sakai, Yeung & Wong

Unrepresented Employees: District Counsel

Reportable Action: Chair Mitchoff said there was nothing to report.

OPEN SESSION (12:35 p.m.)

24. **ADJOURNMENT**

The meeting adjourned at 12:45 p.m.

Marcy Hiratzka
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Board Communications Received from April 20, 2022 through May 3, 2022

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

None.

DISCUSSION

Copies of communications directed to the Board of Directors received by the Air District from April 20, 2022 through May 3, 2022, if any, will be distributed to the Board Members by way of email.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Justine Buenaflor
Reviewed by: Vanessa Johnson

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Notices of Violations Issued and Settlements in Excess of $10,000 in the Month of March 2022

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

None.

DISCUSSION

In accordance with Resolution No. 2012-08, attached to this Memorandum is a listing of all Notices of Violations issued, and all settlements for amounts in excess of $10,000 during the calendar month prior to this report.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The amounts of civil penalties collected are included in the Air District's general fund budget.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Adan Schwartz

ATTACHMENTS:

1. Notices of Violations for the Month March 2022

NOTICES OF VIOLATIONS ISSUED

The following Notice(s) of Violations were issued in March 2022:

Alameda

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
ABE Petroleum - Olympic Oil	Z4600	Hayward	A61408A	3/1/2022	2-1-307	Permit Requirement/Condition Violation
Asbestos Management Group of California	J9290	Oakland	A60086A	3/22/2022	11-2-401.3	Asbestos Violation
Au Energy LLC	Z1937	Fremont	A61679A	3/14/2022	2-1-307	Permit Requirement/Condition Violation
Community First	Z4002	Newark	A61704A	3/10/2022	2-1-302	Expired Permit to Operate
GO! Petroleum, LLC	FA538	Oakland	A61412A	3/29/2022	8-7-302.1	Gas Dispensing Violation
Quality Asbestos Control, Inc.	Y9194	Union City	A61653A	3/18/2022	11-2-303.6	Asbestos Violation
Sat Singh	FA521	Sunol	A60741A	3/23/2022	2-1-307	Permit Requirement/Condition Violation
SFD	FA429	Oakland	A60136A	3/8/2022	11-2-401.3	Asbestos Violation
SFD	FA586	Piedmont	A61129A	3/10/2022	5-301	Open Burn Violation
Shell of Alameda GDF	FA526	Alameda	A61388A	3/24/2022	8-7-301.5	Gas Dispensing Violation
Shell of Alameda GDF	FA526	Alameda	A61388B	3/24/2022	2-1-307	Permit Requirement/Condition Violation
Sutter Bay Hospitals dba Alta Bates Summit Med Ctr	A0460	Berkeley	A58795A	3/24/2022	2-1-307	Permit Requirement/Condition Violation

Sutter Bay Hospitals dba Alta Bates Summit Med Ctr	A0460	Berkeley	A58795B	3/24/2022	9-7-506	Boiler Emissions Violation
Sutter Bay Hospitals dba Alta Bates Summit Med Ctr	A0460	Berkeley	A58796A	3/24/2022	9-7-506	Boiler Emissions Violation
Sutter Bay Hospitals dba Alta Bates Summit Med Ctr	A0460	Berkeley	A58797A	3/24/2022	9-7-506	Boiler Emissions Violation

Contra Costa

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
AAK USA Richmond Corp	A0927	Richmond	A58799A	3/29/2022	9-7-307	Boiler Emissions Violation
AAK USA Richmond Corp	A0927	Richmond	A58799B	3/29/2022	9-7-506	Boiler Emissions Violation
AAK USA Richmond Corp	A0927	Richmond	A58800A	3/29/2022	9-7-307	Boiler Emissions Violation
All Custom Wood Works	B0330	Concord	A61451A	3/28/2022	8-32-501	Wood Coating Violation
All Custom Wood Works	B0330	Concord	A61452A	3/28/2022	8-32-303	Wood Coating Violation
Central Contra Costa Sanitary District	A0907	Martinez	A61010A	3/28/2022	10	Hazardous Air Pollutant (HAP) Emissions Exceedance
Chevron Products Company	A0010	Richmond	A60643A	3/25/2022	2-6-307	Title V Permit Requirement/Condition Violation
Chevron Products Company	A0010	Richmond	A61108A	3/8/2022	9-2-301	Hydrogen Sulfide Violation
Gafco Enterprises Inc.	Z9400	Lafayette	A60740A	3/15/2022	2-1-307	Permit Requirement/Condition Violation

Mariposa Energy, LLC	B9730	Byron	A59377A	3/21/2022	1-522.7	Continuous Emissions Monitor Violation
Mariposa Energy, LLC	B9730	Byron	A59377B	3/21/2022	2-6-307	Title V Permit Requirement/Condition Violation
Mariposa Energy, LLC	B9730	Byron	A60878A	3/21/2022	1-522.7	Continuous Emissions Monitor Violation
Mariposa Energy, LLC	B9730	Byron	A60878B	3/21/2022	2-6-307	Title V Permit Requirement/Condition Violation
Phillips 66 Company	A0061	Richmond	A58798A	3/24/2022	8-5-305.3	Storage Tank Violation
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A60122A	3/1/2022	2-6-307	Title V Permit Requirement/Condition Violation
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A61094A	3/22/2022	8-10-501	Refinery Unit Depressurization Violation
Phillips 66 Company - San Francisco Refinery	A0016	Rodeo	A61095A	3/22/2022	8-10-501	Refinery Unit Depressurization Violation
Salkhi Petroleum	Z4042	El Cerrito	A61411A	3/24/2022	2-1-307	Permit Requirement/Condition Violation
San Ramon Valley Fire Protection District	G0245	San Ramon	A61706A	3/29/2022	2-1-307	Permit Requirement/Condition Violation
San Ramon Valley Fire Protection District	G0245	San Ramon	A61706B	3/29/2022	8-7-301.5	Gas Dispensing Violation
TransMontaigne Operating Company LP	A0745	Richmond	A58794A	3/4/2022	8-5-305.3	Storage Tank Violation

Marin

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
Kaiser Permanente San Rafael Medical Center	A3947	San Rafael	A59877A	3/15/2022	2-1-302	Expired Permit to Operate

Napa

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
Crystal Geyser Water Company	FA457	Calistoga	A59918A	3/18/2022	2-1-301	No Authority to Construct and No Permit to Operate
Crystal Geyser Water Company	FA457	Calistoga	A59918B	3/18/2022	2-1-302	No Authority to Construct and No Permit to Operate

San Francisco

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
Anchor Brewing, LLC	A1446	San Francisco	A60449A	3/17/2022	9-7-307.2	Boiler Emissions Violation
Veterans Administration Health Care System	A0459	San Francisco	A60450A	3/21/2022	2-1-307	Permit Requirement/Condition Violation

San Mateo

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
Double AA Corp.	Z8614	South San Francisco	A61409A	3/17/2022	2-1-307	Permit Requirement/Condition Violation
Double AA Corp.	Z8614	South San Francisco	A61410A	3/17/2022	2-1-301	No Authority to Construct and No Permit to Operate

Double AA Corp.	Z8614	South San Francisco	A61410B	3/17/2022	2-1-302	No Authority to Construct and No Permit to Operate
Ernest Petros	FA511	Daly City	A61387A	3/24/2022	2-1-307	Permit Requirement/Condition Violation
KN Stations, LLC	FA539	Half Moon Bay	A61389A	3/30/2022	2-1-307	Permit Requirement/Condition Violation

Santa Clara

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
Camden Gas & Mini Mart GDF	FA530	Sunnyvale	A61681A	3/30/2022	2-1-307	Permit Requirement/Condition Violation
City of Gilroy	FA447	Gilroy	A59840A	3/17/2022	2-1-307	Permit Requirement/Condition Violation
Cowboy Painting & Finishing	E1327	San Jose	A60502A	3/22/2022	2-1-307	Permit Requirement/Condition Violation
Eagle Ridge Golf Club	FA518	Gilroy	A59841A	3/23/2022	2-1-307	Permit Requirement/Condition Violation
Gilbert Spray Coat	A8611	Santa Clara	A61628A	3/9/2022	2-1-301	No Authority to Construct and No Permit to Operate
Gilbert Spray Coat	A8611	Santa Clara	A61628B	3/9/2022	2-1-302	No Authority to Construct and No Permit to Operate
Mission Trail Oil Co	FA523	Santa Clara	A61680A	3/24/2022	8-7-302.1	Gas Dispensing Violation
Sigma Property Ventures	FA402	Cupertino	A60085A	3/3/2022	11-2-401.3	Asbestos Violation
Terra Bella Group Inc.	Z5554	Palo Alto	A61678A	3/7/2022	8-7-308	Gas Dispensing Violation

Solano

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
NorCal Museum Siding, LLC	E4057	Vallejo	A59917A	3/8/2022	2-1-307	Permit Requirement/Condition Violation
Valero Refining Company - California	B2626	Benicia	A59514A	3/7/2022	1-441	Denied Access to Information
Valero Refining Company - California	B2626	Benicia	A59514B	3/7/2022	2-1-320	Misrepresentation in Permit Application
Valero Refining Company - California	B2626	Benicia	A59515A	3/28/2022	1-301	Public Nuisance Violation

District Wide

Site Name	Site #	City	NOV #	Issuance Date	Regulation	Comment
7-Eleven Inc.	Z8587	Irving	A60738A	3/4/2022	8-7-301.1	Gas Dispensing Violation
Herc Rentals	FA473	Bonita Springs	A61386A	3/22/2022	2-1-307	Permit Requirement/Condition Violation
RADC Enterprise Inc	FA454	Upland	A60243A	3/18/2022	2-1-307	Permit Requirement/Condition Violation
RADC Enterprise Inc	FA454	Upland	A60244A	3/16/2022	8-7-301.6	Gas Dispensing Violation
RADC Enterprise Inc	FA454	Upland	A60244B	3/16/2022	8-7-302.3	Gas Dispensing Violation
Signal Restoration Services	FA475	Garden Grove	A60087A	3/22/2022	11-2-303.6	Asbestos Violation
Tesoro Refining & Marketing Co, LLC	Z9304	San Antonio	A60739A	3/14/2022	2-1-307	Permit Requirement/Condition Violation
United Rentals Inc.	Z4254	Denver	A61705A	3/9/2022	2-1-307	Permit Requirement/Condition Violation

SETTLEMENTS FOR $10,000 OR MORE REACHED

There were 2 settlement(s) for $10,000 or more completed in March 2022.

1) On March 2, 2022, the District reached settlement with Berkeley Asphalt Co for $57,000, regarding the allegations contained in the following 5 Notice of Violation:

NOV #	Issuance Date	Occurrence Date	Regulation	Comments from Enforcement
A58839A	12/8/2020	12/3/2020	1-301	Public Nuisance Violation
A58840A	12/22/2020	12/21/2020	1-301	Public Nuisance Violation
A58841A	2/4/2021	2/3/2021	1-301	Public Nuisance Violation
A58842A	2/9/2021	2/5/2021	1-301	Public Nuisance Violation
A58843A	2/16/2021	11/1/2020	2-1-307	Permit Requirement/Condition Violation

2) On March 24, 2022, the District reached settlement with Valero Refining Company - California for $345,000, regarding the allegations contained in the following 17 Notice of Violation:

NOV #	Issuance Date	Occurrence Date	Regulation	Comments from Enforcement
A56462A	5/8/2017	5/5/2017	1-301	Public Nuisance Violation
A56463A	5/8/2017	5/5/2017	6-1-301	Visible Emissions Violation
A56464A	5/8/2017	5/5/2017	6-1-301	Visible Emissions Violation
A56465A	5/8/2017	5/5/2017	6-1-302	Visible Emissions Violation
A56465B	5/8/2017		2-6-307	Title V Requirement/Condition Violation
A56466A	5/8/2017	5/8/2017	6-1-301	Visible Emissions Violation
A56467A	5/9/2017	5/8/2017	1-301	Public Nuisance Violation
A56468A	5/11/2017	5/5/2017	6-1-301	Visible Emissions Violation
A56469A	5/23/2017	1/20/2017	2-6-307	Title V Requirement/Condition Violation
A56470A	5/23/2017	12/18/2016	2-6-307	Title V Requirement/Condition Violation
A56470B	5/23/2017	12/18/2016	10	Federal Requirement Violation

A56472A	5/23/2017	12/7/2016	2-6-307	Title V Requirement/Condition Violation
A56473A	5/31/2017	5/9/2017	8-5-304	Storage Tank Violation
A56477A	6/7/2017	5/15/2017	1-301	Public Nuisance Violation
A57345A	7/25/2018	5/8/2017	2-6-307	Title V Requirement/Condition Violation
A57345B	7/25/2018	5/8/2017	1-522.7	Continuous Emissions Monitor Violation
A57350A	11/29/2018	5/5/2017	1-523.3	Parametric Monitor Violation
A57350B	11/29/2018	5/5/2017	2-6-307	Title V Requirement/Condition Violation
A58984A	6/13/2019	5/5/2017	2-6-307	Title V Requirement/Condition Violation
A58984B	6/13/2019	5/5/2017	1-522.7	Continuous Emissions Monitor Violation
A58985A	6/13/2019	5/7/2017	1-522.7	Continuous Emissions Monitor Violation
A58985B	6/13/2019	5/5/2017	2-6-307	Title V Requirement/Condition Violation
A58994A	10/24/2019	5/6/2017	9-1-307	SO2 Emissions Violation
A58994B	10/24/2019	5/6/2017	1-522.7	Continuous Emissions Monitor Violation
A58994C	10/24/2019	5/6/2017	1-522.4	Continuous Emissions Monitor Violation
A58994D	10/24/2019	5/6/2017	2-6-307	Title V Requirement/Condition Violation

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Authorization to Amend Contract with Communities for a Better Environment, for Partnership, Outreach and Engagement, and Research Support for the Assembly Bill (AB) 617 Community Emissions Reduction Plan (CERP) Process for East Oakland

RECOMMENDED ACTION

Recommend the Board of Directors authorize the Interim Acting Executive Officer/APCO to amend a contract with Communities for a Better Environment in an amount not to exceed $410,000 and to extend the contract term end date to December 31, 2023, for Partnership, Outreach and Engagement, and Research Support for the AB 617 Community Emissions Reduction Plan (CERP) Process for East Oakland.

BACKGROUND

In November 2021, the Air District Board and East Oakland community organizations and residents recommended that the California Air Resources Board (CARB) select East Oakland as a fourth-year AB 617 CERP community. On February 10, 2022, CARB approved this nomination.

Communities for a Better Environment is an environmental justice organization that has worked for decades to build community capacity on air quality planning and reduce air pollution in the East Oakland area. Since 2007, Communities for a Better Environment has provided East Oakland residents with capacity building, legal, scientific, and technical support.

The Air District partnered with Communities for a Better Environment to develop the Air District's successful nomination of East Oakland to CARB for a CERP Community Emissions Reduction Plan process. That partnership also built the foundation for a joint CERP development effort. Communities for a Better Environment's existing contract was executed in October 2021 and provided $91,244 in funds and includes the following activities:

- Conduct outreach and engagement in support of the public process for the East Oakland nomination
- Identify scoping and research needs for East Oakland

- Establish project management infrastructure to support the East Oakland CERP process for AB617 related communications
- Develop a collaborative Partnership Agreement
- Hire and train an AB 617 Project Manager and Lead Researcher

DISCUSSION

The Community Engagement Office seeks to both extend the term and increase the dollar amount of the Master of Services Agreement (MSA) contract with Communities for a Better Environment. This will allow the Air District and Communities for a Better Environment to continue their partnership to conduct a CERP process over the next year to 1.5 years, including outreach and engagement activities to East Oakland neighborhoods to support the East Oakland Steering Committee process, research and analysis, and some translation, logistics and facilitation services, as needed.

The amended MSA (Task Order 2) will allow Communities for a Better Environment to continue the partnership with the District to work on the East Oakland Community Emissions Reduction Plan (CERP), including:

- Participate in planning meetings as a Co-Lead member of the East Oakland Community Emissions Reduction Plan (CERP) Steering Committee alongside the Air District
- Support and oversee the CERP Steering Committee including:
    - Assist with the formation of the Steering Committee
    - Support with community member outreach and agency engagement
- Support the District on technical assessment needs for the East Oakland CERP including:
    - Participate in meetings with District Staff to inform, assist and review emissions reduction strategy and plan development Design research and communications tools to supplement community data-gathering and engagement

BUDGET CONSIDERATION/FINANCIAL IMPACT

Funding for the contract amendment with the additional increase of $318,756 is included in the Fiscal Year Ending (FYE 2022) Community Engagement Office budget and will be funded using Assembly Bill (AB) 617 Implementation Funds.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Karissa White
Reviewed by: Veronica Eady

ATTACHMENTS:

1. Executed Master Services Contract No. 2021.175 Communities for a Better Environment
2. Executed Task Order No. 1 Contract No. 2021.175 Communities for a Better Environment
3. Executed Amendment No. 1 Contract No. 2021.175 Communities for a Better Environment
4. Draft Amendment No. 2 Contract No. 2021.175 Communities for a Better Environment

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

MASTER SERVICES CONTRACT

CONTRACT NO. 2021.175

1. PARTIES – The parties to this Contract ("Contract") are the Bay Area Air Quality Management District ("DISTRICT") whose address is 375 Beale Street, Suite 600, San Francisco, CA 94105, and **Communities for a Better Environment** ("CONTRACTOR") whose address is 6325 Pacific Blvd, Huntington Park, CA 90255.

2. RECITALS
   A. DISTRICT is the local agency with primary responsibility for regulating stationary source air pollution in the Bay Area Air Quality Management District in the State of California. DISTRICT is authorized to enter into this Contract under California Health and Safety Code Section 40701. DISTRICT desires to contract with CONTRACTOR for Services as defined herein. DISTRICT is entering into this Contract based on CONTRACTOR's stated qualifications to perform the Services.
   B. All parties to this Contract have had the opportunity to have this contract reviewed by their attorney or the opportunity to obtain counsel.

3. DEFINITIONS
   A. "Purchase Order" shall mean the written or electronic document used by DISTRICT to track payments to CONTRACTOR under this Contract.
   B. "Services" shall mean the services to be provided by CONTRACTOR hereunder as generally described in the General Description of Services, attached hereto as Attachment A and made a part hereof by this reference, and as specifically described in Task Orders issued pursuant to this Contract.
   C. "Task Order" shall mean a written request by DISTRICT for specific services to be performed by CONTRACTOR.

4. PERFORMANCE REQUIREMENTS
   A. CONTRACTOR is authorized to do business in the State of California. CONTRACTOR attests that it is in good tax standing with federal and state tax authorities.
   B. CONTRACTOR agrees to obtain any and all required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
   C. CONTRACTOR shall comply with all laws and regulations that apply to its performance under this Contract, including any requirements to disclose potential conflicts of interest under DISTRICT's Conflict of Interest Code.
   D. CONTRACTOR shall not engage in any performance of work during the term of this contract that is in direct or indirect conflict with duties and responsibilities set forth in the Scope of Work.
   E. CONTRACTOR shall exercise the degree of skill and care customarily required by accepted professional practices and procedures.
   F. CONTRACTOR shall ensure that any subcontractors, employees and agents performing under this Contract comply with the performance standards set forth in paragraphs A-E above.

5. TERM – The term of this Contract is from date of Contract execution to March 31, 2022, unless further extended by amendment of this Contract in writing, or terminated earlier. CONTRACTOR shall not submit any invoice for services performed under this Contract until the Contract is fully executed.

6. TERMINATION
   A. The DISTRICT may terminate this Contract at any time, at will, and without specifying any reason, by notifying CONTRACTOR in writing. The notice of termination shall specify the effective date of termination, which shall be no less than thirty (30) calendar days from the date of delivery of the notice of termination, and shall be delivered in accordance with the provisions of section 13 below. Immediately upon receipt of the notice of termination, CONTRACTOR shall cease all services under this Contract, except such services as are specified in the notice of termination. CONTRACTOR shall deliver a final invoice for all remaining services performed but not billed, including any services specified in the termination notice, on or before ten (10) business days following the termination date.
   B. Either party may terminate this Contract for breach by the other party.
      i) Failure to perform any agreement or obligation contained in this Contract or failure to complete the services in a satisfactory manner shall constitute a breach of the Contract.
      ii) The non-breaching party may terminate the Contract by delivery of a written notice of breach. The notice of breach shall specify the date of termination, which shall be no earlier than ten (10) business days from delivery of the notice of breach. In the alternative, at its sole discretion, the non-breaching party may require the breaching party to cure the breach. The notice of breach shall specify the nature of the breach and the date by which such breach must be cured.
      iii) If CONTRACTOR fails to perform any obligation under this Contract, DISTRICT at its sole discretion, may perform, or cause the performance, of the obligation itself. In that event, DISTRICT shall deduct the costs to perform such obligation and any other costs to cure the breach from the payment otherwise due to CONTRACTOR for work performed under this Contract. DISTRICT's performance hereunder shall not be deemed a waiver or release of any obligation of, or default by, CONTRACTOR under this Contract.
      iv) The notice of breach shall be provided in accordance with the notice requirements set forth in section 13.
      v) The non-breaching party reserves all rights under law and equity to enforce this Contract and recover any damages.

7. INSURANCE
   A. CONTRACTOR shall maintain the following insurance:
      i) Workers' compensation and employers' liability insurance as required by California law or other applicable statutory requirements.
      ii) Occurrence-based commercial general liability insurance or equivalent form with a limit of not less than one million dollars ($1,000,000) each occurrence. Such insurance shall include DISTRICT and its officers, agents, and employees as additional insureds and shall be primary with respect to any insurance maintained by DISTRICT.
      iii) Business automobile liability insurance or equivalent form with a limit of not less than one million dollars ($1,000,000) each accident. Such insurance shall include coverage for owned, hired, and non-owned vehicles. If CONTRACTOR is a sole proprietor, CONTRACTOR may meet this insurance requirement with personal automobile liability insurance carrying a business use endorsement or by demonstrating to the satisfaction of DISTRICT that business use is

covered under the CONTRACTOR's personal automobile liability insurance. A CONTRACTOR using only rental vehicles in performing work under this Contract may meet this insurance requirement by purchasing automobile liability insurance in the required coverage amount from the rental agency.

B. All insurance shall be placed with insurers acceptable to DISTRICT.

C. Prior to commencement of work under this Contract, CONTRACTOR shall furnish properly-executed certificates of insurance for all required insurance. Upon request by DISTRICT, CONTRACTOR shall provide a complete copy of any required insurance policy. CONTRACTOR shall notify DISTRICT in writing thirty (30) days prior to cancellation or modification of any required insurance policy. Any such modifications are subject to pre-approval by DISTRICT.

D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, DISTRICT reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or to terminate this Contract for breach.

8. INDEMNIFICATION

A. CONTRACTOR shall indemnify and hold DISTRICT, its officers, employees and agents harmless from and against any and all liability, loss, expense, including reasonable attorneys' fees, or claims for injury or damages arising out of the performance of this Contract but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of CONTRACTOR, its officers, agents, or employees.

B. DISTRICT shall indemnify and hold CONTRACTOR, its officers, employees and agents harmless from and against any and all liability, loss, expense, including reasonable attorneys' fee, or claims for injury or damages arising out of the performance of this Contract but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of DISTRICT, its officers, agents, or employees.

9. AGREEMENT TO PROVIDE SERVICES

A. CONTRACTOR hereby agrees to provide to DISTRICT, as DISTRICT may from time to time designate, such services as DISTRICT may order by Task Order, all in accordance with and subject to the terms, covenants and conditions of this Contract. DISTRICT agrees to pay for these services ordered by DISTRICT in accordance with and subject to the terms, covenants and conditions of this Contract.

B. All Task Orders issued by DISTRICT to CONTRACTOR for services during the term of this Contract are subject to the provisions of this Contract as though fully set forth in such Task Order. In the event that the provisions of this Contract conflict with any Task Order issued by DISTRICT to CONTRACTOR, the provisions of this Contract shall govern. No other terms and conditions, including, but not limited to, those contained in CONTRACTOR's standard printed terms and conditions, on CONTRACTOR's order acknowledgment, invoices or otherwise, shall have any application to or effect upon or be deemed to constitute an amendment to or to be incorporated into this Contract, any Task Order, or any transactions occurring pursuant hereto or thereto, unless this Contract shall be specifically amended to adopt such other terms and conditions in writing by the parties.

C. Notwithstanding any other provision of this Contract to the contrary, DISTRICT shall have no obligation to order or purchase any services hereunder and the placement of any Task Order shall be in the sole discretion of DISTRICT. Without limiting the generality of the foregoing, the actual

quantity of services to be purchased hereunder shall be determined by DISTRICT in its sole discretion and shall not exceed $90,000. This Contract is not exclusive. CONTRACTOR expressly acknowledges and agrees that DISTRICT may purchase at its sole discretion, services that are identical or similar to the services described in this Contract from any third party.

10. TASK ORDERS – Each Task Order will specify the following items, as relevant: specific services requested, schedule for services, location where services are to be performed (with contact person), and cost or estimated cost of services. Each Task Order issued under this Contract shall be made part of, and be incorporated into this Contract, and shall reference this Contract on the face of each Task Order. Should any Task Order not conform to or satisfy the terms of this Contract, CONTRACTOR shall have ten (10)) business days after receipt to reject the Task Order. By not rejecting the Task Order within ten (10)) business days, CONTRACTOR will have accepted the Task Order. Acceptance by CONTRACTOR is limited to the provisions of this Contract and the Task Order. No additional or different provisions proposed by CONTRACTOR or DISTRICT shall apply. In addition, the parties agree that this Contract and accepted Task Orders constitute a contract for services and satisfy all statutory and legal formalities of a contract.

11. PRICING, INVOICES, AND PAYMENT
    A. DISTRICT shall pay CONTRACTOR for all services ordered and provided in compliance with the terms and conditions of this Contract and with Task Orders issued under this Contract.
    B. CONTRACTOR shall submit original invoices to DISTRICT in form and substance and format reasonably acceptable to DISTRICT. Each invoice, including supporting documentation, must be prepared in duplicate on CONTRACTOR's letterhead; must list DISTRICT's contract number, Purchase Order Number, and the CONTRACTOR's Social Security Number or Federal Employer Identification Number; and must be submitted to: Bay Area Air Quality Management District, 375 Beale Street, Suite 600, San Francisco, CA 94105, Attn: Contracts Manager.
    C. Except as specifically set forth in Attachment A or in Task Orders under this Contract, DISTRICT shall not be responsible for any additional costs or expenses of any nature incurred by CONTRACTOR in connection with the provision of the services, including without limitation travel expenses, clerical or administrative personnel, long distance telephone charges, etc.
    D. CONTRACTOR represents, warrants and covenants that the prices, charges and fees for services set forth in this Contract (on the whole) are at least as favorable as the prices, charges and fees CONTRACTOR charges (on the whole) to other of its customers or clients for the same or substantially similar services provided under the same or substantially similar circumstances, terms, and conditions. If CONTRACTOR agrees or contracts with other clients or customers similarly situated during the Term of this Contract, and offers or agrees to financial terms more favorable than those set forth herein (on the whole), CONTRACTOR hereby agrees that it will reduce the prices, charges and/or fees charged to DISTRICT in respect of the services hereunder to the most favorable rates received by those other clients or customers.

12. DISPUTE RESOLUTION – A party that disputes a notice of breach must first seek mediation to resolve the dispute in accordance with the provisions set forth below.
    A. Upon receipt of a notice of breach of contract, the party may submit a demand for mediation to resolve whether or not a breach occurred. The party must state the basis of the dispute and deliver the demand within ten (10) business days of the date of receipt of the notice of breach.
    B. The mediation shall take place at DISTRICT's office at 375 Beale Street, Suite 600, San Francisco, or at such other place as may be mutually agreed upon by the parties and the mediator.

C. The parties shall make good faith efforts to hold the mediation within thirty (30) days after receipt of the demand for mediation.
D. Each party shall bear its own mediation costs.
E. In the event the parties are unable to resolve the dispute, either party may file an action in a court of competent jurisdiction to enforce the Contract.
F. Maximum recovery under this section shall be limited to the total value of all Task Orders issued under this Contract. The mediation costs shall not reduce the maximum amount recoverable under this section.

13. NOTICES – All notices that are required under this Contract shall be provided in the manner set forth herein, unless specified otherwise. Notice to a party shall be delivered to the attention of the person listed below, or to such other person or persons as may hereafter be designated by that party in writing. Notice shall be in writing sent by e-mail, facsimile, or regular first class mail. In the case of e-mail and facsimile communications, valid notice shall be deemed to have been delivered upon sending, provided the sender obtained an electronic confirmation of delivery. E-mail and facsimile communications shall be deemed to have been received on the date of such transmission, provided such date was a business day and delivered prior to 4:00 p.m. PST. Otherwise, receipt of e-mail and facsimile communications shall be deemed to have occurred on the following business day. In the case of regular mail notice, notice shall be deemed to have been delivered on the mailing date and received five (5) business days after the date of mailing.

DISTRICT:	Bay Area Air Quality Management District 375 Beale Street, Suite 600 San Francisco, CA 94105 Attn: Aneesh Rana
CONTRACTOR:	Communities for a Better Environment 6325 Pacific Blvd, Huntington Park, CA 90255 Attn: Iliana Alvarado

14. ADDITIONAL PROVISIONS – All attachment(s) to this Contract are expressly incorporated herein by this reference and made a part hereof as though fully set forth.

15. EMPLOYEES OF CONTRACTOR
A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay, and pay for legal holidays.
B. CONTRACTOR, its officers, employees, agents, or representatives shall not be considered employees or agents of DISTRICT, nor shall CONTRACTOR, its officers, employees, agents, or representatives be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by DISTRICT to its employees.
C. DISTRICT reserves the right to review the credentials to perform the services for any of CONTRACTOR's employees assigned herein and to disapprove CONTRACTOR's assignments. CONTRACTOR warrants that it will not employ any subcontractor(s) without prior written approval from DISTRICT.

16. CONFIDENTIALITY – In order to carry out the purposes of this Contract, CONTRACTOR may require access to certain of DISTRICT's confidential information (including trade secrets, inventions, confidential know-how, confidential business information, and other information that DISTRICT considers confidential) (collectively, "Confidential Information"). It is expressly understood and agreed that DISTRICT may designate in a conspicuous manner Confidential Information that CONTRACTOR obtains from DISTRICT, and CONTRACTOR agrees to:
    A. Observe complete confidentiality with respect to such information, including without limitation, agreeing not to disclose or otherwise permit access to such information by any other person or entity in any manner whatsoever, except that such disclosure or access shall be permitted to employees of CONTRACTOR requiring access in fulfillment of the services provided under this Contract.
    B. Ensure that CONTRACTOR's officers, employees, agents, representatives, and independent contractors are informed of the confidential nature of such information and to assure by agreement or otherwise that they are prohibited from copying or revealing, for any purpose whatsoever, the contents of such information or any part thereof, or from taking any action otherwise prohibited under this section.
    C. Not use such information or any part thereof in the performance of services to others or for the benefit of others in any form whatsoever whether gratuitously or for valuable consideration, except as permitted under this Contract.
    D. Notify DISTRICT promptly and in writing of the circumstances surrounding any possession, use, or knowledge of such information or any part thereof by any person or entity other than those authorized by this section. Take at CONTRACTOR's expense, but at DISTRICT's option and in any event under DISTRICT's control, any legal action necessary to prevent unauthorized use of such information by any third party or entity which has gained access to such information at least in part due to the fault of CONTRACTOR.
    E. Take any and all other actions necessary or desirable to assure such continued confidentiality and protection of such information during the term of this Contract and following expiration or termination of the Contract.
    F. Prevent access to such materials by a person or entity not authorized under this Contract.
    G. Establish specific procedures in order to fulfill the obligations of this section.

17. INTELLECTUAL PROPERTY RIGHTS – Title and full ownership rights to all intellectual property developed under this Contract shall at all times remain with DISTRICT, unless otherwise agreed to in writing.

18. PUBLICATION
    A. DISTRICT shall approve in writing any report or other document prepared by CONTRACTOR in connection with performance under this Contract prior to dissemination or publication of such report or document to a third party. DISTRICT may waive in writing its requirement for prior approval.
    B. Until approved by DISTRICT, any report or other document prepared by CONTRACTOR shall include on each page a conspicuous header, footer, or watermark stating "DRAFT – Not Reviewed or Approved by BAAQMD," unless DISTRICT has waived its requirement for prior approval pursuant to paragraph A of this section.
    C. Information, data, documents, or reports developed by CONTRACTOR for DISTRICT, pursuant to this Contract, shall be part of DISTRICT's public record, unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information, provided DISTRICT approves use of such

information in advance. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

> "This report was prepared as a result of work sponsored, paid for, in whole or in part, by the Bay Area Air Quality Management District (District). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of the District. The District, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report."

D. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and shall require compliance with the above.

19. NON-DISCRIMINATION – In the performance of this Contract, CONTRACTOR shall not discriminate in its recruitment, hiring, promotion, demotion, and termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, marital status, sexual orientation, medical condition, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, and all administrative rules and regulations issued pursuant to said Acts. CONTRACTOR shall also require each subcontractor performing services in connection with this Contract to comply with this section and shall include in each contract with such subcontractor provisions to accomplish the requirements of this section.

20. PROPERTY AND SECURITY – Without limiting CONTRACTOR'S obligations with regard to security, CONTRACTOR shall comply with all the rules and regulations established by DISTRICT for access to and activity in and around DISTRICT's premises.

21. ASSIGNMENT – No party shall assign, sell, license, or otherwise transfer any rights or obligations under this Contract to a third party without the prior written consent of the other party, and any attempt to do so shall be void upon inception.

22. WAIVER – No waiver of a breach, of failure of any condition, or of any right or remedy contained in or granted by the provisions of this Contract shall be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy shall be deemed a waiver of any other breach, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies. Further, the failure of a party to enforce performance by the other party of any term, covenant, or condition of this Contract, and the failure of a party to exercise any rights or remedies hereunder, shall not be deemed a waiver or relinquishment by that party to enforce future performance of any such terms, covenants, or conditions, or to exercise any future rights or remedies.

23. ATTORNEYS' FEES – In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.

24. FORCE MAJEURE – Neither DISTRICT nor CONTRACTOR shall be liable for or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, enemy or hostile governmental action, civil commotion, strikes, lockouts, labor disputes, fire or other casualty, any other emergency beyond the parties' control, judicial orders, governmental controls, regulations or restrictions, inability to obtain labor or materials or reasonable substitutes for labor or materials necessary for performance of the services, or other causes, except financial, that are beyond the reasonable control of DISTRICT or CONTRACTOR, for a period of time equal to the period of such force majeure event, provided that the party failing to perform notifies the other party within fifteen calendar days of discovery of the force majeure event, and provided further that that party takes all reasonable action to mitigate the damages resulting from the failure to perform. Notwithstanding the above, if the cause of the force majeure event is due to party's own action or inaction, then such cause shall not excuse that party from performance under this Contract.

25. SEVERABILITY – If a court of competent jurisdiction holds any provision of this Contract to be illegal, unenforceable or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of them will not be affected.

26. HEADINGS – Headings on the sections and paragraphs of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.

27. COUNTERPARTS/FACSIMILES/SCANS – This Contract may be executed and delivered in any number of counterparts, each of which, when executed and delivered, shall be deemed an original, and all of which together shall constitute the same contract. The parties may rely upon a facsimile copy or scanned copy of any party's signature as an original for all purposes.

28. GOVERNING LAW – Any dispute that arises under or relates to this Contract shall be governed by California law, excluding any laws that direct the application of another jurisdiction's laws. Venue for resolution of any dispute that arises under or relates to this Contract, including mediation, shall be San Francisco, California.

29. ENTIRE CONTRACT AND MODIFICATION – This Contract represents the final, complete, and exclusive statement of the agreement between the parties related to CONTRACTOR providing services to DISTRICT and supersedes all prior and contemporaneous understandings and agreements of the parties. No party has been induced to enter into this Contract by, nor is any party relying upon, any representation or warranty outside those expressly set forth herein. This Contract may only be amended by mutual agreement of the parties in writing and signed by both parties.

30. SURVIVAL OF TERMS – The provisions of sections 8 (Indemnification), 16 (Confidentiality), 17 (Intellectual Property Rights), and 18 (Publication) shall survive the expiration or termination of this Contract.

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

By: DocuSigned by: 0EE3D01BEB654A3...
Jack P. Broadbent
Executive Officer/APCO

Date: 10/4/2021

COMMUNITIES FOR A BETTER ENVIRONMENT

By:
Darryl Molina Sarmiento
Executive Director/ CBE

Date: 9/29/21

Approved as to form:
District Counsel

By: DocuSigned by: Adan Schwartz 10/4/2021
150A910F987E4D3...
Adan Schwartz
Acting District Counsel

Attachment A
General Description of Services

DISTRICT seeks assistance to support Deep East Oakland in developing and implementing a 2022 Community Emissions Reduction Plan (CERP). **Communities for a Better Environment** (CONTRACTOR) is an environmental justice organization that supports frontline residents and youth in leadership development activities that empower community members to take action and seek solutions to reduce pollution in their neighborhoods, as well as usher in a just transition to a safe, healthy, and sustainable economy. Since 2007, CONTRACTOR's East Oakland community engagement has primarily focused on reducing air pollution that most impact the health and wellbeing of community members, forming partnerships to support East Oakland capacity and power building, and focusing on reducing air pollution from local stationary facilities since 2013. As a result, CONTRACTOR has gained deep leadership and expertise around engaging DISTRICT with regulatory rulemaking processes.

CONTRACTOR shall provide DISTRICT with community engagement support, research, and facilitation services in preparation for the CERP nomination and the development of an East Oakland CERP by conducting outreach amongst CONTRACTOR's members, partners/allies, and Deep East Oakland residents.

Pursuant to Task Orders issued under this Contract, CONTRACTOR's tasks include, but are not limited to:

1. Consult with DISTRICT on issues related to community perspective on engagement issues in Deep East Oakland.
2. Assist Deep East Oakland community members and DISTRICT with designing and creating an East Oakland CERP Steering Committee.
3. Provide planning, outreach and communication, facilitation, and logistics support for meetings to support the development of a CERP Steering Committee process in Deep East Oakland, including meeting agendas, notes and summaries.
4. Recruit partner/ ally organizations to participate in the East Oakland CERP process.
5. Attend and participate in Co-Leads meetings, which are meetings between the DISTRICT and CONTRACTOR, related to AB 617 throughout the CERP process in Deep East Oakland.
6. Support DISTRICT outreach efforts by developing outreach flyers and other promotional and informational materials for the development of an East Oakland CERP process.
7. Develop and present trainings and other information about AB 617.
8. Work with DISTRICT to create agendas and define necessary content for the East Oakland CERP process.
9. Provide training and consultation to Air District staff on topics such as the history of Deep East Oakland and outreach strategies and the Deep East Oakland Community on topics such as collaborative process, community data and information gathering, data translation, visualization, and communication for the development of a CERP in Deep East Oakland.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
MASTER SERVICES CONTRACT
COMMUNITIES FOR A BETTER ENVIRONMENT
CONTRACT NO. 2021.175
Task Order No. 1

Work Plan:
CONTRACTOR shall provide assistance to develop and implement a 2022 Community Emissions Reduction Plan (CERP) via community engagement support, research, and facilitation services.

DISTRICT staff will present recommendations for the nomination of East Oakland as the next community to develop a community emission reduction plan to DISTRICT's Board of Directors for adoption on November 3, 2021. Subsequently, DISTRICT staff will present its recommendation at a public meeting hosted by the California Air Resources Board (CARB) in November/ December 2021. CARB will release its staff report in January 2022 and on February 10, 2022, CARB will consider new communities for CERP designation. Provided that East Oakland receives its designation from CARB, the process for launching the East Oakland Steering Committee will begin between February and March 2022.

Phase 1 - Pre-CERP Phase work (Task Order 1):
The Pre-CERP Phase is the initial phase of work to prepare for the recommendation to nominate East Oakland for a Community Emissions Reduction Plan process and set up the foundation for initial partnerships.

Task 1: Hire and Train a Project Manager/Lead

1.1 CONTRACTOR will create a job description for a Project Manager/ AB 617 Project Lead and consult with the DISTRICT staff on review as needed. The Project Manager will be the main point of contact at CONTRACTOR for DISTRICT and community for the East Oakland AB 617 CERP process and manage the project responsibilities around outreach to community about the Steering Committee and planning process and partnership with the DISTRICT.
1.2 CONTRACTOR will post the job description, advertise the position, conduct an interview and hiring process with a committee of both CONTRACTOR and DISTRICT staff.
1.3 CONTRACTOR's staff will onboard the new Project Manager/Lead, including review of CONTRACTOR history, DISTRICT functions, and AB617.

Deliverables: Meeting agendas & notes, Project Manager job announcement

Task 2: Project Management Infrastructure

2.1 CONTRACTOR will establish a project management infrastructure, along with the DISTRICT, to support the East Oakland CERP process for AB617 related communications including agendas and meeting notes, task order/deliverable tracking, and monthly invoicing + status reports. Having systems in place to allow DISTRICT and CONTRACTOR to share files through the cloud and developing templates for meeting materials will facilitate the development of the CERP process.
2.2 CONTRACTOR will participate in up to 2 meetings as needed with DISTRICT staff where staff present on AB 617 requirements and timelines and orient Project Manager.

Deliverables: Meeting notes & agendas

Task 3: Develop Collaborative Partnership Agreement

3.1 CONTRACTOR and DISTRICT will co-create a Partnership Agreement, including meeting time (estimated 3-5 meetings) and prep work. A Partnership Agreement is foundational to developing collaborative partnership between the DISTRICT and CONTRACTOR. This document will lay out how each organization will implement a co-led AB 617 CERP planning process, such as roles and responsibilities, decision-making, shared documents, approvals and communications, and may serve as a template for other partner organizations in East Oakland.

Deliverables: Meeting agendas & notes, Partnership Agreement

Task 4: Scoping and Research Needs for East Oakland

4.1 CONTRACTOR will participate in up to 14 meetings as needed with DISTRICT staff to discuss air monitoring, permitting, planning, and modeling and enforcement in preparation for the East Oakland AB 617 CERP process. CONTRACTOR will review information from DISTRICT and consult in identifying existing data, and gaps and needs in DISTRICT information and identify potential community research projects, such as ground truthing, community mapping or surveying.

4.2 As needed, CONTRACTOR will connect DISTRICT with other key agency staff to this process, such as the Oakland Planning department, Oakland Department of Transportation and Oakland Sustainability.

4.3 CONTRACTOR may make a request for technical assistance, pending approval from the DISTRICT.

Deliverables: Meeting agendas & notes

Task 5: Support the public process for EO nomination

5.1 CONTRACTOR will review and provide comments on East Oakland Selection Report. The Selection Report is an executive data summary that DISTRICT will provide to CARB to accompany the official letter to recommend nomination of East Oakland for a CERP planning process.

5.2 CONTRACTOR will review and provide comments on East Oakland Background Report (as needed). The Background Report is a more detailed narrative and data analysis backing the Selection Report, which may be used for various elements of the CERP planning process.

5.3 CONTRACTOR will participate in Public Meetings to nominate the next community at the DISTRICT (up to 2 meetings). It is anticipated that the Board of Directors will vote to consider nomination of East Oakland on November 3rd, 2021.

5.4 CONTRACTOR, including staff and members, will participate in Public Meetings to nominate the next community at CARB (up to 3 meetings). Should DISTRICT's Board of Directors vote affirmatively, subsequently, DISTRICT will present this recommendation to the CARB Board in late 2021 and vote in February 2022.

5.5 CONTRACTOR will participate in regular bi-weekly mtgs with DISTRICT staff, including co-developing agendas and taking meeting notes to plan for outreach and engagement leading up to these public meetings, debriefing meeting results and planning accordingly.

5.6 CONTRACTOR will develop curriculum and presentation materials, talking points, and build infrastructure, such as stipends, leadership structure, document storage, to prepare for outreach to community organizations and members. This outreach will support the

development of a multi- organizational leadership structure and/ or a Steering Committee structure. If translation cannot be obtained in a timely fashion through DISTRICT, CONTRACTOR may translate materials through a sub-contractor as needed.

Deliverables: Meeting agendas & notes, presentation materials, report to CARB with CONTRACTOR edits, Co-leadership Infrastructure Plan for stipends and document storage

Task Order Schedule: The period of performance for this Task Order shall be from date of Task Order execution through March 31, 2022.

Task Order Contact:
DISTRICT's contact person under this Task Order 1 shall be Anna Lee at alee@baaqmd.gov and Karissa White at kwhite@baaqmd.gov.

Task Order Cost:
DISTRICT shall pay CONTRACTOR an initial payment of $13,000 upon Task Order execution to begin the recruitment of the new Project Lead, establishing Project Management Infrastructure and other related tasks under Tasks 1 and 2.

DISTRICT will subsequently pay CONTRACTOR for work at the hourly rates and up to the not to exceed amount for each task as listed in the table below. CONTRACTOR will submit monthly invoices for payment for the number of hours worked in the previous month along with a progress report summarizing work that has been completed between payments. Payments will be made within thirty (30) business days after DISTRICT's receipt of CONTRACTOR's invoice.

Labor: DISTRICT will pay CONTRACTOR for time spent completing this Task Order at the hourly rates listed in the following table:

Staff	Title	Hourly Rate
Ernesto Arevalo	Supervisor(s), NorCal Program Director	$43.00
TBD	Project Manager	$38.00
Sharifa Taylor	Researcher	$38.00
Dan Sakaguchi	Lead Researcher	$38.00
Mykela Patton	East Oakland Youth Organizer	$38.00
Cindy Ibarra	East Oakland Community Organizer	$38.00
Angela Scott	East Oakland Community Organizer	$38.00
Esther Goolsby	East Oakland Build the Good Organizer	$38.00
TBD	Interpretation	$55.00
TBD	Translation	$0.25/word

Not to Exceed (NTE) Budget Overview

TASK	TASK DESCRIPTION	BUDGET
Task 1:	Hire and Train a Project Manager/Lead	$9,912
Task 2:	Project Management Infrastructure	$4,234
Task 3:	Develop Collaborative Partnership Agreement	$1,560
Task 4:	Scoping and Research Needs for East Oakland	$13,008
Task 5:	Support the public process for EO nomination	$28,103
	Budget NTE:	**$56,817**
	Indirect Admin Fee (20%)	**$11,321**
	Task Order Not to Exceed Amount	**$68,138**

This budget is considered Not to Exceed (NTE). Depending on the DISTRICT staff's involvement and needs, this budget may not be expended in full.

The parties agree that Contract No. 2021.175, all its terms, and this Task Order constitute a contract for services.

Total Task Order cost not exceed $68,138.

IN WITNESS WHEREOF, the parties to this Task Order have caused this Task Order to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

By: DocuSigned by: Veronica Eady D03B3B4BDCD74FD...

Jack P. Broadbent
Executive Officer/APCO

Date: 10/27/2021

COMMUNITIES FOR A BETTER ENVIRONMENT

By: _____

Darryl Molina Sarmiento
Executive Director/ CBE

Date: 10/26/21

Approved as to form:
District Counsel

By: DocuSigned by: Adan Schwartz 10/27/2021 150A910F987E4D3...

Adan Schwartz
Acting District Counsel

AMENDMENT NO. 1 TO

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

CONTRACT NO. 2021.175

This amendment to the above-entitled contract ("Contract Amendment") is dated, for reference purposes only, March 16, 2022.

RECITALS:

1. The Bay Area Air Quality Management District ("DISTRICT") and **Communities for a Better Environment** ("CONTRACTOR") (hereinafter referred to as the "PARTIES") entered into the above-entitled contract for community engagement support, research, and facilitation in East Oakland (the "Contract"), which Contract was executed on behalf of CONTRACTOR on September 29, 2021, and on behalf of DISTRICT on October 04, 2021.

2. The PARTIES seek to amend the term and total Cost of the Contract because the DISTRICT seeks to continue receiving services from CONTRACTOR prescribed in the Contract and CONTRACTOR desires to provide those services.

3. The PARTIES seek to amend Task Order No. 1 executed under the Contract because DISTRICT seeks additional services under the Task Order and CONTRACTOR desires to provide those additional services.

4. In accordance with Section 29 of the Contract, DISTRICT and CONTRACTOR desire to amend the above-entitled Contract as follows:

TERMS AND CONDITIONS OF CONTRACT AMENDMENT:

1. By this Contract Amendment, DISTRICT and CONTRACTOR amend Section 5, "Term." The term of the Contract shall be extended so that the termination date of the Contract is now June 30, 2022.

2. By this Contract Amendment, DISTRICT and CONTRACTOR amend Paragraph C of Section 9, "Agreement to Provide Services," of the Contract to replace "$90,000" with "$91,244."

3. By this Contract Amendment, DISTRICT and CONTRACTOR replace Task Order No. 1 of the Contract with the attached "Task Order No. 1-A" , and agree that all references in the Contract to Task Order No. 1 shall be deemed to refer to Task Order No. 1-A.

4. DISTRICT and CONTRACTOR agree that all other terms and conditions of the Contract shall remain in full force and effect.

IN WITNESS WHEREOF, the PARTIES have caused this Contract Amendment to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

By: DocuSigned by: Alexander Crockett B5AE1A26FCA4453...
Alexander Crockett
Interim Executive Officer/APCO

Date: 3/30/2022

COMMUNITIES FOR A BETTER ENVIRONMENT

By:
Darryl Molina Sarmiento
Executive Director/ CBE

Date: 3/23/22

Approved as to form:
District Counsel

By: DocuSigned by: Adan Schwartz 150A910F987E4D3... 3/30/2022
Adan Schwartz
Acting District Counsel

Task Order No. 1-A

Work Plan:
CONTRACTOR shall provide assistance to develop and implement a 2022 Community Emissions Reduction Plan (CERP) via community engagement support, research, and facilitation services.

DISTRICT staff will present recommendations for the nomination of East Oakland as the next community to develop a community emission reduction plan to DISTRICT's Board of Directors for adoption on November 3, 2021. Subsequently, DISTRICT staff will present its recommendation at a public meeting hosted by the California Air Resources Board (CARB) in November/ December 2021. CARB will release its staff report in January 2022 and on February 10, 2022, CARB will consider new communities for CERP designation. Provided that East Oakland receives its designation from CARB, the process for launching the East Oakland Steering Committee will begin between February and March 2022.

Phase 1 - Pre-CERP Phase work (Task Order 1):
The Pre-CERP Phase is the initial phase of work to prepare for the recommendation to nominate East Oakland for a Community Emissions Reduction Plan process and set up the foundation for initial partnerships and launch the Steering Committee process.

Task 1: Hire and Train a 617 Project Manager & Lead Researcher

1.1 CONTRACTOR will create a job description for a Project Manager/ AB 617 Project Lead and Lead Researcher, and consult with the DISTRICT staff on review as needed. The Project Manager will be the main point of contact at CONTRACTOR for DISTRICT and community for the East Oakland AB 617 CERP process and manage the project responsibilities around outreach to community about the Steering Committee and planning process and partnership with the DISTRICT.

1.2 CONTRACTOR will post the job description(s), advertise the position(s), conduct an interview and hiring process with a committee of both CONTRACTOR and DISTRICT staff.

1.3 CONTRACTOR's staff will onboard the new Project Manager/Lead, including review of CONTRACTOR history, DISTRICT functions, and AB617.

Deliverables: Meeting agendas & notes, Project Manager job announcement, Researcher job announcement

Task 2: Project Management Infrastructure

2.1 CONTRACTOR will establish a project management infrastructure, along with the DISTRICT, to support the East Oakland CERP process for AB617 related communications including agendas and meeting notes, task order/deliverable tracking, and monthly invoicing + status reports. Having systems in place to allow DISTRICT and CONTRACTOR to share files through the cloud and developing templates for meeting materials will facilitate the development of the CERP process.

2.2 CONTRACTOR will participate in up to 2 meetings as needed with DISTRICT staff where staff present on AB 617 requirements and timelines and orient Project Manager.

Deliverables: Meeting notes & agendas

Task 3: Develop Collaborative Partnership Agreement

3.1 CONTRACTOR and DISTRICT will co-create a Partnership Agreement, including meeting time (estimated 3-5 meetings) and prep work. A Partnership Agreement is foundational to developing collaborative partnership between the DISTRICT and CONTRACTOR. This document will lay out how each organization will implement a co-led AB 617 CERP planning process, such as roles and responsibilities, decision-making, shared documents, approvals and communications, and may serve as a template for other partner organizations in East Oakland.

Deliverables: Meeting agendas & notes, Partnership Agreement

Task 4: Scoping and Research Needs for East Oakland

4.1 CONTRACTOR will participate in up to 14 meetings as needed with DISTRICT staff to discuss air monitoring, permitting, planning, and modeling and enforcement in preparation for the East Oakland AB 617 CERP process. CONTRACTOR will review information from DISTRICT and consult in identifying existing data, and gaps and needs in DISTRICT information and identify potential community research projects, such as ground truthing, community mapping or surveying.

4.2 As needed, CONTRACTOR will connect DISTRICT with other key agency staff to this process, such as the Oakland Planning department, Oakland Department of Transportation and Oakland Sustainability.

4.3 CONTRACTOR may make a request for technical assistance, pending approval from the DISTRICT.

Deliverables: Meeting agendas & notes

Task 5: Support the public process for EO nomination

5.1 CONTRACTOR will review and provide comments on East Oakland Selection Report. The Selection Report is an executive data summary that DISTRICT will provide to CARB to accompany the official letter to recommend nomination of East Oakland for a CERP planning process.

5.2 CONTRACTOR will review and provide comments on East Oakland Background Report (as needed). The Background Report is a more detailed narrative and data analysis backing the Selection Report, which may be used for various elements of the CERP planning process.

5.3 CONTRACTOR will participate in Public Meetings to nominate the next community at the DISTRICT (up to 2 meetings). It is anticipated that the Board of Directors will vote to consider nomination of East Oakland on November 3rd, 2021.

5.4 CONTRACTOR, including staff and members, will participate in Public Meetings to nominate the next community at CARB (up to 3 meetings). Should DISTRICT's Board of Directors vote affirmatively, subsequently, DISTRICT will present this recommendation to the CARB Board in late 2021 and vote in February 2022.

5.5 CONTRACTOR will participate in regular weekly meetings with DISTRICT staff, including co-developing agendas and taking meeting notes to plan for outreach and engagement leading up to these public meetings, debriefing meeting results and planning accordingly.

5.6 CONTRACTOR will develop curriculum and presentation materials, talking points, and build infrastructure, such as stipends, leadership structure, document storage, to prepare for outreach to community organizations and members. This outreach will support the development of a multi- organizational leadership structure and/ or a Steering Committee structure. If translation cannot be obtained in a timely fashion through DISTRICT, CONTRACTOR may translate materials through a sub-contractor as needed.

Deliverables: Meeting agendas & notes, presentation materials, report to CARB with CONTRACTOR edits, Co-leadership Infrastructure Plan for stipends and document storage

Task 6: Steering Committee establishment

6.1 CONTRACTOR will participate in the weekly Co-leads' meetings and other meetings as needed (5-7 meetings per month) with DISTRICT to design, implement and follow-up on trainings and discussions with community members and/ or staff, including a training on Brown Act and governance structure for the Steering Committee.

6.2 CONTRACTOR will participate in the weekly Co-leads' meetings with DISTRICT to co-develop an outreach approach to recruit East Oakland stakeholders to the Steering committee. CONTRACTOR will create a flyer with information about the application process and disseminate it to East Oakland organizations and residents.

6.3 CONTRACTOR will co-develop the Steering Committee design, including the desired number of seats and stakeholders. CONTRACTOR will participate in the review process, inform crafting criteria, review Steering Committee application documents, and recruit members for the review panel and participate on the review panel. In the case that the Steering Committee becomes a Brown Act body, the review panel will score and rank applicants and this will be given to the Board of Directors as a community recommendation. If the Steering Committee does not become a Brown Act body, the review panel shall select Steering Committee members.

6.4 CONTRACTOR will support onboarding Steering Committee members by reviewing orientation materials that DISTRICT will develop and communicating and meeting with Steering Committee members to go over materials.

6.5 CONTRACTOR will support the launch of the Steering Committee meetings, including working with the DISTRICT to convene and host the kick-off Steering Committee meetings.

6.6 CONTRACTOR, with assistance from DISTRICT will perform outreach, develop meeting flow design, facilitate discussion.

Deliverables: Outreach flyer, Steering Committee design, meeting agendas & notes, Steering Committee application materials and selection assistance, and orientation materials.

Task 7: Educational Engagement for Policy Makers & Elected Officials

7.1 CONTRACTOR will Prep & Plan for at least one (1) Toxic Tour of deep East Oakland for DISTRICT staff and Board members, including coordinate with DISTRICT Board and staff to create an invitation list, secure location and map, and create an agenda and talking points for the toxic tour leaders. The purpose of the Toxic tour is to educate elected officials and/ or DISTRICT staff on the environmental justice and air quality issues in East Oakland by taking participants to various sites of concerns and places where community members live, work, play and pray. Participating elected officials will have an opportunity to hear stories about how community members are directly affected by pollution sources and the changes they would like to see to air quality programs and policies.

7.2 CONTRACTOR will host Toxic Tour, including setting up logistics and communication with the participants, setting up transportation needs (as needed) and coordinating with community member leaders and sites.

Deliverables: Executed education event/ toxic tour, toxic agenda/plan.

Task Order Schedule: The period of performance for this Task Order shall be from date of Task Order execution through June 30, 2022.

Task Order Contact:
DISTRICT's contact person under this Task Order 1 shall be Anna Lee at alee@baaqmd.gov and Karissa White at kwhite@baaqmd.gov.

Task Order Cost:
DISTRICT shall pay CONTRACTOR an initial payment of $13,000 upon Task Order execution to begin the recruitment of the new Project Lead, establishing Project Management Infrastructure and other related tasks under Tasks 1 and 2.

DISTRICT will subsequently pay CONTRACTOR for work at the hourly rates and up to the not to exceed amount for each task as listed in the table below. CONTRACTOR will submit monthly invoices for payment for the number of hours worked in the previous month along with a progress report summarizing work that has been completed between payments. Payments will be made within thirty (30) business days after DISTRICT's receipt of CONTRACTOR's invoice.

Labor: DISTRICT will pay CONTRACTOR for time spent completing this Task Order at the hourly rates listed in the following table:

Staff	Title	Hourly Rate
Ernesto Arevalo	Supervisor(s), NorCal Program Director	$43.00
TBD	Project Manager	$38.00

Sharifa Taylor	Researcher	$38.00
Dan Sakaguchi	Lead Researcher	$38.00
Mykela Patton	East Oakland Youth Organizer	$38.00
Cindy Ibarra	East Oakland Community Organizer	$38.00
Angela Scott	East Oakland Community Organizer	$38.00
Esther Goolsby	East Oakland Build the Good Organizer	$38.00
Adele Watts	East Oakland Energy Organizer	$38.00
Anthony Bibiano	East Oakland Communications Associate	$38.00
TBD	Interpretation	$55.00
TBD	Translation	$0.25/word

Not to Exceed (NTE) Budget Overview

TASK	TASK DESCRIPTION	Total Budget (October 27th 2021-June 30th, 2022)
Task 1:	Hire and Train a Project Manager/Lead Researcher	$11,438
Task 2:	Project Management Infrastructure	$11,821
Task 3:	Develop Collaborative Partnership Agreement	$3,259
Task 4:	Scoping and Research Needs for East Oakland	$13,504
Task 5:	Support the public process for EO nomination	$13,907
Task 6:	Steering Committee Establishment	$19,354
Task 7:	**Educational Engagement for Policy Makers & Elected Officials**	$2,754
	Indirect Admin Fee (20%)	$15,207
	Task Order Total	**$91,244**

This budget is considered Not to Exceed (NTE). Depending on the DISTRICT staff's involvement and needs, this budget may not be expended in full.

The parties agree that Contract No. 2021.175, all its terms, and this Task Order constitute a contract for services.
Total Task Order cost not exceed $91,244

AMENDMENT NO. 2 TO

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

CONTRACT NO. 2021.175

This amendment to the above-entitled contract ("Contract Amendment") is dated, for reference purposes only, April 19, 2022.

RECITALS:

1. The Bay Area Air Quality Management District ("DISTRICT") and **Communities for a Better Environment** ("CONTRACTOR") (hereinafter referred to as the "PARTIES") entered into the above-entitled contract for community engagement support, research, and facilitation in East Oakland (the "Contract"), which Contract was executed on behalf of CONTRACTOR on September 29, 2021, and on behalf of DISTRICT on October 04, 2021.

2. The PARTIES entered into Amendment No. 1 to the Contract, dated March 16, 2022, for reference purposes only, to amend the term, total cost, and Task Order No. 1.

3. The PARTIES seek to amend the term and total Cost of the Contract because the DISTRICT seeks to continue receiving services from CONTRACTOR prescribed in the Contract and CONTRACTOR desires to provide those services.

4. In accordance with Section 29 of the Contract, DISTRICT and CONTRACTOR desire to amend the above-entitled Contract as follows:

TERMS AND CONDITIONS OF CONTRACT AMENDMENT:

1. By this Contract Amendment, DISTRICT and CONTRACTOR amend Section 5, "Term." The term of the Contract shall be extended so that the termination date of the Contract is now December 31, 2023.

2. By this Contract Amendment, DISTRICT and CONTRACTOR amend Paragraph C of Section 9, "Agreement to Provide Services," of the Contract to replace "$91,244" with "$410,000."

3. DISTRICT and CONTRACTOR agree that all other terms and conditions of the Contract shall remain in full force and effect.

IN WITNESS WHEREOF, the PARTIES have caused this Contract Amendment to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

By: _____
Alexander Crockett
Interim Executive Officer/APCO

Date: _____

COMMUNITIES FOR A BETTER ENVIRONMENT

By: _____
Darryl Molina Sarmiento
Executive Director/ CBE

Date: _____

Approved as to form:
District Counsel

By: _____
Adan Schwartz
Acting District Counsel

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Authorization to Amend Contract with RBA Creative LLC in an Amount Not to Exceed $201,500 for Facilitation, Technical Support and Steering Committee Member Outreach for the Community Advisory Council (CAC) and the Community Steering Committee (CSC) for the Assembly Bill (AB) 617 West Oakland Community Action Plan

RECOMMENDED ACTION

Recommend the Board of Directors authorize the Interim Executive Officer/APCO to amend a Professional Services Contract with RBA Creative LLC in an amount not to exceed $201,500 to provide lead facilitation, technical support and Steering Committee member outreach for the CAC and the CSC for the AB 617 West Oakland Community Action Plan.

BACKGROUND

Due to its emissions profile and proximity to sensitive receptors, the California Air Resources Board (CARB) selected West Oakland to be among the first designated AB 617 communities in the State of California. West Oakland Environmental Indicators Project (WO EIP), in its role as a Co-Lead with the Air District, convened a Steering Committee to provide authentic community-based guidance to the AB 617 process in West Oakland. Given the extensive historical air monitoring data collected by West Oakland EIP and their partner organizations, the Steering Committee elected to move forward with a Community Emissions Reduction Plan (CERP). In partnership with the Air District, WO EIP and the West Oakland AB 617 Steering Committee identified over eighty emission reduction strategies. The West Oakland Community Emission Reduction Plan (CERP), also known as the Community Action Plan, was adopted by the District's and the California Air Resources Board's respective governing bodies in 2019. The implementation timeline is 5 years.

To support the implementation of the Community Action Plan, the Air District conducted a Request for Qualifications in 2020 to seek consultants to provide facilitation and technical support of the Co-Leads and Community Steering Committee. RBA Creative LLC was one of two consulting firms the Air District selected through this process. For the past eighteen months, RBA Creative LLC has been working closely with the WO EIP and the Air District to support

the West Oakland Community Steering Committee.

Meanwhile, the Air District's recently convened CAC has expressed a need for facilitation support. After interviewing RBA Creative, along with three other consultant firms, the CAC chose RBA Creative to be its facilitator. The first CAC meeting facilitated by Randolph Belle from RBA Creative occurred on March 30, 2022.

DISCUSSION

The proposed amendment to RBA Creative's Professional Service Contract continues the services provided by the firm to the West Oakland CSC (Contract 2021.198) while adding resources to allow the firm to take on the additional task facilitating CAC meetings. The amendment also increases the amount of stipend funds available to compensate West Oakland residents participating in the CSC.

After two years of virtual Steering Committee meetings and the recent internal WO EIP reorganization of the CERP engagement structure, West Oakland EIP and RBA Creative designed a plan to reignite Steering Committee outreach and recruitment to increase resident attendance and participation. The proposed amendment adds resources to increase stipend availability for newly recruited West Oakland residents to participate in capacity-building and implementation activities.

The consultant, RBA Creative, LLC, in a contract not to exceed $201,500, will provide support to the West Oakland AB 617 CSC and the Air District Board-Appointed CAC by assisting with the following tasks:

- Prepare for and facilitate West Oakland CSC and meetings between the Air District and WO EIP
- Provide technical support during virtual meetings
- Work with WO EIP on community outreach, recruitment, and retention
- Assist with stipend program design and administration of funds for community members
- Facilitate CAC meetings

BUDGET CONSIDERATION/FINANCIAL IMPACT

Funding for the contract amendment from $106,500 to $201,500, an increase of $95,000, is included in the Fiscal Year Ending (FYE) Community Engagement Office budget. Of the $95,000 increase, $50,000 will be funded using Assembly Bill (AB) 617 Implementation Funds and the remaining $45,000 will be funded by the General Fund.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Joshua Abraham
Reviewed by: Veronica Eady

ATTACHMENTS:

1. Executed Professional Services Contract No. 2021.198 RBA Creative, LLC
2. Draft Amendment No. 2 Contract No. 2021.198 RBA Creative, LLC

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PROFESSIONAL SERVICES CONTRACT

CONTRACT NO. 2021.198

1. PARTIES – The parties to this Contract ("Contract") are the Bay Area Air Quality Management District ("DISTRICT") whose address is 375 Beale Street, Suite 600, San Francisco, CA 94105, and **RBA Creative, LLC** ("CONTRACTOR") whose address is 3718 MacArthur Blvd., Oakland, CA 94619.

2. RECITALS
   A. DISTRICT is the local agency with primary responsibility for regulating stationary source air pollution in the Bay Area Air Quality Management District in the State of California. DISTRICT is authorized to enter into this Contract under California Health and Safety Code Section 40701. DISTRICT desires to contract with CONTRACTOR for services described in the Scope of Work, attached hereto as Attachment A and made a part hereof by this reference. DISTRICT is entering into this Contract based on CONTRACTOR's stated qualifications to perform the services.
   B. All parties to this Contract have had the opportunity to have this contract reviewed by their attorney.

3. PERFORMANCE REQUIREMENTS
   A. CONTRACTOR is authorized to do business in the State of California. CONTRACTOR attests that it is in good tax standing with federal and state tax authorities.
   B. CONTRACTOR agrees to obtain any and all required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
   C. CONTRACTOR shall comply with all laws and regulations that apply to its performance under this Contract, including any requirements to disclose potential conflicts of interest under DISTRICT's Conflict of Interest Code.
   D. CONTRACTOR shall not engage in any performance of work during the term of this contract that is in direct or indirect conflict with duties and responsibilities set forth in the Scope of Work.
   E. CONTRACTOR shall exercise the degree of skill and care customarily required by accepted professional practices and procedures.
   F. CONTRACTOR shall ensure that any subcontractors, employees and agents performing under this Contract comply with the performance standards set forth in paragraph A-E above.

4. TERM – The term of this Contract is from December 1, 2021 to November 30, 2022, unless further extended by amendment of this Contract in writing, or terminated earlier. CONTRACTOR shall not submit any invoice for services performed under this Contract until the Contract is fully executed.

5. TERMINATION
   A. The DISTRICT may terminate this Contract at any time, at will, and without specifying any reason, by notifying CONTRACTOR in writing. The notice of termination shall specify the effective date of termination, which shall be no less than thirty (30) calendar days from the date of delivery of the notice of termination, and shall be delivered in accordance with the provisions of section 10 below. Immediately upon receipt of the notice of termination, CONTRACTOR shall cease all work under this Contract, except such work as is specified in the notice of termination. CONTRACTOR shall deliver a final invoice for all remaining work performed but not billed, including any work specified in the termination notice, on or before ten (10) business days following the termination date.
   B. Either party may terminate this Contract for breach by the other party.
      i) Failure to perform any agreement or obligation contained in this Contract or failure to perform the services in a satisfactory manner shall constitute a breach of the Contract.
      ii) The non-breaching party may terminate the Contract by delivery of a written notice of breach. The notice of breach shall specify the date of termination, which shall be no earlier than ten (10) business days from delivery of the notice of breach. In the alternative, at its sole discretion, the non-breaching party may require the breaching party to cure the breach. The notice of breach shall specify the nature of the breach and the date by which such breach must be cured.
      iii) If CONTRACTOR fails to perform any obligation under this Contract, DISTRICT at its sole discretion, may perform, or cause the performance, of the obligation itself. In that event, DISTRICT shall deduct the costs to perform such obligation and any other costs to cure the breach from the payment otherwise due to CONTRACTOR for work performed under this Contract. DISTRICT's performance hereunder shall not be deemed a waiver or release of any obligation of, or default by, CONTRACTOR under this Contract.
      iv) The notice of breach shall be provided in accordance with the notice requirements set forth in section 10.
      v) The non-breaching party reserves all rights under law and equity to enforce this Contract and recover any damages.

6. INSURANCE
   A. CONTRACTOR shall maintain the following insurance:
      i) Workers' compensation and employers' liability insurance as required by California law or other applicable statutory requirements.
      ii) Occurrence-based commercial general liability insurance or equivalent form with a limit of not less than one million dollars ($1,000,000) each occurrence. Such insurance shall include DISTRICT and its officers, agents, and employees as additional insureds and shall be primary with respect to any insurance maintained by DISTRICT.
      iii) Business automobile liability insurance or equivalent form with a limit of not less than one million dollars ($1,000,000) each accident. Such insurance shall include coverage for owned, hired, and non-owned vehicles. If CONTRACTOR is a sole proprietor, CONTRACTOR may meet this insurance requirement with personal automobile liability insurance carrying a business use endorsement or by demonstrating to the satisfaction of DISTRICT that business use is covered under the CONTRACTOR's personal automobile liability insurance. A CONTRACTOR using only rental vehicles in performing work under this Contract may meet this insurance requirement by purchasing

automobile liability insurance in the required coverage amount from the rental agency.

B. All insurance shall be placed with insurers acceptable to DISTRICT.

C. Prior to commencement of work under this Contract, CONTRACTOR shall furnish properly-executed certificates of insurance for all required insurance. Upon request by DISTRICT, CONTRACTOR shall provide a complete copy of any required insurance policy. CONTRACTOR shall notify DISTRICT in writing thirty (30) days prior to cancellation or modification of any required insurance policy. Any such modifications are subject to pre-approval by DISTRICT.

D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, DISTRICT reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or to terminate this Contract for breach.

7. INDEMNIFICATION

A. CONTRACTOR shall indemnify and hold DISTRICT, its officers, employees and agents harmless from and against any and all liability, loss, expense, including reasonable attorneys' fees, or claims for injury or damages arising out of the performance of this Contract but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of CONTRACTOR, its officers, agents, or employees.

B. DISTRICT shall indemnify and hold CONTRACTOR, its officers, employees and agents harmless from and against any and all liability, loss, expense, including reasonable attorneys' fee, or claims for injury or damages arising out of the performance of this Contract but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of DISTRICT, its officers, agents, or employees.

8. PAYMENT

A. DISTRICT shall pay CONTRACTOR for services in accordance with the terms set forth in the Cost Schedule, which is attached hereto as Attachment B and incorporated herein by this reference.

B. CONTRACTOR shall submit invoice(s) to DISTRICT for services performed. Each invoice shall specify the total cost of the services for which the invoice is submitted, shall reference tasks shown in the Scope of Work, the hours associated with same, or percentage completion thereof, and the amount of charge claimed, and, as appropriate, shall list any charges for equipment, material, supplies, travel, and subcontractors' services.

C. DISTRICT's payment of invoices shall be subject to the following limitations and requirements:

i) Each invoice, including supporting documentation, shall be prepared in duplicate on CONTRACTOR's letterhead; shall list DISTRICT's contract number, the period covered by the invoice, and the CONTRACTOR's Social Security Number or Federal Employer Identification Number; and shall be submitted to: Bay Area Air Quality Management District, 375 Beale Street, Suite 600, San Francisco, CA 94105, Attn: Contracts Manager.

ii) DISTRICT shall not pay interest, fees, handling charges, or the cost of money on the Contract.

iii) DISTRICT shall pay CONTRACTOR within thirty (30) calendar days after approval by DISTRICT of an itemized invoice.

D. The total amount for which DISTRICT may be held liable for the performance of services specified in this Contract shall not exceed $106,500.

9. DISPUTE RESOLUTION – A party that disputes a notice of breach must first seek mediation to resolve the dispute in accordance with the provisions set forth below.
   A. Upon receipt of a notice of breach of contract, the party may submit a demand for mediation to resolve whether or not a breach occurred. The party must state the basis of the dispute and deliver the demand within ten (10) business days of the date of receipt of the notice of breach.
   B. The mediation shall take place at DISTRICT's office at 375 Beale Street, Suite 600, San Francisco, or at such other place as may be mutually agreed upon by the parties and the mediator.
   C. The parties shall make good faith efforts to hold the mediation within thirty (30) days after receipt of the demand for mediation.
   D. Each party shall bear its own mediation costs.
   E. In the event the parties are unable to resolve the dispute, either party may file an action in a court of competent jurisdiction to enforce the Contract.
   F. Maximum recovery under this section shall be limited to $106,500. The mediation costs shall not reduce the maximum amount recoverable under this section.

10. NOTICES – All notices that are required under this Contract shall be provided in the manner set forth herein, unless specified otherwise. Notice to a party shall be delivered to the attention of the person listed below, or to such other person or persons as may hereafter be designated by that party in writing. Notice shall be in writing sent by e-mail, facsimile, or regular first class mail. In the case of e-mail and facsimile communications, valid notice shall be deemed to have been delivered upon sending, provided the sender obtained an electronic confirmation of delivery. E-mail and facsimile communications shall be deemed to have been received on the date of such transmission, provided such date was a business day and delivered prior to 4:00 p.m. PST. Otherwise, receipt of e-mail and facsimile communications shall be deemed to have occurred on the following business day. In the case of regular mail notice, notice shall be deemed to have been delivered on the mailing date and received five (5) business days after the date of mailing.

DISTRICT:	Bay Area Air Quality Management District 375 Beale Street, Suite 600 San Francisco, CA 94105 Attn: Joshua Abraham
CONTRACTOR:	RBA Creative, LLC 490 Lake Park Ave, #16242 Oakland, CA 94610 Attn: Randolph Belle

11. ADDITIONAL PROVISIONS – All attachment(s) to this Contract are expressly incorporated herein by this reference and made a part hereof as though fully set forth.

12. EMPLOYEES OF CONTRACTOR
    A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay, and pay for legal holidays.
    B. CONTRACTOR, its officers, employees, agents, or representatives shall not be considered employees or agents of DISTRICT, nor shall CONTRACTOR, its officers, employees, agents, or representatives be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by DISTRICT to its employees.
    C. DISTRICT reserves the right to review the credentials to perform the work of any of CONTRACTOR's employees assigned herein and to disapprove CONTRACTOR's assignments. CONTRACTOR warrants that it will not employ any subcontractor(s) without prior written approval from DISTRICT.

13. CONFIDENTIALITY – In order to carry out the purposes of this Contract, CONTRACTOR may require access to certain of DISTRICT's confidential information (including trade secrets, inventions, confidential know-how, confidential business information, and other information that DISTRICT considers confidential) (collectively, "Confidential Information"). It is expressly understood and agreed that DISTRICT may designate in a conspicuous manner Confidential Information that CONTRACTOR obtains from DISTRICT, and CONTRACTOR agrees to:
    A. Observe complete confidentiality with respect to such information, including without limitation, agreeing not to disclose or otherwise permit access to such information by any other person or entity in any manner whatsoever, except that such disclosure or access shall be permitted to employees of CONTRACTOR requiring access in fulfillment of the services provided under this Contract.
    B. Ensure that CONTRACTOR's officers, employees, agents, representatives, and independent contractors are informed of the confidential nature of such information and to assure by agreement or otherwise that they are prohibited from copying or revealing, for any purpose whatsoever, the contents of such information or any part thereof, or from taking any action otherwise prohibited under this section.
    C. Not use such information or any part thereof in the performance of services to others or for the benefit of others in any form whatsoever whether gratuitously or for valuable consideration, except as permitted under this Contract.
    D. Notify DISTRICT promptly and in writing of the circumstances surrounding any possession, use, or knowledge of such information or any part thereof by any person or entity other than those authorized by this section. Take at CONTRACTOR's expense, but at DISTRICT's option and in any event under DISTRICT's control, any legal action necessary to prevent unauthorized use of such information by any third party or entity which has gained access to such information at least in part due to the fault of CONTRACTOR.
    E. Take any and all other actions necessary or desirable to assure such continued confidentiality and protection of such information during the term of this Contract and following expiration or termination of the Contract.
    F. Prevent access to such materials by a person or entity not authorized under this Contract.
    G. Establish specific procedures in order to fulfill the obligations of this section.

14. INTELLECTUAL PROPERTY RIGHTS – Title and full ownership rights to all intellectual property developed under this Contract shall at all times remain with DISTRICT, unless otherwise agreed

to in writing.

15. PUBLICATION
    A. DISTRICT shall approve in writing any report or other document prepared by CONTRACTOR in connection with performance under this Contract prior to dissemination or publication of such report or document to a third party. DISTRICT may waive in writing its requirement for prior approval.
    B. Until approved by DISTRICT, any report or other document prepared by CONTRACTOR shall include on each page a conspicuous header, footer, or watermark stating "DRAFT – Not Reviewed or Approved by BAAQMD," unless DISTRICT has waived its requirement for prior approval pursuant to paragraph A of this section.
    C. Information, data, documents, or reports developed by CONTRACTOR for DISTRICT, pursuant to this Contract, shall be part of DISTRICT's public record, unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information, provided DISTRICT approves use of such information in advance. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

       "This report was prepared as a result of work sponsored, paid for, in whole or in part, by the Bay Area Air Quality Management District (District). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of the District. The District, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report."

    D. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and shall require compliance with the above.

16. NON-DISCRIMINATION – In the performance of this Contract, CONTRACTOR shall not discriminate in its recruitment, hiring, promotion, demotion, and termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, marital status, sexual orientation, medical condition, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, and all administrative rules and regulations issued pursuant to said Acts. CONTRACTOR shall also require each subcontractor performing work in connection with this Contract to comply with this section and shall include in each contract with such subcontractor provisions to accomplish the requirements of this section.

17. PROPERTY AND SECURITY – Without limiting CONTRACTOR'S obligations with regard to security, CONTRACTOR shall comply with all the rules and regulations established by DISTRICT for access to and activity in and around DISTRICT's premises.

18. ASSIGNMENT – No party shall assign, sell, license, or otherwise transfer any rights or obligations under this Contract to a third party without the prior written consent of the other party, and any attempt to do so shall be void upon inception.

19. WAIVER – No waiver of a breach, of failure of any condition, or of any right or remedy contained in or granted by the provisions of this Contract shall be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy shall be deemed a waiver of any other breach, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies. Further, the failure of a party to enforce performance by the other party of any term, covenant, or condition of this Contract, and the failure of a party to exercise any rights or remedies hereunder, shall not be deemed a waiver or relinquishment by that party to enforce future performance of any such terms, covenants, or conditions, or to exercise any future rights or remedies.

20. ATTORNEYS' FEES – In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.

21. FORCE MAJEURE – Neither DISTRICT nor CONTRACTOR shall be liable for or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, enemy or hostile governmental action, civil commotion, strikes, lockouts, labor disputes, fire or other casualty, judicial orders, governmental controls, regulations or restrictions, inability to obtain labor or materials or reasonable substitutes for labor or materials necessary for performance of the services, or other causes, except financial, that are beyond the reasonable control of DISTRICT or CONTRACTOR, for a period of time equal to the period of such force majeure event, provided that the party failing to perform notifies the other party within fifteen calendar days of discovery of the force majeure event, and provided further that that party takes all reasonable action to mitigate the damages resulting from the failure to perform. Notwithstanding the above, if the cause of the force majeure event is due to party's own action or inaction, then such cause shall not excuse that party from performance under this Contract.

22. SEVERABILITY – If a court of competent jurisdiction holds any provision of this Contract to be illegal, unenforceable or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of them will not be affected.

23. HEADINGS – Headings on the sections and paragraphs of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.

24. COUNTERPARTS/FACSIMILES/SCANS – This Contract may be executed and delivered in any number of counterparts, each of which, when executed and delivered, shall be deemed an original, and all of which together shall constitute the same contract. The parties may rely upon a facsimile copy or scanned copy of any party's signature as an original for all purposes.

25. GOVERNING LAW – Any dispute that arises under or relates to this Contract shall be governed by California law, excluding any laws that direct the application of another jurisdiction's laws. Venue for resolution of any dispute that arises under or relates to this Contract, including mediation, shall be San Francisco, California.

26. ENTIRE CONTRACT AND MODIFICATION – This Contract represents the final, complete, and exclusive statement of the agreement between the parties related to CONTRACTOR providing services to DISTRICT and supersedes all prior and contemporaneous understandings and agreements of the parties. No party has been induced to enter into this Contract by, nor is any party relying upon, any representation or warranty outside those expressly set forth herein. This Contract may only be amended by mutual agreement of the parties in writing and signed by both parties.

27. SURVIVAL OF TERMS – The provisions of sections 7 (Indemnification), 13 (Confidentiality), 14 (Intellectual Property Rights), and 15 (Publication) shall survive the expiration or termination of this Contract.

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

By: DocuSigned by: 0EE3D01BFB654A3...
Jack P. Broadbent
Executive Officer/APCO

Date: 12/2/2021

RBA CREATIVE, LLC

By:
Randolph Belle
Principal

Date: 12.2.21

Approved as to form:
District Counsel

By: DocuSigned by: 150A910F987E4D3...
~~Brian C. Bunger~~ Adan Schwartz
~~District Counsel~~ Acting District Counsel

ATTACHMENT A

SCOPE OF WORK

DISTRICT created the Community Health Protection Program consistent with Assembly Bill 617 (AB 617) to further expand efforts to reduce community exposure to air pollutants in disproportionately impacted communities. DISTRICT partnered with West Oakland Environmental Indicators Project (WOEIP) and a community-based steering committee to develop a Community Emissions Reduction Plan (CERP) to serve as a blueprint for improving air quality in West Oakland. The CERP identified over 80 mitigating strategies to be implemented over the next several years.

WOEIP and multiple stakeholders formed a working group (or Steering Committee) that meets quarterly, as well Implementation teams that meet monthly to plan the prioritization of the various mitigating strategies to reduce both air pollution emissions and exposure to air pollution in the community. The Steering Committee is responsible for overseeing implementation actions by various agencies and reporting progress to the broader community and to the California Air Resources Board (CARB). Many of the strategies depend on action and collaboration between community members, business leaders, and government agencies.

CONTRACTOR shall provide logistics and facilitation support to help ensure that the implementation phase of the CERP proceeds smoothly and efficiently toward tangible results over time.

Task 1: Project Management

1.1 Project Administration
CONTRACTOR shall provide project administration support to the project team which is comprised of DISTRICT, WOEIP, and other DISTRICT third-party consultants. Tasks include meeting attendance, task coordination, phone calls, project partner coordination, and other planning activities. CONTRACTOR shall maintain an existing file-sharing system, provide file naming conventions, meeting agenda and summary notes to be used for internal and Steering Committee meetings. CONTRACTOR will also maintain a participant tracking tool and communication protocol to monitor meeting attendance and interaction at the meetings. CONTRACTOR will research alternative virtual meeting platforms and present options to the Co-Leads (DISTRICT and WOEIP) that may replace current utilized platforms. Virtual meeting platforms will be evaluated based on ease of use, interactive capabilities, potential networking features and ability to connect to multiple devices. CONTRACTOR will provide logistics and scheduling 2022 in-person meetings.

Deliverables:
1. Meeting agendas and post meeting summaries.
2. Technological support for virtual meetings.
3. Present options to the co-leads for alternate virtual hosting platforms.
4. Maintain participant/Steering Committee tracking tool.
5. Meet weekly with community partner, WOEIP and the DISTRICT to plan and prioritize tasks.
6. Provide logistics and scheduling services for in person meetings (retreats, Town Halls, etc.)

1.2 Stipend Administration
CONTRACTOR shall coordinate and process stipends to eligible Steering Committee members and

community/resident participants. The stipend amount shall be $100 per meeting attended (monthly Steering Committee or Implementation meetings, Town Halls, etc.). CONTRACTOR will maintain a stipend administration program and protocol utilizing the participant tracking system described in Task 1.1 to administer stipends and Internal Revenue Service Form-1099 to Steering Committee participants. CONTRACTOR will process and distribute stipends to participants in a timely manner. CONTRACTOR will track all stipends that have been distributed.

Deliverables:

1. List of stipend recipients and the amount of stipend distributed.
2. Timely delivery of stipend payments
3. Develop and maintain a stipend tracking spreadsheet.

Task 2: Steering Committee Meetings

2.1 Steering Committee Meetings

Upon the request of DISTRICT or WOEIP, CONTRACTOR shall lead and facilitate monthly two-hour Steering Committee meetings. CONTRACTOR will facilitate segments of the meetings or small group breakout sessions. CONTRACTOR will develop meeting agendas, meeting summaries, and necessary meeting materials. CONTRACTOR will work collaboratively with DISTRICT and WOEIP to provide content expertise and advisory services to Steering Committee members.

Deliverables:

1. Facilitation of monthly Steering Committee meetings.
2. Development of meeting agendas and meeting summaries.
3. Development of PowerPoint presentations for meetings.

2.2 Administration, Preparation, and Follow-Up for Steering Committee Meetings

CONTRACTOR will prepare for Steering Committee meetings including review of documents associated with Steering Committee agenda items, reviewing transcribed notes from preparatory meetings with the Co-Leads, and Steering Committee members. Additional tasks include coordinating with featured presenters, Power Point slide deck creation and consolidating transcribed notes into a bullet point format. CONTRACTOR will develop all announcements for the Steering Committee meetings including e-mails, calls, and other forms of communication.

Deliverables:

1. Feedback on meeting agenda and process design.
2. Steering Committee announcements sent to the AB 617 member list.
3. Written summaries of observations and recommendations for meeting process and activities.

Task 3: Community-Wide Engagement

3.1 Expand Community Participation in Committees

CONTRACTOR will design and execute a comprehensive community outreach and engagement strategy to increase participation in the West Oakland Community Action Plan (WOCAP) planning activities including increased participation by West Oakland community residents in the Steering Committee, Implementation Teams, Ad Hoc Workgroups, and other planning activities. CONTRACTOR will develop an application and vetting process, with a focus on youth, long term residents, Latinx,

and Yemeni residents of West Oakland. CONTRACTOR will also conduct outreach to nonprofits and community service organizations in West Oakland with the goal of increasing Steering Committee participation. CONTRACTOR will provide support in developing WOEIP's website to maintain updated information on the implementation of the CERP, in addition to disseminating information through various community networks. To the extent possible, CONTRACTOR will conduct individual and small group meetings to targeted communities and spheres of influence. Specific tasks include coordinating and co-planning outreach and engagement activities with WOEIP, with the support of the DISTRICT.

Deliverables:

1. Written community-wide engagement plan.
2. Copies of outreach materials.
3. Application for participation.
4. Outline of vetting process.
5. Website content development for the community partner (WOEIP).
6. Meeting summaries from small group meetings.

3.2 Strategy and Initiative Materials Development

CONTRACTOR will develop program materials for the community and stakeholders to meet initiative goals. Work will include graphic design, print supervision, technical assistance, and program consultation.

Deliverables:

1. Emissions reduction implementation plan materials.

3.3 Public (virtual) Community Workshop/Town Hall

CONTRACTOR will design and produce community workshop(s) to share the progress of the WOCAP and get feedback from the community and stakeholders on the next steps. CONTRACTOR will work with the Steering Committee, implementation teams, and other stakeholders to develop event content. CONTRACTOR will facilitate the workshop in conjunction with the stakeholders and will develop the workshop agenda, activities, materials, and presentations. CONTRACTOR will also provide a summary of the workshop to be disseminated to the public. Specific tasks include physical and technological meeting logistics, and working with the Co-Leads, Steering Committee, outside vendors, and other stakeholders to develop event content.

Deliverables:

1. Publication plan and workshop announcements.
2. Copies of workshop agenda, materials and presentations.
3. Written summary of the workshop.

Task 4: Co-Leads Meetings

4.1 Co-Leads Meetings and Special Topics Meetings

CONTRACTOR will attend bi-weekly meetings with the Co-Leads (DISTRICT and WOEIP). In consultation with the Co-Leads, CONTRACTOR will prepare meeting agendas, take notes, and facilitate the meetings. The primary purpose of the Co-Leads meetings is to plan and prepare for the monthly Steering Committee meetings. CONTRACTOR will be an active participant in terms of

strategic planning for Steering Committee specific agenda items, presentations, and role assignment.

Deliverables:

1. Meeting attendance and participation list.
2. Meeting facilitation and recording action item assignments.
3. Meeting agendas and notes.

4.2 Administration, Preparation, and Follow-Up for Co-Leads Meetings

CONTRACTOR will prepare, take notes, and follow-up for bi-weekly co-leads meetings.

Deliverables:

1. Meeting materials and presentations.
2. Meeting notes and action items.

ATTACHMENT B

COST SCHEDULE

DISTRICT will pay CONTRACTOR on a time-and-materials basis to complete all tasks outlined in the Scope of Work, up to a maximum amount of $106,500.

Labor: DISTRICT will compensate CONTRACTOR for time spent completing the tasks at the hourly rates listed in the table below, up to a maximum amount of $90,500:

Role	Staff	Hourly Rate
Principal	Randolph Belle	$200
Administrative Support	Erica Wright-Belle or Beatriz Moreno	$100

CONTRACTOR will submit monthly invoices for payment for the number of hours worked in the previous month. Payment will be made in accordance with Section 8 ("Payment") of this Contract.

Expenses: DISTRICT will pay CONTRACTOR a single lump sum payment of $16,000 to cover stipends for eligible Steering Committee participants. Any other expenses incurred by CONTRACTOR must be approved in writing by DISTRICT in advance. Expenses shall be billed to the DISTRICT at the actual costs they are incurred. Payment will be made in accordance with Section 8 ("Payment") of this Contract.

Total cost of Contract not to exceed $106,500.

AMENDMENT NO. 2 TO

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

CONTRACT NO. 2021.198

This amendment to the above-entitled contract ("Contract Amendment") is dated, for reference purposes only, April 13, 2022.

RECITALS:

1. The Bay Area Air Quality Management District ("DISTRICT") and **RBA Creative, LLC** ("CONTRACTOR") (hereinafter referred to as the "PARTIES") entered into the above-entitled contract to facilitation, technical and policy support of the Community Steering Committee and implementation teams for Assembly Bill (AB) 617 West Oakland Community Action Plan., which Contract was executed on behalf of CONTRACTOR on December 2, 2021, and on behalf of DISTRICT on December 2, 2021.

2. The PARTIES entered into Amendment No. 1 to the Contract, dated March 23, 2022, for reference purposes only, to amend the Scope of Work of the Contract.

3. The PARTIES seek to amend the total cost and Cost Schedule to the Contract because DISTRICT seeks to continue receiving services from CONTRACTOR prescribed in the Contract and CONTRACTOR desires to provide those services.

4. In accordance with Section 26 of the Contract, DISTRICT and CONTRACTOR desire to amend the above-entitled Contract as follows:

TERMS AND CONDITIONS OF CONTRACT AMENDMENT:

1. By this Contract Amendment, DISTRICT and CONTRACTOR amend Paragraph D of Section 8, "Payment," of the Contract to replace "$106,500" with "$201,500."

2. By this Contract Amendment, DISTRICT and CONTRACTOR amend Paragraph F of Section 9, "Dispute Resolution," of the Contract to replace "$106,500" with "$201,500."

3. By this Contract Amendment, DISTRICT and CONTRACTOR amend Attachment B, Cost Schedule, with the attached "Attachment B-1, Cost Schedule" and agree that all references in the Contract to Attachment B shall be deemed to refer to Attachment B-1, Cost Schedule.

4. DISTRICT and CONTRACTOR agree that all other terms and conditions of the Contract shall remain in full force and effect.

IN WITNESS WHEREOF, the PARTIES have caused this Contract Amendment to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT	RBA CREATIVE, LLC
By: _____	By: _____
Alexander Crockett Interim Executive Officer/APCO	Randolph Belle Principal
Date: _____	Date: _____

Approved as to form:
District Counsel

By: _____
Adan Schwartz
Acting District Counsel

ATTACHMENT B-1

COST SCHEDULE

DISTRICT will pay CONTRACTOR on a time-and-materials basis to complete all tasks outlined in the Scope of Work, up to a maximum amount of $201,500.

Labor: DISTRICT will compensate CONTRACTOR for time spent completing the tasks at the hourly rates listed in the table below, up to a maximum amount of $135,500:

Role	Staff	Hourly Rate
Principal	Randolph Belle	$200
Administrative Support	Erica Wright-Belle or Beatriz Moreno	$100

CONTRACTOR will submit monthly invoices for payment for the number of hours worked in the previous month. Payment will be made in accordance with Section 8 ("Payment") of this Contract.

Expenses:
DISTRICT will pay CONTRACTOR a single lump sum payment of $16,000 to cover stipends for eligible Steering Committee participants. Any other expenses incurred by CONTRACTOR must be approved in writing by DISTRICT in advance. Expenses shall be billed to the DISTRICT at the actual costs they are incurred. Payment will be made in accordance with Section 8 ("Payment") of this Contract.

Following execution of Amendment No. 2, DISTRICT will pay CONTRACTOR an additional lump sum payment of $50,000 to cover stipends and capacity building activities for eligible Steering Committee participants. Any other expenses incurred by CONTRACTOR must be approved in writing by DISTRICT in advance. Expenses shall be billed to the DISTRICT at the actual costs they are incurred. Payment will be made in accordance with Section 8 ("Payment") of this Contract.

Total cost of Contract not to exceed $201,500.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Report of the Stationary Source & Climate Impacts Committee Meeting of April 18, 2022

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

None.

DISCUSSION

The Stationary Source and Climate Impacts Committee met on Monday, April 18, 2022, and approved the minutes of March 21, 2022. This meeting was conducted under procedures authorized by Assembly Bill 361. Members of the Committee participated by teleconference.

The Committee then reviewed and discussed the staff presentation *Building Appliance Rules Update.* Although this was not an action item, the consensus of the Committee members present was to recommend that the proposed Implementation Working Group includes *four* environmental justice members, instead of only two, that a stipend policy be developed for the Implementation Working Group members, and that Air District staff reports back to the Committee before October 2022.

The Committee then reviewed and discussed the staff presentation *South Bay Odor Attribution Study.*

The next meeting of this committee will be Monday, May 16, 2022 at 9:00 a.m., via webcast, teleconference, or Zoom, pursuant to procedures in accordance with Assembly Bill 361 (Rivas 2021). This concludes the report of the Stationary Source and Climate Impacts Committee.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

ATTACHMENTS:

1. Stationary Source and Climate Impacts Committee April 18, 2022 Meeting Memorandums

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Bauters and Members
of the Stationary Source and Climate Impacts Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 18, 2022

Re: Building Appliance Rules Update – Regulation 9, Rules 4 and 6

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Air District staff has published draft amendments to Regulation 9, Rule 4: Nitrogen Oxides from Fan Type Residential Central Furnaces ("Rule 9-4") and Regulation 9, Rule 6: Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters ("Rule 9-6"). The draft amendments would impact natural gas-fired space and water heating appliances. These include furnaces and water heaters used in single family homes, multifamily residences such as apartment buildings, and commercial spaces such as retail and office buildings. The Air District regulates these sources on a point-of-sale basis, requiring that equipment manufactured after the compliance date and installed within the geographical jurisdiction of the Air District meets the standards contained in the Rules. These sources generate a substantial portion of nitrogen oxides (NOx) emissions from sources in the Bay Area, and nitrogen oxides are a precursor to ozone and secondary particulate matter (PM) formation.

The draft amendments include the introduction of a zero-NOx emissions standard for natural gas-fired furnaces and water heaters as shown below.

January 1, 2027	Rule 9-6	Water heaters and boilers below 75,000 BTU/hr
January 1, 2029	Rules 9-4	All commercial and residential furnaces
January 1, 2031	Rule 9-6	Water heaters and boilers between 75,000 and 2 million BTU/hr

Draft amendments to Rules 9-4 and 9-6 were published on September 30, 2021, which began a public comment period that closed on November 1, 2021.

DISCUSSION

Following additional technical review and stakeholder engagement, staff is recommending that an Environmental Impact Report be completed in order to fully evaluate any potential impacts of the draft amendments. Staff will present an updated timeline for anticipated adoption of the draft amendments as well as discuss the formation and constitution of the stakeholder Implementation Working Group.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Jennifer Elwell
Reviewed by: Victor Douglas / Elizabeth Yura

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Bauters and Members
of the Stationary Source and Climate Impacts Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 18, 2022

Re: South Bay Odor Attribution Study

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Communities in and around Milpitas near a cluster of waste handling facilities have experienced air quality and odor issues for many years. These facilities include the Newby Island Resource Recovery Park landfill and associated composting facility, operated by Republic Services (NIRRP); the San Jose-Santa Clara Regional Wastewater Facility, operated by the City of San Jose (RWF); and a dry anaerobic food waste digestion facility, operated by ZeroWaste Energy Development Company (ZWED). There have been improvements to air quality in Milpitas due to Air District actions with assistance from the community. However, odors continue to be a concern. Odors have been difficult to attribute to a single facility or process because the different facilities produce many of the same odor causing compounds.

In 2016, there were approximately 2900 odor complaints and since that time, odor complaints have continued on a downward trend with a total of 250 complaints received through 2020. In 2021, however, there was an increase with a total of 690 complaints received. Cal Recycle and the Air District continue to be committed to conducting joint odor investigations to address the complex odor situation in this South Bay.

The South Bay Odor Stakeholder Group (SBOSG) was formed in 2015 to provide a transparent forum to address odors that affect the Milpitas community and discuss enforcement activities, permit and regulatory requirements, and odor mitigation and control measures. Quarterly meetings are attended by community and industry stakeholders; Air District staff; and staff representing the Cities of Fremont, Milpitas and San Jose; staff representing Assemblymember Alex Lee, Congressman Ro Khanna and Senator Bob Wieckowski. The SBOSG has identified the need for an independent odor study to better understand the contribution of different odor sources on the Milpitas community.

In 2019, the Air District committed to conduct an Odor Attribution Study to identify compounds from odor-producing facilities that are impacting Milpitas and nearby communities. The Air District released a Request for Proposal (RFP 2019-004 Odor Study) to identify contractors with the expertise to measure sources of odors from the landfill, transfer station, sewage treatment plant, compost and organic waste processing operations in Milpitas. In November 2019, the Board of Directors authorized the Executive Officer/APCO to execute a contract for up to $500,000 for Jacobs Engineering Group, Inc (Jacobs). The Air District also executed a contract in 2019 for $92,000 with Montrose Environmental Group. In October 2020, The Board also authorized an amendment to the Jacobs Engineering Group, Inc. contract for up to $506,000.

DISCUSSION

The goal of the Odor Attribution Study is to determine the contribution and variability of odors from these facilities, specific processes, and to measure how often and at what concentration these odors may be passing into the local community to inform future actions to reduce odors. The two awarded projects were designed to be complementary, and summaries of the projects are described in Table 1.

Table 1

Montrose Environmental Group	Deploy advanced real time and integrated air measurement and sampling technologies on a mobile laboratory platform, during a targeted sampling event, to identify odor causing compounds and facility chemical markers in the part per billion and part per trillion range, providing data and information to focus the efforts of other study components.
Jacobs Engineering Group	Characterize diurnal and seasonal odors by conducting focused field sampling and data collection at representative times over a minimum of three seasons; develop odor fingerprints; perform data analysis for compound identification; conduct odor dispersion modeling; perform electronic nose evaluations; develop ongoing fence-line measurement methods; prepare progress and final reports and participate in public meetings.

Summary of Sampling Events and Methodology

Sampling consisted of four events in October 2020, March 2021, May 2021, and August/September 2021. Jacobs participated in all sampling events and coordinated a joint testing effort with Montrose during the third. The events were a mix of more comprehensive screenings as well as more focused screenings to validate earlier findings or investigate specific questions.

Jacobs took samples from several facility processes using methods appropriate for the source type (e.g. area source, point sources, interior spaces, and surface area sources), including flux chamber sampling, bag sampling, sorbent media sampling, handheld sensors, laboratory analysis, the Odor Profile Method (OPM), and Proton Transfer Reaction-Mass Spectrometry (PTR-MS).

The Odor Profile Method is used to identify the type and intensity of different odors. Odors are divided into five different categories: sulfur-based compounds which are characterized as smelling like rotten eggs or vegetables, aldehydes which are sweet, carboxylic acids which come off as rancid, volatile organic compounds (VOCs) which have varying odor characteristics, and amines which are characterized as fishy.

PTR-MS is used on a mobile platform to measure low-level concentrations of VOCs in real-time.

Summary of Results

The result from the Jacobs study showed that potent odors could be specifically attributed to each of the three facilities, including in the ZWED interior space; in lagoons, turbulent streams, and collection channels at the RWF; and in NIRRP landfill gas and the landfill working face. The study also investigated additional processes that were possible sources of the odors, which were determined to be relatively smaller issues. Biofilter odors at ZWED were minimal, though a minor amount of H_2S was detected at the outlet of the carbon filter. RWF bioreactors were generally not an issue except when blowers turned on for aeration. The NIRRP biolayer sufficiently suppressed most odors in the compost pile, though aldehydes were high.

The three facilities had unique odor characteristics that were identified in the Jacobs study results. ZWED interior space odors were primarily characterized as sulfur, rancid, and sweet with morning and evening spikes. RWF mainly exhibited sulfur odors with methyl mercaptans being relatively high for the primaries and bioreactor mixing zones. NIRRP had a wide variety of odor types. Through PTR-MS analyses, Montrose measured a large swath of odor causing compounds and was able to develop relatively unique quantitative odor signatures for each facility.

After Montrose unexpectedly detected strong plume odors by the Don Edwards San Francisco Bay National Wildlife Refuge, Jacobs did further sampling there. Jacobs's observations confirmed odors were coming from that source, which could be distinguished from odors from the facilities.

During community monitoring, odors were mainly found at Marilynn Drive, Milmont Drive, and Renaissance Road. Odors directly downstream of the facilities were strong and character was similar to the upstream facilities' process odors.

Recommended actions

Jacobs has recommended multiple actions that facilities can take to monitor and reduce odors. These facility actions include establishing improved monitoring, taking specific steps to reduce leaks and improve the carbon filter systems, and minimizing certain operations when wind is heading towards the community.

These actions could be implemented voluntarily by the facility, the Air District can consider requesting abatement orders to compel a higher level of monitoring and control, and/or the Air District can consider regulation changes. Additional controls cannot be imposed through permitting unless a facility requests modification of a source. Though it would take more time, updates to regulations would also impact other similar facilities that produce odors throughout the Bay Area, including in overburdened communities. The Air District will share the results of these studies with other agencies, including relevant Local Enforcement Agencies, to promote cooperation to improve composting operations.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Jerry Bovee
Reviewed by: Ranyee Chiang

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members
of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Report of the Administration Committee Meeting of April 20, 2022

RECOMMENDED ACTION

Recommend the Board of Directors:

1. Authorize the Interim Executive Officer/Air Pollution Control Officer to amend the existing contract with Allison + Partners for the Fiscal Year Ending 2023 Spare the Air Campaigns' Advertising, Communications & Evaluation Services in an amount not to exceed $1,950,000 for the second year of a three-year contract.
2. Commits to having a discussion on the Air District Board Composition; asks the Air District's Community Advisory Council whether it wishes to provide input on the matter; publicly outlines the Board's discussion of this matter to date; and requires that staff reports back to the Administration Committee by October 2022 on a recommended process to explore changing the Boards Composition, so that the Board may consider a recommendation on its compostion by Nov 2022.

BACKGROUND

None.

DISCUSSION

The Administration Committee met on Wednesday, April 20, 2022, and approved the minutes of March 16, 2022. This meeting was conducted under procedures authorized by Assembly Bill 361 (Rivas 2021), allowing remote meetings. Members of the Board of Directors participated both by teleconference (via Zoom) and in person.

The Committee then received the Hearing Board Quarterly Report for January to March 2022.

The Committee then received and discussed the presentation *Task Order #2: Performance Audit of District-Wide Human Resources Management,* given by George Skiles from Sjoberg Evashenk, the contractor hired by the Air District to conduct the audit.

In the interest of time, the Committee continued the presentation that it was to receive from the Bay Area Regional Collaborative until its next meeting.

The Committee then received the staff presentation *Renewal of Contract for Spare the Air Advertising and Messaging Campaigns.* The Committee recommends the Board:

- Authorize the Interim Executive Officer/Air Pollution Control Officer to amend the existing contract with Allison + Partners for the Fiscal Year Ending 2023 Spare the Air Campaigns' Advertising, Communications & Evaluation Services in an amount not to exceed $1,950,000 for the second year of a three-year contract.

Finally, the Committee received the staff presentation *Air District Board Composition Discussion.* The Committee recommends the Board:

- Commits to having a discussion on the Air District Board Composition; asks the Air District's Community Advisory Council whether it wishes to provide input on the matter; publicly outlines the Board's discussion of this matter to date; and requires that staff reports back to the Administration Committee by October 2022 on a recommended process to explore changing the Boards Composition, so that the Board may consider a recommendation on its compostion by Nov 2022.

The next meeting of the Administration Committee will be on Wednesday, May 18, 2022, at 11:00 a.m., in person or via webcast, teleconference, or Zoom, pursuant to procedures in accordance with Assembly Bill 361 (Rivas 2021). This concludes the Chair Report of the Administration Committee.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

ATTACHMENTS:

1. Administration Committee April 20, 2022 Meeting Memorandums

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Administration Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 20, 2022

Re: Hearing Board Quarterly Report: January 2022 - March 2022

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

None.

DISCUSSION

This report covers the first calendar quarter (January – March) of 2022.

- Held one hearing;
- Processed one order: and
- Collected a total of $0 in Hearing Board filing fees.

Location: Solano County; City of Benicia

Docket: 3731 – APCO vs. Valero Refining Company - California – *Accusation and (Proposed) Stipulated Conditional Order for Abatement* (confidential version with trade secrets & public version without trade secrets were both submitted)

Regulation(s): Regulation 8, Rule 2 (Organic Compounds, Miscellaneous Operations)

Synopsis: Respondent operates the Valero Benicia Refinery. The facility's two hydrogen plants are process units which were part of original construction of the refinery. Each process unit was designed to vent excess hydrogen to atmosphere through process vent ST-302. The Accusation and Stipulation requested that the Hearing Board enter a Conditional Order for Abatement against the Respondent that would require the Respondent, prior to termination of the Conditional Order of Abatement, to cease venting of regulated air contaminants through the Refinery's process vent ST-302 in a manner exceeding standards set forth in Air District

Regulation 8-2. Because a capital project to abate emissions from ST-302 (“the Vent Project”) will require time to design, engineer, permit, and construct, the Parties requested entry of the Conditional Order for Abatement to establish the requirements and schedule for the Vent Project and to provide conditions to minimize emissions from ST-302 during normal operations pending completion of the Vent Project. The Respondent’s Vent Project may install piping to direct flow of process gases that contain pollutants subject to Regulation 8-2 to an existing flare, the North South flare, or may be a different control or abatement fix, in accordance with the requirements set forth in detail in the Stipulation.

The Parties agreed to address the allegations identified in a Notice of Violation issued by the Air District (NOV A58465) and to provide the relief sought. The Parties expect to enter into a separate Enforcement Penalty Agreement to address penalties for NOV A58465.The Parties recognized the Air District's reservation of rights to enforce penalties or another abatement action for any violations by Valero, either through the Parties' separate Enforcement Penalty agreement or otherwise. The Parties agreed that the Respondent owns and operates the facility as specified in the Stipulation. The Respondent also agreed that notwithstanding interim measures taken since issuance of the Notice of Violation (NOV A58465) to minimize emissions of regulated pollutants from process vent ST-302, such emissions are continuing intermittently, and at times may exceed 15 lbs./day and contain more than 300 parts per million ("ppm") total carbon on a dry basis, which the Air District alleges is in violation of Regulation 8, Rule 2, Section 301.

Subject to a temporary permit authorization issued by the Air District in 2019, Valero undertook an interim project to minimize emissions of pollutants from ST-302 by installing internal piping to maintain streams containing pollutants regulated under Reg. 8-2 in a lower-pressure area of the hydrogen grid. Although Valero believes this measure has been very effective in substantially minimizing atmospheric emissions of regulated pollutants, the Parties stipulated that a more complex capital project would be needed for compliance of ST-302 with Regulation 8-2-301.This will require time to design, engineer, permit, construct, and start up. As such, the Parties agreed that the Respondent will complete a capital project to abate potential excess non-methane hydrocarbon emissions from ST-302 in the manner and on the schedule to this stipulation, which provides for completion of this Vent Project as soon as feasible but no later than the soonest scheduled refinery-wide maintenance outage ("Turnaround") at the Refinery. The Parties further agreed that meanwhile, Valero shall continue implementing interim measures to minimize emissions, and shall report progress to the Air District. The Parties agreed to enter the Stipulated Conditional Order of Abatement to provide for implementation of a capital project and other actions necessary to bring the Valero Benicia Refinery into compliance with current Air District rules and regulations, and to provide interim measures for minimizing non-compliant atmospheric emissions in the meantime.

Status: Accusation filed by Complainant (Air District) on January 24, 2022; Notice of Hearing (for March 15, 2022) filed/issued on January 25, 2022; Notice of Defense filed by Respondent on February 7 2022; Separate Statement (pursuant to Section 12 of the proposed Stipulated Order of Abatement) filed by Complainant on February 17, 2022; Separate Statement (pursuant to Section 12 of the proposed Stipulated Order of Abatement) filed by Respondent on March 10, 2022; Complainant submitted Exhibits C-1 through C-3, and Respondent submitted Exhibits R-A

through R-D, to the Clerk on March 14, 2022; hearing held on March 15, 2022; Stipulated Conditional Order for Abatement filed/issued on March 15, 2022 (see language below).

This was a well-publicized hearing and approximately 35 members of the public attended, including KPIX news and 8 speakers who addressed the Hearing Board.

THE HEARING BOARD ORDERED:

1.That the Air Pollution Control Officer's and Respondent's Request for this Stipulated Conditional Order for Abatement shall be and hereby is GRANTED as follows: Respondent Valero and its agents, employees, successors and assigns are hereby ordered to cease operation of the Benicia Refinery's process vent ST-302, unless: As soon as feasible but no later than by the end of Valero's soonest refinery-wide Turnaround, or such later date as the Hearing Board may approve upon a showing of good cause, Valero shall design, receive a District authority to construct, construct, receive a District permit to operate, and operate a capital project ("the Vent Project") to control or abate atmospheric emissions from the Hydrogen System at the Valero Benicia Refinery through the Refinery's process vent ST-302 to a level not exceeding standards set forth in District Regulation 8-2 and in satisfaction of all the requirements set forth in detail in this Stipulated Order of Abatement and its Appendices 1 and 2.
2. That the Stipulated Order for Abatement shall become effective immediately.
3.That the Hearing Board shall retain jurisdiction over this matter until Respondent comes into compliance with the requirements of Regulation 8, Rule 2, Section 30 l in accordance with the requirements set forth in Paragraph I of this Stipulated Order for Abatement, during which period the parties may apply to alter or terminate this Order in accordance with the Rules of the Hearing Board.
4. For such other and further relief that this Board deems just and proper.

Location: Contra Costa County; City of Richmond

Docket: 3732 – APCO vs. Chemtrade West US, LLC – *Accusation and Stipulated Conditional Order for Abatement*

Regulation(s): Regulation 1, Rule 522 (General Provisions, Continuous Emission Monitoring and Recordkeeping Procedures)

Synopsis: Respondent operates the Chemtrade sulfuric acid manufacturing plant, a source of sulfur dioxide (“SO2”) emissions which are monitored, in part, by a Continuous Emissions Monitoring System (“CEMS”) on its Sulfuric Acid Manufacturing Plant (“S-1”). Air District staff determined the S-1 CEMS is improperly configured and cannot comply with applicable monitoring requirements without replacement and reconfiguration. The Stipulated Order requests the Hearing Board enter a Conditional Order for Abatement against Respondent requiring Respondent to refrain from operating its Plant after the deadlines unless Respondent has completed all Compliance Actions by their deadlines. All Compliance Actions refer specifically to the CEMS unit installed at S-1.

Status: Accusation filed by Complainant on February 24, 2022; Notice of Defense filed by Respondent on March 10, 2022; Notice of Hearing (for April 5, 2022) filed/issued on March 15, 2022; Notice of Continued Hearing (for April 12, 2022) filed/issued on March 17, 2022.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

/S/ Valerie J. Armento

Valerie J. Armento, Esq.
Chair, Hearing Board

Prepared by:	Marcy Hiratzka
Reviewed by:	Vanessa Johnson

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Administration Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 20, 2022

Re: Management Audit and Fiscal Year Ending (FYE) 2022 Staffing Update

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

On December 15, 2021, the Air District Board (Board) reviewed the vendors' bid scores for management audit services and authorized the execution of a contract with the highest scoring vendor, Sjoberg Evashenk, for independent management audit services in an amount not to exceed $250,000.

The initial task order under the contract called for a first deliverable in March 2022 to inform new FYE 2022 staffing authorization, and a second deliverable in May 2022 which will provide information regarding Air District-wide risk and rank the Air District's divisions for further audit priority.

Sjoberg Evashenk began work on the FYE 2022 staffing authorization review and risk assessment deliverables in January 2022, and the Management Auditor presented the FYE 2022 staffing authorization review to the Air District Board on April 6, 2022. The Auditor presented the conclusion that (a) the allocation of additional positions in the FYE 2022 budget is reasonable and consistent with their independent analysis; (b) internal control weaknesses led to the filling of 10 of 26 of the positions as of the end of February 2022; and, (c) despite these weaknesses, it is evident that the need for the remaining 16 positions is supported by current workload demands and Air District priorities.

DISCUSSION

During the April 6, 2022 Board meeting, the Board directed staff to develop a new Task Order under the management audit services contract with Sjoberg Evashenk that would include the following: (1) an immediate commencement of a performance audit for HR functions at the Air District, and (2) Audit oversight of the recruitment of the remaining 16 of the 26 positions

authorized in FYE 22 which would include a control step requiring sign-off by the Executive Officer for each of the 16 remaining positions. The board also directed staff to report to the Administration Committee with the details of the new Task Order.

The scope of work for the Task Order is attached to this memorandum, and during today's committee meeting, the management auditor will present an overview of the Task Order and its deliverables.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: John Chiladakis
Reviewed by: George Skiles

ATTACHMENTS:

1. Task Order 2 - Sjoberg Evashenk Consulting, Inc. - Contract No. 2021.228

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
MASTER SERVICES CONTRACT
SJOBERG EVASHENK CONSULTING, INC.
CONTRACT NO. 2021.228
Task Order No. 2

Work Plan:
CONTRACTOR will conduct a performance audit of human resources management functions within the Air District. The objectives of this performance audit are to determine whether:

a. Established human resources management functions ensure compliance with federal and state laws, as well as District policies and directives.

b. Human resources business processes efficiently and effectively meet Air District priorities.

c. The recruitment and filling of the 16 remaining FYE 22 vacancies is compliant with Board directives and the FYE 22 Budget.

The scope of the performance audit includes all human resources management functions of the Air District between Fiscal Year Ending 2019 through the period of audit fieldwork.

General Audit Plan:
To meet these objectives, CONTRACTOR will follow the general audit plan outlined below:

1. Interview key Human Resources personnel and Air District personnel to gain an understanding of human resources practices within the Air District, including but not limited to:
    a. Hiring and Recruiting
    b. Classification and Compensation
    c. Employee Recordkeeping
    d. Employee Relations and Performance Management
    e. Benefits Management
    f. Employee Relations
    g. Workplace Investigation
    h. Payroll Management
    i. Professional and Workforce Development, Training, and Succession Planning
    j. Workplace Safety & Health
    k. Diversity, Equity, and Inclusion Initiatives
2. Review pertinent laws and regulations, policies and procedures, strategic plans, succession and workforce plans, prior compensation and benefit studies, training

program materials, record-keeping efforts, labor agreements, exit interview information, and best practices publications.

3. Obtain and review vacancy, turnover, recruitment, hiring, and retention trends; evaluate and understand challenges faced by departments or divisions, and their experience with Human Resources as customers.
4. Conduct an employee survey, or evaluate prior employee survey efforts, to obtain an understanding of employee and management feedback regarding human resources practices within the Air District.
5. Map key business processes and evaluate potential internal control weaknesses or opportunities for improvement.
6. Assess key performance indicators, including resource indicators (budget, FTEs), workload indicators, backlogs, service indicators (including processing time and responsiveness), employee turnover statistics, employee aging reports, retirement statistics and average retirement age, and length of service statistics—by department and office, as well as general information related to the Air District's competing labor markets.
7. Assess controls in to place to ensure compliance with rules and regulations, and identify opportunities for improvement.

Deliverables and Milestones:

Deliverable	Due Date
1. Detailed Audit Plan	April 29, 2022
2. Draft Report	September 9, 2022
3. Final Report	October 31, 2022

Task Order Schedule: The period of performance for this Task Order shall be from April 11, 2022, through December 31, 2022.

Task Order Contact:
CONTRACTOR's contact person under this Task Order shall be George Skiles at george@secteam.com. DISTRICT's contact person under this Task Order shall be Alexander "Sandy" Crockett at ACrockett@baaqmd.gov

Task Order Cost:
DISTRICT will pay CONTRACTOR a fixed cost of $65,500 for all labor and expenses to complete all work outlined in this Task Order. Payments will be made in three installments following delivery of and invoicing for the documents shown in the table below. Payments will be made within thirty (30) calendar days after receipt and approval of CONTRACTOR's invoice.

Description	Payment
Delivery of Phase 1 Detailed Audit Plan	$18,500
Delivery of Phase 2 Draft Report	$32,500

Delivery of Phase 2 Final Report	$14,500

Total Task Order Cost not to exceed: $65,500.

IN WITNESS WHEREOF, the parties to this Task Order have caused this Task Order to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

By: _____
Alexander Crockett
Acting Executive Officer/APCO

Date: _____

SJOBERG EVASHENK CONSULTING, INC.

By: _____
George Skiles
Partner

Date: _____

Approved as to form:
District Counsel

By: _____
Adan Schwartz
Acting District Counsel

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Administration Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 20, 2022

Re: Bay Area Regional Collaborative (BARC) Update

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Bay Area Regional Collaborative (BARC) consists of Board/Commission representatives of the four regional agencies and provides a forum for discussing issues of regional importance.

DISCUSSION

At the upcoming Administration Committee meeting, BARC Executive Director, Allison Brooks, will present the Draft BARC Shared Work Plan Overview.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Michelle Beteta
Reviewed by: Vanessa Johnson

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Administration Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 20, 2022

Re: Renewal of Contract for Spare the Air Advertising and Messaging Campaigns

RECOMMENDED ACTION

The Committee will consider recommending the Board of Directors authorize the Interim Executive Officer/APCO to amend the existing contract with Allison + Partners (A+P) for the Fiscal Year Ending 2023 Spare the Air Campaigns' Advertising, Communications & Evaluation Services in an amount not to exceed $1,950,000 for the second year of a three-year contract.

BACKGROUND

The Air District's Communications Office relies on contractors to assist with various aspects of its advertising and outreach programs. The Communications Office completed a Request for Proposal (RFP) process in December 2020 to solicit responses for the following services: Advertising, Media Relations, Social Media, Public Opinion Surveys and Employer Outreach services. Air District Communications Office representatives and a Metropolitan Transportation Commission staff member reviewed the applications and conducted firm interviews. Allison+Partners was the selected contractor.

A three-year contract was approved by the Board in March 2020 for A+P with funding not to exceed $1,950,000 per contract year during Fiscal Year Ending (FYE) 2022 and FYE 2023, and $2,019,000 for FYE 2024, which includes in-language surveys. The breakdown for the FYE 2023 contracts as follows:

- Spare the Air summer campaign
    1. Advertising $600,000
    2. Media Relations $200,000
    3. Social Media $75,000
    4. Employer Program $200,000
    5. Public Opinion Surveys $50,000

- Spare the Air winter campaign
    1. Advertising $600,000
    2. Media Relations $100,000
    3. Social Media $75,000
    4. Public Opinion Surveys $50,000

DISCUSSION

In the previous contract year, A+P has satisfied Air District requirements. A+P participated in bi-monthly status meetings to highlight ongoing and new work. Recommended messaging projects are well conceived and results are provided to staff. A+P is thorough and timely in executing projects, making recommendations and performing required tasks. Staff is recommending Board approval.

BUDGET CONSIDERATION/FINANCIAL IMPACT

Funding for this contract for FYE 2023 comes from the following sources:

- Spare the Air Every Day
    1. Congestion Mitigation Air Quality (CMAQ) - $925,000
    2. Transportation Fund for Clean Air (TFCA) - $200,000

- Spare the Air Winter
    1. General Revenue - $825,000

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Kristina Chu
Reviewed by: Kristine Roselius

ATTACHMENTS:

1. Executed Master Services Contract with Allison+Partners - Contract No. 2021.031
2. Draft STA Contract Renewal with Allison+Partners - Contract No. 2021.031

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

MASTER SERVICES CONTRACT

CONTRACT NO. 2021.031

1. PARTIES – The parties to this Contract ("Contract") are the Bay Area Air Quality Management District ("DISTRICT") whose address is 375 Beale Street, Suite 600, San Francisco, CA 94105, and **Allison & Partners LLC** ("CONTRACTOR") whose address is 40 Gold Street, San Francisco, CA 94133.

2. RECITALS
   A. DISTRICT is the local agency with primary responsibility for regulating stationary source air pollution in the Bay Area Air Quality Management District in the State of California. DISTRICT is authorized to enter into this Contract under California Health and Safety Code Section 40701. DISTRICT desires to contract with CONTRACTOR for Services as defined herein. DISTRICT is entering into this Contract based on CONTRACTOR's stated qualifications to perform the Services.
   B. Work to be performed by CONTRACTOR under this Contract will be funded in part with federal funding from the Congestion Mitigation and Air Quality ("CMAQ") Improvement Program provided by the Federal Highway Administration ("FHWA") and administered by the California Department of Transportation ("CALTRANS").
   C. Work to be performed by CONTRACTOR under this Contract will also be funded in part by funds from DISTRICT's Transportation Fund for Clean Air ("TFCA").
   D. All parties to this Contract have had the opportunity to have this contract reviewed by their attorney.

3. DEFINITIONS
   A. "Purchase Order" shall mean the written or electronic document used by DISTRICT to track payments to CONTRACTOR under this Contract.
   B. "Services" shall mean the services to be provided by CONTRACTOR hereunder as generally described in the General Description of Services, attached hereto as Attachment A and made a part hereof by this reference, and as specifically described in Task Orders issued pursuant to this Contract.
   C. "Task Order" shall mean a written request by DISTRICT for specific services to be performed by CONTRACTOR.

4. PERFORMANCE REQUIREMENTS
   A. CONTRACTOR is authorized to do business in the State of California. CONTRACTOR attests that it is in good tax standing with federal and state tax authorities.
   B. CONTRACTOR agrees to obtain any and all required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
   C. CONTRACTOR shall comply with all laws and regulations that apply to its performance under this Contract, including any requirements to disclose potential conflicts of interest under DISTRICT's Conflict of Interest Code.

D. CONTRACTOR shall not engage in any performance of work during the term of this contract that is in direct or indirect conflict with duties and responsibilities set forth in the Scope of Work.
E. CONTRACTOR shall exercise the degree of skill and care customarily required by accepted professional practices and procedures.
F. CONTRACTOR shall ensure that any subcontractors, employees and agents performing under this Contract comply with the performance standards set forth in paragraph D above.

5. TERM – The term of this Contract is from July 1, 2021 to June 30, 2022, unless further extended by amendment of this Contract in writing, or terminated earlier. CONTRACTOR shall not submit any invoice for services performed under this Contract until the Contract is fully executed.

6. TERMINATION
   A. The DISTRICT may terminate this Contract at any time, at will, and without specifying any reason, by notifying CONTRACTOR in writing. The notice of termination shall specify the effective date of termination, which shall be no less than thirty (30) calendar days from the date of delivery of the notice of termination, and shall be delivered in accordance with the provisions of section 13 below. Immediately upon receipt of the notice of termination, CONTRACTOR shall cease all services under this Contract, except such services as are specified in the notice of termination. CONTRACTOR shall deliver a final invoice for all remaining services performed but not billed, including any services specified in the termination notice, on or before ten (10) business days following the termination date.
   B. Either party may terminate this Contract for breach by the other party.
      i) Failure to perform any agreement or obligation contained in this Contract or failure to complete the services in a satisfactory manner shall constitute a breach of the Contract.
      ii) The non-breaching party may terminate the Contract by delivery of a written notice of breach. The notice of breach shall specify the date of termination, which shall be no earlier than ten (10) business days from delivery of the notice of breach. In the alternative, at its sole discretion, the non-breaching party may require the breaching party to cure the breach.The notice of breach shall specify the nature of the breach and the date by which such breach must be cured.
      iii) If CONTRACTOR fails to perform any obligation under this Contract, DISTRICT at its sole discretion, may perform, or cause the performance, of the obligation itself. In that event, DISTRICT shall deduct the costs to perform such obligation and any other costs to cure the breach from the payment otherwise due to CONTRACTOR for work performed under this Contract. DISTRICT's performance hereunder shall not be deemed a waiver or release of any obligation of, or default by, CONTRACTOR under this Contract.
      iv) The notice of breach shall be provided in accordance with the notice requirements set forth in section 13.
      v) The non-breaching party reserves all rights under law and equity to enforce this Contract and recover any damages.

7. INSURANCE
   A. CONTRACTOR shall maintain the following insurance:
      i) Workers' compensation and employers' liability insurance as required by California law or other applicable statutory requirements.
      ii) Occurrence-based commercial general liability insurance or equivalent form with a limit of not less than one million dollars ($1,000,000) each occurrence. Such insurance shall include

DISTRICT and its officers, agents, and employees as additional insureds and shall be primary with respect to any insurance maintained by DISTRICT.

iii) Business automobile liability insurance or equivalent form with a limit of not less than one million dollars ($1,000,000) each accident. Such insurance shall include coverage for owned, hired, and non-owned vehicles. If CONTRACTOR is a sole proprietor, CONTRACTOR may meet this insurance requirement with personal automobile liability insurance carrying a business use endorsement or by demonstrating to the satisfaction of DISTRICT that business use is covered under the CONTRACTOR's personal automobile liability insurance. A CONTRACTOR using only rental vehicles in performing work under this Contract may meet this insurance requirement by purchasing automobile liability insurance in the required coverage amount from the rental agency.

B. All insurance shall be placed with insurers acceptable to DISTRICT.

C. Prior to commencement of work under this Contract, CONTRACTOR shall furnish properly-executed certificates of insurance for all required insurance. Upon request by DISTRICT, CONTRACTOR shall provide a complete copy of any required insurance policy. CONTRACTOR shall notify DISTRICT in writing thirty (30) days prior to cancellation or modification of any required insurance policy. Any such modifications are subject to pre-approval by DISTRICT.

D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, DISTRICT reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or to terminate this Contract for breach.

8. INDEMNIFICATION

A. CONTRACTOR shall indemnify and hold DISTRICT, its officers, employees and agents harmless from and against any and all liability, loss, expense, including reasonable attorneys' fees, or claims for injury or damages arising out of the performance of this Contract but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of CONTRACTOR, its officers, agents, or employees.

B. DISTRICT shall indemnify and hold CONTRACTOR, its officers, employees and agents harmless from and against any and all liability, loss, expense, including reasonable attorneys' fee, or claims for injury or damages arising out of the performance of this Contract but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of DISTRICT, its officers, agents, or employees.

9. AGREEMENT TO PROVIDE SERVICES

A. CONTRACTOR hereby agrees to provide to DISTRICT, as DISTRICT may from time to time designate, such services as DISTRICT may order by Task Order, all in accordance with and subject to the terms, covenants and conditions of this Contract. DISTRICT agrees to pay for these services ordered by DISTRICT in accordance with and subject to the terms, covenants andconditions of this Contract.

B. All Task Orders issued by DISTRICT to CONTRACTOR for services during the term of this Contract are subject to the provisions of this Contract as though fully set forth in such Task Order. In the event that the provisions of this Contract conflict with any Task Order issued by DISTRICT to CONTRACTOR, the provisions of this Contract shall govern. No other terms and conditions, including, but not limited to, those contained in CONTRACTOR's standard printed terms and conditions, on CONTRACTOR's order acknowledgment, invoices or otherwise, shall have any

application to or effect upon or be deemed to constitute an amendment to or to be incorporated into this Contract, any Task Order, or any transactions occurring pursuant heretoor thereto, unless this Contract shall be specifically amended to adopt such other terms and conditions in writing by the parties.

C. Notwithstanding any other provision of this Contract to the contrary, DISTRICT shall have no obligation to order or purchase any services hereunder and the placement of any Task Order shall be in the sole discretion of DISTRICT. Without limiting the generality of the foregoing, the actual quantity of services to be purchased hereunder shall be determined by DISTRICT in its sole discretion and shall not exceed $1,950,000. This Contract is not exclusive. CONTRACTOR expressly acknowledges and agrees that DISTRICT may purchase at its sole discretion, services that are identical or similar to the services described in this Contract from any third party.

10. TASK ORDERS – Each Task Order will specify the following items, as relevant: specific services requested, schedule for services, location where services are to be performed (with contact person), and cost or estimated cost of services. Each Task Order issued under this Contract shall be made part of, and be incorporated into this Contract, and shall reference this Contract on the face of each Task Order. Should any Task Order not conform to or satisfy the terms of this Contract, CONTRACTOR shall have five (5) business days after receipt to reject the Task Order. By not rejecting the Task Order within five (5) business days, CONTRACTOR will have accepted the Task Order. Acceptance by CONTRACTOR is limited to the provisions of this Contract and the Task Order. No additional or different provisions proposed by CONTRACTOR or DISTRICT shall apply. In addition,the parties agree that this Contract and accepted Task Orders constitute a contract for services and satisfy all statutory and legal formalities of a contract.

11. PRICING, INVOICES, AND PAYMENT
    A. DISTRICT shall pay CONTRACTOR for all services ordered and provided in compliance with the terms and conditions of this Contract and with Task Orders issued under this Contract.
    B. CONTRACTOR shall submit original invoices to DISTRICT in form and substance and format reasonably acceptable to DISTRICT. Each invoice, including supporting documentation, must be prepared in duplicate on CONTRACTOR's letterhead; must list DISTRICT's contract number, Purchase Order Number, and the CONTRACTOR's Social Security Number or Federal Employer Identification Number; and must be submitted to: Bay Area Air Quality Management District, 375 Beale Street, Suite 600, San Francisco, CA 94105, Attn: Contracts Manager.
    C. Except as specifically set forth in Attachment A or in Task Orders under this Contract, DISTRICT shall not be responsible for any additional costs or expenses of any nature incurred by CONTRACTOR in connection with the provision of the services, including without limitation travel expenses, clerical or administrative personnel, long distance telephone charges, etc.
    D. CONTRACTOR represents, warrants and covenants that the prices, charges and fees for services set forth in this Contract (on the whole) are at least as favorable as the prices, charges and fees CONTRACTOR charges (on the whole) to other of its customers or clients for the same or substantially similar services provided under the same or substantially similar circumstances, terms, and conditions. If CONTRACTOR agrees or contracts with other clients or customers similarly situated during the Term of this Contract, and offers or agrees to financial terms more favorable than those set forth herein (on the whole), CONTRACTOR hereby agrees that it will reduce the prices, charges and/or fees charged to DISTRICT in respect of the services hereunder to the most favorable rates received by those other clients or customers.

12. DISPUTE RESOLUTION – A party that disputes a notice of breach must first seek mediation to resolve the dispute in accordance with the provisions set forth below.
    A. Upon receipt of a notice of breach of contract, the party may submit a demand for mediation to resolve whether or not a breach occurred. The party must state the basis of the dispute and deliver the demand within ten (10) business days of the date of receipt of the notice of breach.
    B. The mediation shall take place at DISTRICT's office at 375 Beale Street, Suite 600, San Francisco, or at such other place as may be mutually agreed upon by the parties and the mediator.
    C. The parties shall make good faith efforts to hold the mediation within thirty (30) days after receipt of the demand for mediation.
    D. Each party shall bear its own mediation costs.
    E. In the event the parties are unable to resolve the dispute, either party may file an action in a court of competent jurisdiction to enforce the Contract.
    F. Maximum recovery under this section shall be limited to the total value of all Task Orders issued under this Contract. The mediation costs shall not reduce the maximum amount recoverable under this section.

13. NOTICES – All notices that are required under this Contract shall be provided in the manner set forth herein, unless specified otherwise. Notice to a party shall be delivered to the attention of the person listed below, or to such other person or persons as may hereafter be designated by that party in writing. Notice shall be in writing sent by e-mail, facsimile, or regular first class mail. In the case of e-mail and facsimile communications, valid notice shall be deemed to have been delivered upon sending, provided the sender obtained an electronic confirmation of delivery. E-mail and facsimile communications shall be deemed to have been received on the date of such transmission, provided such date was a business day and delivered prior to 4:00 p.m. PST. Otherwise, receipt of e-mail and facsimile communications shall be deemed to have occurred on the following business day.In the case of regular mail notice, notice shall be deemed to have been delivered on the mailing dateand received five (5) business days after the date of mailing.

    DISTRICT: Bay Area Air Quality Management District
    375 Beale Street, Suite 600
    San Francisco, CA 94105
    Attn: Kristina Chu

    CONTRACTOR: Allison & Partners LLC
    40 Gold Street
    San Francisco, CA 94133
    Attn: Meghan Curtis

14. ADDITIONAL PROVISIONS – All attachment(s) to this Contract are expressly incorporated herein by this reference and made a part hereof as though fully set forth.

15. EMPLOYEES OF CONTRACTOR
    A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay, and pay for legal holidays.
    B. CONTRACTOR, its officers, employees, agents, or representatives shall not be considered employees or agents of DISTRICT, nor shall CONTRACTOR, its officers, employees, agents, or

representatives be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by DISTRICT to its employees.

C. DISTRICT reserves the right to review the credentials to perform the services for any of CONTRACTOR's employees assigned herein and to disapprove CONTRACTOR's assignments. CONTRACTOR warrants that it will not employ any subcontractor(s) without prior written approval from DISTRICT.

16. CONFIDENTIALITY – In order to carry out the purposes of this Contract, CONTRACTOR may require access to certain of DISTRICT's confidential information (including trade secrets, inventions, confidential know-how, confidential business information, and other information that DISTRICT considers confidential) (collectively, "Confidential Information"). It is expressly understood and agreed that DISTRICT may designate in a conspicuous manner Confidential Information that CONTRACTOR obtains from DISTRICT, and CONTRACTOR agrees to:
    A. Observe complete confidentiality with respect to such information, including without limitation, agreeing not to disclose or otherwise permit access to such information by any other person or entity in any manner whatsoever, except that such disclosure or access shall be permitted to employees of CONTRACTOR requiring access in fulfillment of the services provided under this Contract.
    B. Ensure that CONTRACTOR's officers, employees, agents, representatives, and independent contractors are informed of the confidential nature of such information and to assure by agreement or otherwise that they are prohibited from copying or revealing, for any purpose whatsoever, the contents of such information or any part thereof, or from taking any action otherwise prohibited under this section.
    C. Not use such information or any part thereof in the performance of services to others or for the benefit of others in any form whatsoever whether gratuitously or for valuable consideration, except as permitted under this Contract.
    D. Notify DISTRICT promptly and in writing of the circumstances surrounding any possession, use, or knowledge of such information or any part thereof by any person or entity other than those authorized by this section. Take at CONTRACTOR's expense, but at DISTRICT's option and in any event under DISTRICT's control, any legal action necessary to prevent unauthorized use of such information by any third party or entity which has gained access to such information at least in part due to the fault of CONTRACTOR.
    E. Take any and all other actions necessary or desirable to assure such continued confidentiality and protection of such information during the term of this Contract and following expiration or termination of the Contract.
    F. Prevent access to such materials by a person or entity not authorized under this Contract.
    G. Establish specific procedures in order to fulfill the obligations of this section.

17. INTELLECTUAL PROPERTY RIGHTS – Title and full ownership rights to all intellectual property developed under this Contract shall at all times remain with DISTRICT, unless otherwise agreed to in writing.

18. PUBLICATION
    A. DISTRICT shall approve in writing any report or other document prepared by CONTRACTOR in connection with performance under this Contract prior to dissemination or publication of such report or document to a third party. DISTRICT may waive in writing its requirement for prior approval.

B. Until approved by DISTRICT, any report or other document prepared by CONTRACTOR shall include on each page a conspicuous header, footer, or watermark stating "DRAFT – Not Reviewed or Approved by BAAQMD," unless DISTRICT has waived its requirement for prior approval pursuant to paragraph A of this section.

C. Information, data, documents, or reports developed by CONTRACTOR for DISTRICT, pursuant to this Contract, shall be part of DISTRICT's public record, unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information, provided DISTRICT approves use of such information in advance. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, basedupon or developed under this Contract.

> "This report was prepared as a result of work sponsored, paid for, in whole or in part, by the Bay Area Air Quality Management District (District). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of the District. The District, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report."

D. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and shall require compliance with the above.

19. NON-DISCRIMINATION – In the performance of this Contract, CONTRACTOR shall not discriminate in its recruitment, hiring, promotion, demotion, and termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, marital status, sexual orientation, medical condition, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of1964 (P.L. 88-352) and all amendments thereto, and all administrative rules and regulations issued pursuant to said Acts. CONTRACTOR shall also require each subcontractor performing services in connection with this Contract to comply with this section and shall include in each contract withsuch subcontractor provisions to accomplish the requirements of this section.

20. PROPERTY AND SECURITY – Without limiting CONTRACTOR'S obligations with regard to security, CONTRACTOR shall comply with all the rules and regulations established by DISTRICT for access to and activity in and around DISTRICT's premises.

21. ASSIGNMENT – No party shall assign, sell, license, or otherwise transfer any rights or obligations under this Contract to a third party without the prior written consent of the other party, and any attempt to do so shall be void upon inception.

22. WAIVER – No waiver of a breach, of failure of any condition, or of any right or remedy contained in or granted by the provisions of this Contract shall be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy shall be deemed a waiver of any other breach, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies. Further, the failure of a party to enforce performance by the other party of any term, covenant, or condition of this Contract, and the failure of a party to exercise any rights or remedies hereunder, shall not be deemed a waiver or

relinquishment by that party to enforce future performance of any such terms, covenants, or conditions, or to exercise any future rights or remedies.

23. ATTORNEYS' FEES – In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.

24. FORCE MAJEURE – Neither DISTRICT nor CONTRACTOR shall be liable for or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, enemy or hostile governmental action, civil commotion, strikes, lockouts, labor disputes, fire or other casualty, judicial orders, governmental controls, regulations or restrictions, inability to obtain labor or materials or reasonable substitutes for labor or materials necessary for performance of the services, or other causes, except financial, that are beyond the reasonable control of DISTRICT or CONTRACTOR, for a period of time equal to the periodof such force majeure event, provided that the party failing to perform notifies the other party within fifteen calendar days of discovery of the force majeure event, and provided further that that party takes all reasonable action to mitigate the damages resulting from the failure to perform. Notwithstanding the above, if the cause of the force majeure event is due to party's own action or inaction, then such cause shall not excuse that party from performance under this Contract.

25. SEVERABILITY – If a court of competent jurisdiction holds any provision of this Contract to be illegal, unenforceable or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of them will not be affected.

26. HEADINGS – Headings on the sections and paragraphs of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.

27. COUNTERPARTS/FACSIMILES/SCANS – This Contract may be executed and delivered in any number of counterparts, each of which, when executed and delivered, shall be deemed an original, and all of which together shall constitute the same contract. The parties may rely upon a facsimile copy or scanned copy of any party's signature as an original for all purposes.

28. GOVERNING LAW – Any dispute that arises under or relates to this Contract shall be governed by California law, excluding any laws that direct the application of another jurisdiction's laws. Venue for resolution of any dispute that arises under or relates to this Contract, including mediation, shall be San Francisco, California.

29. ENTIRE CONTRACT AND MODIFICATION – This Contract represents the final, complete, and exclusive statement of the agreement between the parties related to CONTRACTOR providing services to DISTRICT and supersedes all prior and contemporaneous understandings and agreements of the parties. No party has been induced to enter into this Contract by, nor is any party relying upon, any representation or warranty outside those expressly set forth herein. This Contract may only be amended by mutual agreement of the parties in writing and signed by both parties.

30. SURVIVAL OF TERMS – The provisions of sections 8 (Indemnification), 16 (Confidentiality), 17 (Intellectual Property Rights), and 18 (Publication) shall survive the expiration or termination of this Contract.

31. FEDERAL FUNDING REQUIREMENTS

A. Non-Discrimination and Statement of Compliance

i) CONTRACTOR's signature affixed herein and dated shall constitute a certification under penalty of perjury under the laws of the State of California that CONTRACTOR has, unless exempt, complied with the nondiscrimination program requirements of Gov. Code §12990 and 2 CCR § 8103.

ii) During the performance of this Contract, CONTRACTOR and its subcontractors shall not deny the Contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. CONTRACTOR and subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment.

iii) CONTRACTOR and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12990 et seq.), the applicable regulations promulgated there under (2 CCR §11000 et seq.), the provisions of Gov. Code §§11135- 11139.5, and the regulations or standards adopted by DISTRICT to implement such article.The applicable regulations of the Fair Employment and Housing Commission implementing Gov. Code §12990 (a-f), set forth 2 CCR §§8100-8504, are incorporated intothis Contract by reference and made a part hereof as if set forth in full.

iv) CONTRACTOR shall permit access by representatives of the Department of FairEmployment and Housing and the DISTRICT upon reasonable notice at any time during the normal business hours, but in no case less than twenty-four (24) hours' notice, to suchof its books, records, accounts, and all other sources of information and its facilities as said Department or DISTRICT shall require to ascertain compliance with this clause.

v) CONTRACTOR and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement.

vi) CONTRACTOR shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under this Contract.

vii) CONTRACTOR, with regard to the work performed under this Contract, shall act in accordance with Title VI of the Civil Rights Act of 1964 (42 U.S.C. §2000d et seq.). Title VI provides that the recipients of federal assistance will implement and maintain a policy of nondiscrimination in which no person in the United States shall, on the basis of race, color, national origin, religion, sex, age, disability, be excluded from participation in,denied the benefits of or subject to discrimination under any program or activity by the recipients of federal assistance or their assignees and successors in interest.

viii) CONTRACTOR shall comply with regulations relative to non-discrimination in federally assisted programs of the U.S. Department of Transportation (49 CFR Part 21 - Effectuation of Title VI of the Civil Rights Act of 1964). Specifically, the CONTRACTOR shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR §21.5, including employment practices and the selection and retention of subcontractors.

ix) CONTRACTOR, subrecipient or subcontractor will never exclude any person from participation in, deny any person the benefits of, or otherwise discriminate against anyone in connection with the award and performance of any contract covered by 49 CFR26 on the basis of race, color, sex, or national origin. In administering the DISTRICTcomponents of the Disadvantaged Business Enterprises (DBE) Program Plan, CONTRACTOR, subrecipient or subcontractor will not, directly, or through contractual or other arrangements, use criteria or methods of administration that have the effect of defeating or substantially impairing accomplishment of the objectives of the DBE ProgramPlan with respect to individuals of a particular race, color, sex, or national origin.

B. Cost Principles and Administrative Requirements

i) CONTRACTOR agrees that 48 CFR Part 31, Contract Cost Principles and Procedures, shall be used to determine the allowability of individual terms of cost.

ii) CONTRACTOR also agrees to comply with Federal procedures in accordance with 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

iii) Any costs for which payment has been made to the CONTRACTOR that are determined by subsequent audit to be unallowable under 48 CFR Part 31 or 2 CFR Part 200 are subject to repayment by CONTRACTOR to DISTRICT.

iv) When a CONTRACTOR or subcontractor is a Non-Profit Organization or an Institution of Higher Education, the Cost Principles for Title 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards shall apply.

C. Contingent Fee - CONTRACTOR warrants, by execution of this Contract that no person or selling agency has been employed, or retained, to solicit or secure this Contract upon an agreement or understanding, for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees, or bona fide established commercial or selling agencies maintained by CONTRACTOR for the purpose of securing business. For breach or violation of this warranty, DISTRICT has the right to annul this Contract without liability; pay only for the value of the work actually performed, or in its discretion to deduct from the Contract price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

D. Retention of Records/Audits - For the purpose of determining compliance with Gov. Code § 8546.7, the CONTRACTOR, subcontractors, and DISTRICT shall maintain all books, documents, papers, accounting records, Independent CPA Audited Indirect Cost Rate workpapers, and other evidence pertaining to the performance of the Contract including, but not limited to, the costs of administering the Contract. All parties, including the CONTRACTOR's Independent CPA, shall make such workpapers and materials available at their respective offices at all reasonable times during the Contract period and for three (3) years from the date of final payment under the Contract. DISTRICT, Caltrans Auditor, FHWA, or any duly authorized representative of the Federal government having jurisdiction under Federal laws or regulations (including the basis of Federal funding in whole or in part) shall have access to anybooks, records, and documents of the CONTRACTOR, subcontractors, and the CONTRACTOR's Independent CPA, that are pertinent to the Contract for audits, examinations, workpaper review, excerpts, and transactions, and copies thereof shall be furnished if requested without limitation.

E. Subcontracting

i) Nothing contained in this Contract or otherwise, shall create any contractual relation

between DISTRICT and any subcontractors, and no subcontract shall relieve the CONTRACTOR of its responsibilities and obligations hereunder. CONTRACTOR agrees to be as fully responsible to the DISTRICT for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by CONTRACTOR. CONTRACTOR's obligation to pay its subcontractors is an independent obligation from the DISTRICT's obligation to make payments to the CONTRACTOR.

ii) CONTRACTOR shall perform the work contemplated with resources available within its own organization and no portion of the work shall be subcontracted without written authorization by DISTRICT Contract Administrator, except that which is expressly identified in the CONTRACTOR's approved Cost Proposal.

iii) Any subcontract entered into as a result of this Contract, shall contain all the provisions stipulated in this entire Contract to be applicable to subcontractors unless otherwise noted.

iv) CONTRACTOR shall pay its subcontractors within Fifteen (15) calendar days from receiptof each payment made to CONTRACTOR by DISTRICT.

v) Any substitution of subcontractors must be approved in writing by DISTRICT Contract Administrator in advance of assigning work to a substitute subcontractor.

vi) Prompt Progress Payment - CONTRACTOR or subcontractor shall pay to any subcontractor, not later than fifteen (15) days after receipt of each progress payment, unless otherwise agreed to in writing, the respective amounts allowed CONTRACTOR on account of the work performed by the subcontractors, to the extent of each subcontractor's interest therein. In the event that there is a good faith dispute over all or any portion of the amount due on a progress payment from CONTRACTOR or subcontractor to a subcontractor, CONTRACTOR or subcontractor may withhold no more than 150 percent of the disputed amount. Any violation of this requirement shall constitute a cause for disciplinary action and shall subject the licensee to a penalty, payable to the subcontractor, of 2 percent of the amount due per month for every month that payment is not made. In any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to his or her attorney's fees and costs. The sanctions authorized under this requirement shall be separate from, and in addition to, all other remedies, either civil, administrative, or criminal. This clause applies to both DBE and non-DBE subcontractors.

vii) Prompt Payment of Withheld Funds to Subcontractors - DISTRICT may hold retainage from CONTRACTOR and shall make prompt and regular incremental acceptances of portions, as determined by DISTRICT, of the contract work, and pay retainage to CONTRACTOR based on these acceptances. DISTRICT has designated the method below toensure prompt and full payment of any retainage kept by CONTRACTOR or subcontractor to a subcontractor.

a. No retainage will be held by DISTRICT from progress payments due to CONTRACTOR. Any retainage kept by CONTRACTOR or by a subcontractor must be paid in full to the earning subcontractor within 15 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment may take place only for good cause and with the DISTRICT's prior written approval. Any violation of these provisions shall subject the violating CONTRACTOR or subcontractor to the penalties, sanctions, and remedies

specified in Section 3321 of the California Civil Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to CONTRACTOR or subcontractor in the event of a dispute involving late payment or nonpayment by CONTRACTOR, deficient subcontractor performance and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

F. Equipment Purchase and Other Capital Expenditures

i) Prior authorization in writing by DISTRICT's Contract Administrator shall be required before CONTRACTOR enters into any unbudgeted purchase order, or subcontract exceeding five thousand dollars ($5,000) for supplies, equipment, or CONTRACTOR services. CONTRACTOR shall provide an evaluation of the necessity or desirability ofincurring such costs.

ii) For purchase of any item, service, or consulting work not covered in CONTRACTOR's approved Cost Proposal and exceeding five thousand dollars ($5,000), with prior authorization by DISTRICT's Contract Administrator, three competitive quotations mustbe submitted with the request, or the absence of proposal must be adequately justified.

iii) Any equipment purchased with funds provided under the terms of this Contract is subject to the following:

a. CONTRACTOR shall maintain an inventory of all nonexpendable property. Nonexpendable property is defined as having a useful life of at least two years and an acquisition cost of five thousand dollars ($5,000) or more. If the purchased equipment needs replacement and is sold or traded in, DISTRICT shall receive a proper refund or credit at the conclusion of the Contract, or if the Contract is terminated, CONTRACTOR may either keep the equipment and credit DISTRICT in an amount equal to its fair market value, or sell such equipment at the best price obtainable at a public or private sale, in accordance with established DISTRICT procedures; and credit DISTRICT in an amount equal to the sales price. If CONTRACTOR elects to keep the equipment, fair market value shall be determined at CONTRACTOR's expense, on the basis of a competent independent appraisal of such equipment. Appraisals shall be obtained from an appraiser mutually agreeable to by DISTRICT and CONTRACTOR, if it is determined to sell the equipment, the terms and conditions of such sale must be approved in advance by DISTRICT.

b. Regulation 2 CFR Part 200 requires a credit to Federal funds when participating equipment with a fair market value greater than five thousand dollars ($5,000) is credited to the project.

G. Rebates, Kickbacks or Other Unlawful Consideration - CONTRACTOR warrants that this Contract was not obtained or secured through rebates, kickbacks or other unlawful consideration either promised or paid to any DISTRICT employee. For breach or violation of this warranty, DISTRICT shall have the right, in its discretion, to terminate this Contract without liability, to pay only for the value of the work actually performed, or to deduct from this Contract price orotherwise recover the full amount of such rebate, kickback or other unlawful consideration.

H. State Prevailing Wage Rates for Public Works Projects

i) No contractor or subcontractor may be awarded a contract containing public work elements unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code §1725.5. Registration with DIR must be maintained throughout the entire

term of this Contract, including any subsequent amendments.

ii) CONTRACTOR shall comply with all of the applicable provisions of the California Labor Code requiring the payment of prevailing wages. The General Prevailing Wage Rate Determinations applicable to work under this Contract are available and on file with the Department of Transportation's Regional/District Labor Compliance Officer (https://dot.ca.gov/programs/construction/labor-compliance). These wage rates are made a specific part of this Contract by reference pursuant to Labor Code §1773.2 and will be applicable to work performed at a construction project site. Prevailing wages will be applicable to all inspection work performed at DISTRICT construction sites, at DISTRICT facilities and at off-site locations that are set up by the construction contractor or one of its subcontractors solely and specifically to serve DISTRICT projects. Prevailing wage requirements do not apply to inspection work performed at the facilities of vendors and commercial materials suppliers that provide goods and services to the general public.

iii) General Prevailing Wage Rate Determinations applicable to this project may also be obtained from the Department of Industrial Relations website at http://www.dir.ca.gov.

iv) Payroll Records

a. CONTRACTOR and subcontractor shall keep accurate certified payroll records and supporting documents as mandated by Labor Code §1776 and as defined in 8 CCR §16000 showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by CONTRACTOR or subcontractor in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

- The information contained in the payroll record is true and correct.
- The employer has complied with the requirements of Labor Code §1771, §1811, and §1815 for any work performed by his or her employees on the public works project.

b. The payroll records enumerated under paragraph (i) above shall be certified as correct by CONTRACTOR under penalty of perjury. The payroll records and all supporting documents shall be made available for inspection and copying by DISTRICT representatives at all reasonable hours at the principal office of CONTRACTOR. CONTRACTOR shall provide copies of certified payrolls or permit inspection of its records as follows:

- A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or the employee's authorized representative on request.
- A certified copy of all payroll records enumerated in paragraph (a) above, shall be made available for inspection or furnished upon request to a representative of DISTRICT, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations. Certified payrolls submitted to DISTRICT, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards shall

not be altered or obliterated by CONTRACTOR.

- The public shall not be given access to certified payroll records by CONTRACTOR. CONTRACTOR is required to forward any requests for certified payrolls to DISTRICT's Contract Administrator by both email and regular mail on the business day following receipt of the request.

c. CONTRACTOR shall submit a certified copy of the records enumerated in paragraph (a) above, to the entity that requested the records within ten (10) calendar days after receipt of a written request.

d. Any copy of records made available for inspection as copies and DISTRICT AGENCY shall be marked or obliterated in such a manner as to prevent disclosure of each individual's name, address, and social security number. The name and address of the CONTRACTOR or subcontractor performing the work shall not be marked or obliterated.

e. CONTRACTOR shall inform DISTRICT of the location of the records enumerated under paragraph (a) above, including the street address, city and county, and shall, within five (5) working days, provide a notice of a change of location and address.

f. CONTRACTOR or subcontractor shall have ten (10) calendar days in which to comply subsequent to receipt of written notice requesting the records enumerated in paragraph (a) above. In the event the CONTRACTOR or subcontractor fails to comply within the ten (10) day period, he or she shall, as a penalty to DISTRICT, forfeit one hundred dollars ($100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated.Such penalties shall be withheld by DISTRICT from payments then due. CONTRACTOR is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

v) When prevailing wage rates apply, CONTRACTOR is responsible for verifying compliance with certified payroll requirements. Invoice payment will not be made until the invoice is approved by the DISTRICT Contract Administrator.

vi) Penalty

a. CONTRACTOR and any of its subcontractor shall comply with Labor Code §1774 and §1775. Pursuant to Labor Code §1775, CONTRACTOR and any subcontractor shall forfeit to DISTRICT a penalty of not more than two hundred dollars ($200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director ofDIR for the work or craft in which the worker is employed for any public work done under the Contract by the CONTRACTOR or by its subcontractor in violation of the requirements of the Labor Code and in particular, Labor Code §§1770 to 1780, inclusive.

b. The amount of this forfeiture shall be determined by the Labor Commissioner and shall be based on consideration of mistake, inadvertence, or neglect of the CONTRACTOR or subcontractor in failing to pay the correct rate of prevailing wages, or the previous record of the CONTRACTOR subcontractor in meeting their respective prevailing wage obligations, or the willful failure by CONTRACTOR or subcontractor to pay the correct rates of prevailing wages. A

mistake, inadvertence, or neglect in failing to pay the correct rates of prevailing wages is not excusable if CONTRACTOR or subcontractor had knowledge of the obligations under the Labor Code. CONTRACTOR is responsible for paying the appropriate rate, including any escalations that take place during the term of the Contract.

c. In addition to the penalty and pursuant to Labor Code §1775, the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by theCONTRACTOR or subcontractor.

d. If a worker employed by a subcontractor on a public works project is not paid the general prevailing per diem wages by the subcontractor, the prime contractor of the project is not liable for the penalties described above unless the prime contractor had knowledge of that failure of the subcontractor to pay the specified prevailing rate of wages to those workers or unless the prime contractor fails to comply with all of the following requirements:

    - The Contract executed between CONTRACTOR and the subcontractor for the performance of work on public works projects shall include a copy of the requirements in Labor Code §§ 1771, 1775, 1776, 1777.5, 1813, and 1815.
    - CONTRACTOR shall monitor the payment of the specified general prevailing rate of per diem wages by the subcontractor to the employees by periodic review of the certified payroll records of the subcontractor.
    - Upon becoming aware of the subcontractor's failure to pay the specified prevailing rate of wages to the subcontractor's workers, CONTRACTOR shall diligently take corrective action to halt or rectify the failure, including but not limited to, retaining sufficient funds due the subcontractor for work performed on the public works project.
    - Prior to making final payment to the subcontractor for work performed on the public works project, CONTRACTOR shall obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor had paid the specified general prevailing rate of per diem wages to the subcontractor's employees on the public works project and any amounts due pursuant to Labor Code §1813.

e. Pursuant to Labor Code §1775, DISTRICT shall notify CONTRACTOR on a public works project within fifteen (15) calendar days of receipt of a complaint that a Subconsultant has failed to pay workers the general prevailing rate of per diem wages.

f. If DISTRICT determines that employees of a subcontractor were not paid the general prevailing rate of per diem wages and if DISTRICT did not retain sufficient money under the Contract to pay those employees the balance of wages owed under the general prevailing rate of per diem wages, CONTRACTOR shall withhold an amount of moneys due the subcontractor

sufficient to pay those employees the general prevailing rate of per diem wages if requested by DISTRICT.

g. Hours of Labor - Eight (8) hours labor constitutes a legal day's work. CONTRACTOR shall forfeit, as a penalty to the DISTRICT, twenty-five dollars ($25) for each worker employed in the execution of the Contract by CONTRACTOR or any of its subcontractors for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code, and in particular §§1810 to 1815 thereof, inclusive, except that work performed by employees in excess of eight (8) hours per day, and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day and forty (40) hours in any week, at not less than one and one-half (1.5) times the basic rate of pay, as provided in §1815.

h. Employment of Apprentices

- Where either the prime Contract or the subcontract exceeds thirty thousand dollars ($30,000), CONTRACTOR and any subcontractors under him or her shall comply with all applicable requirements of Labor Code §§ 1777.5, 1777.6 and 1777.7 in the employment of apprentices.
- CONTRACTOR and subcontractors are required to comply with all Labor Code requirements regarding the employment of apprentices, including mandatory ratios of journey level to apprentice workers. Prior to commencement of work, CONTRACTOR and subcontractors are advised to contact the DIR Division of Apprenticeship Standards website at https://www.dir.ca.gov/das/, for additional information regarding the employment of apprentices and for the specific journey-to-apprentice ratios for the Contract work. CONTRACTOR is responsible for all subcontractors' compliance with these requirements. Penalties are specified in Labor Code §1777.7.

I. Prohibition of Expending DISTRICT, State, or Federal Funds for Lobbying

i) CONTRACTOR certifies, to the best of his or her knowledge and belief, that:

a. No State, Federal, or DISTRICT appropriated funds have been paid or will be paid, by or on behalf of the CONTRACTOR, to any person for influencing or attempting to influence an officer or employee of any local, State, or Federal agency, a Member of the State Legislature or United States Congress, an officer or employee of the Legislature or Congress, or any employee of a Member of the Legislature or Congress in connection with the awarding or making of this Contract, or with the extension, continuation, renewal, amendment, or modification of this Contract.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Contract, the CONTRACTOR shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

ii) This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. §1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than ten thousand dollars ($10,000) and not more than one hundred thousand dollars ($100,000) for each such failure.

iii) CONTRACTOR also agrees by signing this document that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed one hundred thousand dollars ($100,000), and that all such subrecipients shall certify and disclose accordingly.

J. Debarment and Suspension Certification

i) CONTRACTOR's signature affixed herein shall constitute a certification under penalty of perjury under the laws of the State of California, that the CONTRACTOR or any person associated therewith in the capacity of owner, partner, director, officer or manager:

a. Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;

b. Has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years;

c. Does not have a proposed debarment pending; and

d. Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

ii) Any exceptions to this certification must be disclosed to DISTRICT. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining responsibility. Disclosures must indicate the party to whom the exceptions apply, the initiating agency, and the dates of agency action.

iii) Exceptions to the Federal Government Excluded Parties List System maintained by the U.S. General Services Administration are to be determined by FHWA.

K. Disadvantaged Business Enterprises Participation

i) CONTRACTOR, DISTRICT, or subcontractor shall take necessary and reasonable steps to ensure that DBEs have opportunities to participate in the contract (49 CFR 26). To ensure equal participation of DBEs provided in 49 CFR 26.5, DISTRICT shows a contract goal for DBEs. CONTRACTOR shall make work available to DBEs and select work parts consistent with available DBE subcontractors and suppliers. CONTRACTOR shall meet the DBE goal shown elsewhere in these special provisions or demonstrate that they made adequate good faith efforts to meet this goal. It is CONTRACTOR's responsibility to verify that the DBE firm is certified as DBE at date of proposal opening and document the record by printing out the California Unified Certification Program (CUCP) data for each DBE firm. A list of DBEs certified by the CUCP can be found here. All DBE participation will count toward the California Department of Transportation's federally mandated statewide overall DBE goal. Credit for materials or supplies CONTRACTOR purchases from DBEs counts towards the goal in the following manner:

a. 100 percent counts if the materials or supplies are obtained from a DBE manufacturer.

b. 60 percent counts if the materials or supplies are purchased from a DBE regular dealer.

c. Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies count if obtained from a DBE that is neither a manufacturer nor regular dealer. 49CFR26.55 defines "manufacturer" and "regular dealer."

ii) This Contract is subject to 49 CFR Part 26 entitled “Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs”. Contractors who enter into a federally-funded agreement will assist DISTRICT in a good faith effort to achieve California's statewide overall DBE goal.

iii) The goal for DBE participation for this Contract is 15%. Participation by DBE CONTRACTOR or subcontractor shall be in accordance with information contained in Exhibit 10-O1: Consultant Proposal DBE Commitment, or in Exhibit 10-O2: Consultant Contract DBE Commitment hyperlinked hereto and incorporated as part of the Contract. If a DBE subcontractor is unable to perform, CONTRACTOR must make a good faith effort toreplace him/her with another DBE subcontractor, if the goal is not otherwise met.

iv) CONTRACTOR can meet the DBE participation goal by either documenting commitments to DBEs to meet the Contract goal, or by documenting adequate good faith efforts to meet the Contract goal. An adequate good faith effort means that the CONTRACTOR mustshow that it took all necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to meet the DBE goal. If CONTRACTOR has not met the DBE goal, complete and submit Exhibit 15-H: DBE Information – Good Faith Efforts to document efforts to meet the goal. Refer to 49 CFR Part 26 for guidance regarding evaluation of good faith efforts to meetthe DBE goal.

v) Contract Assurance - Under 49 CFR 26.13(b), CONTRACTOR, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. CONTRACTOR shall carry out applicable requirements of 49 CFR 26 in the award and administration of federal-aid contracts. Failure by the CONTRACTOR to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to: (1) Withholding monthly progress payments; (2) Assessing sanctions; (3) Liquidated damages; and/or (4) Disqualifying CONTRACTOR from future proposing as non-responsible.

vi) Termination and Substitution of DBE subcontractors - CONTRACTOR shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless CONTRACTOR or DBE subcontractor obtains the DISTRICT’s written consent. CONTRACTOR shall not terminate or substitute a listed DBE for convenience and perform the work with their own forces or obtain materials from other sources without authorization from the DISTRICT. Unless the DISTRICT’s consent is provided, CONTRACTORshall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE on the Exhibit 10-O2 Consultant Contract DBE Commitment form. DISTRICT authorizes a request to use other forces or sources of materials if CONTRACTOR shows any of the following justifications:

a. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.

b. DISTRICT stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet the DISTRICT’s bond requirements.

c. Work requires a consultant's license and listed DBE does not have a valid license under Contractors License Law.
d. Listed DBE fails or refuses to perform the work or furnish the listed materials (failing or refusing to perform is not an allowable reason to remove a DBE if the failure or refusal is a result of bad faith or discrimination).
e. Listed DBE's work is unsatisfactory and not in compliance with the contract.
f. Listed DBE is ineligible to work on the project because of suspension or debarment.
g. Listed DBE becomes bankrupt or insolvent.
h. Listed DBE voluntarily withdraws with written notice from the Contract.
i. Listed DBE is ineligible to receive credit for the type of work required.
j. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
k. DISTRICT determines other documented good cause.

CONTRACTOR shall notify the original DBE of the intent to use other forces or material sources and provide the reasons and provide the DBE with 5 days to respond to the notice and advise CONTRACTOR and DISTRICT of the reasons why the use of other forces or sources of materials should not occur. CONTRACTOR's request to use other forces or material sources must include:

a. One or more of the reasons listed in the preceding paragraph.
b. Notices from CONTRACTOR to the DBE regarding the request.
c. Notices from the DBEs to CONTRACTOR regarding the request.

If a listed DBE is terminated or substituted, CONTRACTOR must make good faith efforts to find another DBE to substitute for the original DBE. The substitute DBE must perform at least the same amount of work as the original DBE under the contract to the extent needed to meet or exceed the DBE goal.

vii) Commitment and Utilization - DISTRICT's DBE program must include a monitoring and enforcement mechanism to ensure that DBE commitments reconcile to DBE utilization. DISTRICT shall request CONTRACTOR to:

a. Notify the DISTRICT's contract administrator or designated representative of any changes to its anticipated DBE participation
b. Provide this notification before starting the affected work
c. Maintain records including:
   - Name and business address of each 1st-tier subconsultant
   - Name and business address of each DBE subconsultant, DBE vendor, and DBE trucking company, regardless of tier
   - Date of payment and total amount paid to each business (see Exhibit 9-F Monthly Disadvantaged Business Enterprise Payment)

If CONTRACTOR is a DBE contractor, they shall include the date of work performed by their own forces and the corresponding value of the work. If a DBE is decertified before completing its work, the DBE must notify CONTRACTOR in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify CONTRACTOR in writing of the certification date. CONTRACTOR shall submit the notifications to DISTRICT. On work completion, CONTRACTOR shall complete Exhibit 17-O

Disadvantaged Business Enterprises (DBE) Certification Status Change form and submit the form to the DISTRICT within 30 days of contract acceptance. Upon work completion, CONTRACTOR shall complete Exhibit 17-F Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors and submit it to the DISTRICT within 90 days of contract acceptance. DISTRICT will withhold $10,000 until the form is submitted. DISTRICT will release the withhold upon submission of the completed form. In the DISTRICT's reports of DBE participation to Caltrans, DISTRICT must display both commitments and attainments.

viii) A DBE is only eligible to be counted toward the Contract goal if it performs a Commercially Useful Function (CUF) on the Contract. CUF must be evaluated on a contract by contract basis. A DBE performs a CUF when it is responsible for execution of the work of the Contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a CUF, the DBE must also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable), and paying for the material itself. To determine whether a DBE is performinga CUF, evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing, and other relevant factors.

ix) A DBE does not perform a CUF if its role is limited to that of an extra participant in a transaction, Contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, examine similar transactions, particularly those in which DBEs do not participate.

x) If a DBE does not perform or exercise responsibility for at least thirty percent (30%) of the total cost of its Contract with its own work force, or the DBE subcontracts a greater portion of the work of the Contract than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that it is not performing a CUF.

xi) CONTRACTOR shall maintain records of materials purchased or supplied from all subcontracts entered into with certified DBEs. The records shall show the name and business address of each DBE or vendor and the total dollar amount actually paid each DBE or vendor, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all firms. DBE prime CONTRACTOR's shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.

xii) If a DBE subcontractor is decertified during the life of the Contract, the decertified subcontractor shall notify CONTRACTOR in writing with the date of decertification. If a subcontractor becomes a certified DBE during the life of the Contract, the subcontractor shall notify CONTRACTOR in writing with the date of certification. Any changes should be reported to DISTRICT within thirty (30) calendar days.

xiii) After submitting an invoice for reimbursement that includes a payment to a DBE, but no later than the 10th of the following month, CONTRACTOR shall complete and email the Exhibit 9-F: Disadvantaged Business Enterprise Running Tally of Payments to business.support.unit@dot.ca.gov with a copy to DISTRICT at kchu@baaqmd.gov.

xiv) Any subcontract entered into as a result of this Contract shall contain all of the provisions

of this section.

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

By: DocuSigned by: 0EE3D01BFB654A3...
Jack P. Broadbent
Executive Officer/APCO

Date: 4/26/2021

ALLISON & PARTNERS LLC

By: DocuSigned by: Meghan Curtis AF9F71F57EFD4A5...
Meghan Curtis
General Manager

Date: 4/19/2021

Approved as to form:
District Counsel

By: DocuSigned by: Brian Bunger 2C11BC0B537B4A2...
Brian C. Bunger
District Counsel

Attachment A
General Description of Services

CONTRACTOR shall provide advertising, communications, and public outreach services in support of DISTRICT's Spare the Air Campaigns, the overall objectives of which is to continue to inform and motivate Bay Area residents and businesses to take actions on a continual basis that improve air quality. The work may include the following tasks to achieve those objectives:

A. Comprehensive Spare the Air Communications Strategy

CONTRACTOR will work with the DISTRICT to develop a Comprehensive Spare the Air Communications Strategy that outlines key objectives to meet the goals of the DISTRICT. This plan will include messaging and marketing strategies that will guide implementation; a listing and schedule of activities; and identify key milestones for reporting and evaluation. The Comprehensive Communications Strategy will be inclusive of:

- Creative
- Media Buy
- Media Relations
- Social Media
- Employer Program
- Public Opinion Surveys
- In-Language Survey

B. Spare the Air Campaigns and Employer Program

CONTRACTOR will implement the Spare the Air summer and winter campaigns and the Spare the Air Employer Program. Major tasks include:

- CONTRACTOR will create, design and produce advertising campaign materials to assist the DISTRICT in meeting overall campaign objectives, as outlined in the Comprehensive Communications Strategy. CONTRACTOR will present draft creative to DISTRICT for approval prior to the commencement of production.
- CONTRACTOR will negotiate and execute a Media Buy for the DISTRICT to reach the audiences identified in the Comprehensive Communications Strategy. CONTRACTOR will present the draft media plan to DISTRICT for approval prior to the execution of the media buy.
- CONTRACTOR will design Media Relations plans at the commencement of each program which will incorporate messaging, pitch ideas, and Social Media outreach. CONTRACTOR will work with DISTRICT to create an outreach timeline with clear guidelines and protocols for engagement with the media through a series of local and regional events and pitches; and with the public through social media platforms. The Media Relations plan and Social Media outreach will be aligned with the outreach and messaging for the Employer Program and its key activities.
- CONTRACTOR will continue to implement the Spare the Air Employer Program to disseminate air quality information to Bay Area employers as well as to build a network of employers who will actively participate in the Spare the Air program. CONTRACTOR will work with the DISTRICT to recruit new employers, actively engage with employers and work to improve and enhance the program.

C. Public Opinion Surveys

CONTRACTOR will coordinate with the DISTRICT to develop and deliver a research plan that measures baseline awareness and ongoing awareness at key milestones to be determined by the DISTRICT.

D. In-Language Survey

CONTRACTOR will coordinate with DISTRICT and its contractor, True North Research, Inc., to develop and deliver an in-language survey to measure ongoing awareness at key milestones to be determined by DISTRICT. In the third year alone of this contract, CONTRACTOR will also coordinate and conduct in-language surveys in Spanish, Mandarin and Cantonese as a follow-up to the in-language surveys conducted in previous years for the Spare the Air winter campaign.

Hourly Rates

CONTRACTOR will bill DISTRICT for the work completed under this Contract at the following hourly rates:

Staff Level	Hourly Rate
Partner	$400.00/hr
Executive Vice President	$325.00/hr
Senior Vice President	$310.00/hr
Vice President	$250.00/hr
Director	$210.00/hr
Account Manager	$190.00/hr
Senior Account Executive	$175.00/hr
Account Executive	$150.00/hr
Assistant Account Executive	$125.00/hr
Account Coordinator	$110.00/hr

AMENDMENT NO. 1 TO

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

CONTRACT NO. 2021.031

This amendment to the above-entitled contract ("Contract Amendment") is dated, for reference purposes only, February 7, 2022.

RECITALS:

1. The Bay Area Air Quality Management District ("DISTRICT") and **Allison & Partners, LLC** ("CONTRACTOR") (hereinafter referred to as the "PARTIES") entered into the above-entitled contract for advertising, communications, and public outreach services for DISTRICT's Spare the Air Campaigns (the "Contract"), which Contract was executed on behalf of CONTRACTOR on April 19, 2021, and on behalf of DISTRICT on April 26, 2021.

2. The PARTIES seek to amend the term and the total cost of the Contract because DISTRICT seeks to have CONTRACTOR continue to provide the services prescribed in the Contract, and CONTRACTOR desires to provide those services up to the new total cost and new term date.

3. In accordance with Section 29 of the Contract, DISTRICT and CONTRACTOR amend the above-entitled Contract as follows:

TERMS AND CONDITIONS OF CONTRACT AMENDMENT:

1. By this Contract Amendment, DISTRICT and CONTRACTOR amend Section 5, "Term." The term of the Contract shall be extended so that the termination date of the Contract is now June 30, 2023.

2. By this Contract Amendment, DISTRICT and CONTRATOR amend Paragraph C of Section 9, "Agreement to Provide Services", of the Contract to replace "$1,950,000" with "$1,950,000 from July 1, 2021 – June 30, 2022 and $1,950,000 from July 1, 2022 to June 30, 2023."

3. DISTRICT and CONTRACTOR agree that all other terms and conditions of the Contract shall remain in full force and effect.

IN WITNESS WHEREOF, the PARTIES have caused this Contract Amendment to be duly executed on their behalf by their authorized representatives.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

By: _____
Alexander Crockett
Interim Executive Officer/APCO

Date: _____

ALLISON & PARTNERS LLC

By: _____
Meghan Curtis
General Manager

Date: _____

Approved as to form:
District Counsel

By: _____
Adan Schwartz
Acting District Counsel

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Administration Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 20, 2022

Re: Air District Board Composition Discussion

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

At the February 16, 2022 Administration Committee meeting, committee members heard a presentation for Air District staff regarding a timeline to receive information, discuss, and potentially adjust the composition and size of the Air District Board. This includes the idea of whether or not to add non-elected appointees, and the desired backgrounds of potential appointees. Changes to the Board of Directors (Board) composition will require legislation, and a deliberative process in 2022 could get Board consensus on legislative language that could be introduced in 2023. As a reminder, the timeline below was suggested to meet a 2023 introduction:

February 16, 2022
Administration Committee: Overview of proposed timeline.

April 2022
Administration Committee: Background, history, and questions. This meeting would review the existing Health and Safety Code statute related to Bay Area Air Quality Management District Board composition, the formula used to allocate board members between cities and counties, and questions that the Committee(s) and Board may want to address regarding Board composition, including potential number of new appointees, appointing authority, eligibility criteria, and whether to change the formula for establishing elected official representation. This meeting would also provide a background on the most recent bill changing the composition of the San Diego Air Pollution Control District Board - Assembly Bill (AB) 423 (Gloria; Chapter 744, Statutes of 2019) - and the current status of a bill proposing to change the composition of the South Coast Air Quality Management District Board - Senate Bill (SB) 342 (Gonzalez). This meeting could be used to provide some initial direction related to the above questions, but primarily be used to set up the discussion for the following meeting.

May 2022
Administration Committee: Discussion and consensus regarding proposal to bring to Board of Directors for consideration.

Month TBD 2022
Board of Directors: Receive presentation, discuss, and provide direction to staff if necessary.

Month TBD 2022
Legislative Committee: Receive presentation on proposed legislative language and provide direction to staff if necessary.

Month TBD 2022
Board of Directors: Receive presentation on proposed legislative language and provide direction to staff if necessary.

January/February 2023
Bill introduction, if necessary.

DISCUSSION

The information below is a partial reprint of information provided for the December 2, 2020, Board meeting pertinent to this discussion.

The composition of the Air District Board of Directors is prescribed in California Health and Safety Code Sections 40220 through 40226, with a majority of the sections remaining unchanged since 1975. In brief, the nine counties or partial counties get one, two, three, or four Board members based on the population in the county or partial county.

In appointing representatives from individual counties, the first appointee is a county supervisor, the second a city councilmember or mayor, the third a county supervisor, and the fourth a city councilmember or mayor. Appointees are determined by the respective county boards of supervisors or city selection committees, and in some instances county boards of supervisors have exercised their prerogative to appoint a member from the list provided by a city selection committee to fill a county supervisor seat. The governing statutes explicitly provide that the city selection committee appointee for the City and County of San Francisco is the Mayor of the City of San Francisco. In addition, the city selection committee appointee in a county that appoints only three members may appoint a deputy to act on his or her behalf on the board of directors or its committees, but the board member remains responsible for the acts of his or her deputy acting in that capacity. As a result, the Board currently consists of 24 members representing the 9 counties as follows:

- Population of 300,000 or less:
    - 1 representative each:
        - Marin and Napa
- Population of 750,000 or less, but more than 300,000:
    - 2 representatives each:
        - Solano and Sonoma
- Population of 1,000,000 or less, but more than 750,000:
    - 3 representatives each:
        - San Francisco and San Mateo
- Population of more than 1,000,000
    - 4 representatives each:
        - Alameda, Contra Costa, and Santa Clara

The Board appears likely to remain at 24 members for at least a decade with either San Francisco or Marin next reaching thresholds to appoint another representative.

Comparable Air District Board Compositions

The other four large air districts in California (South Coast Air Quality Management District , San Joaquin Valley Unified Air Pollution Control District , Sacramento Metropolitan Air Quality Management District, and San Diego Air Pollution Control District) also have prescribed Board compositions in the California Health and Safety Code, with San Diego's Board changing as of March 2021 due to the passage of Assembly Bill 423 (Gloria) in 2019. Unlike the Bay Area AQMD, which increases Board size with population growth, each of these air districts have a set number of Board members comprised of different numbers of county supervisors, city councilmembers or mayors, and in some cases non-elected appointees. Non-elected appointees specify different backgrounds for qualification, and can be appointed by the Governor, Senate, Assembly, or by the air district's own Board. It should be noted that some of these air districts do not have an Advisory Council like the Bay Area AQMD has, or a Community Advisory Council like the Bay Area AQMD has, to provide formal technical and community perspectives. The table below illustrates the Board composition differences between air districts.

Air District	Population	Counties (whole and partial)	Total Board Members	External Appointee(s) Information
Bay Area	7.5 million	9	24 County Elected (14) City Elected (10)	Mayor of San Francisco currently appoints a deputy to act on her behalf
South Coast	17 million	4	13 County Elected (4) City Elected (6) External Appointee (3)	1 - Governor Appointed with the advice and consent of Senate 1 - State Senate Rules Committee Appointed 1 - Speaker of State Assembly Appointed
San Joaquin	4.3 million	8	15 County Elected (8) City Elected (5) External Appointee (2)	Governor Appointed with the advice and consent of Senate: 1 - Physician 1 - Medical or scientific expertise
Sacramento Metro	1.6 million	1	14 County Elected (5) City Elected (9)	None
San Diego	3.3 million	1	11 County Elected (2) City Elected (6) External Appointee (3)	Board Appointed 1 - Physician or Public Health Professional 1 - Environmental Justice Representative 1 - Scientific or Technical Background

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Alan Abbs
Reviewed by: Alexander Crockett

ATTACHMENTS:

1. Bay Area AQMD - Board Composition
2. Sacramento Metropolitan AQMD - Board Composition
3. San Diego County APCD - Board Composition
4. San Joaquin Valley APCD - Board Composition
5. South Coast AQMD - Board Composition

ARTICLE 3. Governing Body [40220 - 40234] *(Article 3 added by Stats. 1975, Ch. 957.)*

40220. The bay district board is the governing body of the bay district and shall exercise all the powers of the bay district.

(Added by Stats. 1975, Ch. 957.)

40220.5. The bay district board shall be a board of directors consisting of members appointed pursuant to Section 40221.5 from each county included, in whole or in part, within the district on the basis of the population of that portion of the county, as determined by the latest estimate prepared by the Demographic Research Unit of the Department of Finance pursuant to Section 2227 of the Revenue and Taxation Code, included within the district.

(Amended by Stats. 2019, Ch. 29, Sec. 119. (SB 82) Effective June 27, 2019.)

40221. A county with a population of 300,000 or less shall appoint one member of the bay district board; a county with a population of 750,000 or less, but more than 300,000, shall appoint two members of the bay district board; a county with a population of 1,000,000 or less, but more than 750,000, shall appoint three members of the bay district board; and a county with a population of more than 1,000,000 shall appoint four members of the bay district board.

(Added by Stats. 1976, Ch. 517.)

40221.5. (a) The members of the bay district board shall be appointed as follows:

(1) For a county entitled to appoint one member of the bay district board, the board of supervisors shall appoint either a member of the board of supervisors or a person from a list submitted to the board of supervisors by the city selection committee of that county.

(2) For a county entitled to appoint two members of the bay district board, the city selection committee of that county shall appoint one member and the board of supervisors shall appoint the other member, which member may either be a member of the board of supervisors or a person on the list submitted to the board of supervisors by the city selection committee.

(3) For a county entitled to appoint three members of the bay district board, two members shall be appointed as provided in paragraph (2) and the third member shall be appointed by the board of supervisors and shall either be a member of the board of supervisors or a person on the list submitted to the board of supervisors by the city selection committee of that county.

(4) For a county entitled to appoint four members of the bay district board, the city selection committee of that county shall appoint two members and the board of supervisors shall appoint the other two members, either one or both of whom may be members of the board of supervisors or persons on the list submitted to the board of supervisors by the city selection committee.

(b) Any member of the bay district board appointed, and any person named on the list submitted to the board of supervisors by the city selection committee, shall be either a mayor or a city councilperson of a city in that portion of the county included within the district. The member appointed by a city selection committee pursuant to paragraph (3) of subdivision (a) or Section 40212 may designate a deputy to act on his or her behalf on the bay district board or any of its committees. The board member shall be responsible for the acts of the deputy acting in his or her official capacity on the bay district board or any of its committees under this designation.

(Amended by Stats. 2002, Ch. 1001, Sec. 1. Effective January 1, 2003.)

40222. Each member appointed by the board of supervisors shall hold office for a term of four years and until the appointment and qualification of his successor, and each member appointed by the city selection committee shall hold office for two years and until the appointment and qualification of his successor.

(Added by Stats. 1975, Ch. 957.)

40223. Any vacancy on the bay district board shall be filled by appointment in the same manner as the vacating member was appointed.

Any member of the bay district board may be removed at any time in the same manner as he was appointed. If four-fifths of the members of the board of supervisors of a county request the removal of a member appointed by the city selection committee of such county, the city selection committee of such county shall meet within 20 days to consider the removal of such member.

(Added by Stats. 1975, Ch. 957.)

40224. If any member of the bay district board is recalled from his or her office as a supervisor, mayor, or city council member, pursuant to Division 11 (commencing with Section 11000) of the Elections Code, his or her office as member of the bay district board shall be vacant.

(Amended by Stats. 1994, Ch. 923, Sec. 155. Effective January 1, 1995.)

40225. No supervisor, mayor, or city council member shall hold office on the bay district board for a period of more than three months after ceasing to hold the office of supervisor, mayor, or city council member, respectively, and his or her membership on the bay district board shall thereafter be considered vacant, except that any mayor who continues to hold office as a city council member, or any city council member who continues to hold office as a mayor, shall not be considered to have ceased to hold office under this section.

(Amended by Stats. 2010, Ch. 699, Sec. 28. (SB 894) Effective January 1, 2011.)

40226. A majority of the members of the bay district board constitutes a quorum for the transaction of business and may act for the bay district board.

(Added by Stats. 1975, Ch. 957.)

40227. Each member of the bay district board shall receive actual and necessary expenses incurred in the performance of board duties, and may receive compensation, to be determined by the bay district board, not to exceed one hundred dollars ($100) for each day attending the meetings of the bay district board and committee meetings thereof, or, upon authorization of the bay district board, while on official business of the bay district, but the compensation shall not exceed six thousand dollars ($6,000) in any one year. Compensation pursuant to this section shall be fixed by ordinance.

(Amended by Stats. 1986, Ch. 135, Sec. 1.)

40228. The bay district board may appoint an executive secretary to perform such duties as may be assigned to the executive secretary by the bay district board.

(Added by Stats. 1975, Ch. 957.)

40229. The bay district board may, by ordinance, adopt a civil service system for any or all employees of the bay district, except that the executive secretary and the air pollution control officer shall be exempt from such system and shall serve at the pleasure of the bay district board.

(Added by Stats. 1975, Ch. 957.)

40230. The bay district board may establish, within the bay district, zones wherein special regulations are warranted. In establishing such zones, the bay district board shall consider the degree of

concentration of population, the number, nature, and dispersal of the stationary sources of air pollution, whether the area is a rural agricultural area, and the presence or absence of industry.

(Added by Stats. 1975, Ch. 957.)

40231. The bay district board may establish, within the bay district, zones wherein differing tax formulas may be applied. In establishing such zones, the bay district board shall consider the degree of concentration of population, the number, nature, and dispersal of the stationary sources of air pollution, whether the area is a rural agricultural area, and the presence or absence of industry.

(Added by Stats. 1975, Ch. 957.)

40232. Except as provided in Section 41705, the bay district board shall establish standards for the emission of identifiable odor-causing substances. Exceptions or variances may be granted from such standards in a manner provided by the bay district board. No person shall discharge from any source any contaminant which violates such standards.

(Amended by Stats. 1995, Ch. 952, Sec. 2. Effective October 16, 1995.)

40233. (a) Notwithstanding any other provision of law, the bay district shall adopt, implement, and enforce transportation control measures for the attainment of state or federal ambient air quality standards, in accordance with all of the following procedures:

(1) The bay district shall estimate, by June 30, 1989, the quantity of emission reductions from transportation sources necessary to attain and maintain state and federal ambient air standards.

(2) The Metropolitan Transportation Commission, in cooperation with the bay district, the Association of Bay Area Governments, local entities, and employers, shall develop and adopt a plan to control emissions from transportation sources which will achieve the emission reductions established pursuant to paragraph (1). The plan shall include, at a minimum, a schedule for implementing transportation control measures, identification of potential implementing agencies and any agreements entered into by agencies to implement portions of the plan, and a procedure for monitoring the effectiveness of and compliance with the measures. The commission shall submit the plan to the bay district for its adoption according to a reasonable schedule developed by the bay district in consultation with the commission, but not later than June 30, 1990.

(3) Upon receipt of the plan submitted by the commission, the bay district shall review the plan to determine if it will achieve the emission reductions specified in paragraph (1). If the bay district determines that the plan will achieve those reductions, the bay district shall adopt the plan and implement it immediately. If the bay district determines that the plan will not achieve the emission reductions specified in paragraph (1), it shall notify the commission of the specific deficiencies in the plan and return the plan to the commission for revision. Within 60 days after receipt of the plan, the commission shall revise it and return it to the bay district. If the bay district determines that the revised plan will achieve necessary emission reductions, the bay district shall adopt the plan and implement it immediately. If the bay district determines that the revised plan still will not achieve the emission reductions specified in paragraph (1), or if the plan is not submitted pursuant to the schedule established under paragraph (2), the bay district shall develop and adopt a plan to control emissions from transportation sources.

(4) As the bay district periodically revises its estimates of the emission reductions from transportation sources necessary to attain state and federal ambient air standards specified in paragraph (1), the plan for transportation control measures shall also be revised, adopted, and enforced according to the procedure established pursuant to paragraphs (1), (2), and (3).

(b) The bay district may delegate any function with respect to transportation control measures to any local agency, if all of the following conditions are met:

(1) The local agency submits to the bay district an implementation plan which provides adequate resources to adopt and enforce the measures, and the bay district approves the plan.

(2) The local agency agrees to adopt and implement measures at least as stringent as those in the district air quality management plan to attain state standards.

(3) The bay district adopts procedures to review the performance of the local agency in implementing the measures to ensure compliance with the district air quality management plan to attain state standards.

(c) The bay district may revoke a delegation under this section if it determines that the performance of the local agency is in violation of this section or is otherwise inadequate to implement the district air quality management plan.

(d) For purposes of this section, "transportation control measures" means any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for purposes of reducing motor vehicle emissions.

(e) The bay district and the commission shall report, not later than June 30, 1991, to the Legislature on the effectiveness of this section.

(Added by Stats. 1988, Ch. 1569, Sec. 2.)

40234. In adopting any regulation, the bay district board shall comply with Section 40703.

(Added by Stats. 1990, Ch. 1457, Sec. 1.)

ARTICLE 3. Governing Body [40980 - 40982] *(Article 3 added by Stats. 1988, Ch. 1541, Sec. 3.)*

40980. (a) The Sacramento district shall, at a minimum, be governed by a district board composed of the Board of Supervisors of the County of Sacramento.

(b) If the County of Placer submits a resolution of inclusion, pursuant to Section 40963, one or more elected officials from that county shall be included on the Sacramento district board, pursuant to agreement between that county and the Sacramento district board.

(c) (1) The membership of the Sacramento district board shall include one or more members who are mayors or city council members, or both, and one or more members who are county supervisors.

(2) The number of those members and their composition shall be determined jointly by the counties and cities within the district, and shall be approved by a majority of the counties, and by a majority of the cities that contain a majority of the population in the incorporated area of the district.

(d) The governing board shall reflect, to the extent feasible and practicable, the geographic diversity of the district and the variation of population between the cities in the district.

(e) (1) Except as provided in paragraph (2), the members of the governing board who are mayors or city council members shall be selected by the city council of the city that they represent. The members of the governing board who are county supervisors shall be selected by the county if the district only contains one county or a majority of counties within the district if the district contains more than one county.

(2) The city selection committee shall be convened to select a member of the governing board from nominees who are mayors or city council members only if there is to be a change in a board member designated to represent more than one city, and only if more than one of those cities submits nominees for that board member position.

(3) When selecting a member of the governing board, a city council and the city selection committee may also appoint a mayor or another city council member as an alternate to serve and vote in place of the member who is absent or is disqualified from participating.

(f) (1) If the district fails to comply with subdivision (c), one-third of the members of the governing board shall be mayors or city council members, and two-thirds shall be county supervisors. The number of those members shall be determined as provided in paragraph (2) of subdivision (c), and the members shall be selected pursuant to subdivision (e).

(2) For purposes of paragraph (1), if any number which is not a whole number results from the application of the term "one-third" or "two-thirds," the number of county supervisors shall be increased to the nearest integer, and the number of mayors or city council members decreased to the nearest integer.

(Amended by Stats. 2007, Ch. 343, Sec. 17. Effective January 1, 2008.)

40981. The Sacramento district board shall elect a chairperson every two years from its membership.

(Amended by Stats. 2007, Ch. 664, Sec. 3. Effective January 1, 2008.)

40982. Each member of the Sacramento district board shall receive actual and necessary expenses incurred in the performance of board duties, and may receive compensation, to be determined by the Sacramento district board, not to exceed one hundred dollars ($100) for each day attending the meetings of the Sacramento district board and committee meetings thereof, or upon authorization of the Sacramento district board, while on official business of the Sacramento district, but the

compensation shall not exceed six thousand dollars ($6,000) in any one year. Compensation pursuant to this section shall be fixed by ordinance.

(Added by Stats. 2006, Ch. 425, Sec. 1. Effective September 22, 2006.)

40100.6. (a) The 11 members of the San Diego County Air Pollution Control District governing board shall be appointed as follows:

(1) (A) Two members representing the board of supervisors as appointed by a majority of the board of supervisors.

(B) One of the two members representing the board of supervisors pursuant to subparagraph (A) shall be the member of the board of supervisors who is currently serving as the San Diego County Air Pollution Control District's member on the state board, as required pursuant to paragraph (4) of subdivision (d) of Section 39510. That member of the board of supervisors shall continue to serve as one of the two members of the San Diego Air Pollution Control District pursuant to subparagraph (A) until that member is no longer the San Diego County Air Pollution Control District's member on the state board.

(2) The mayor or a city council member at large from the City of San Diego.

(3) (A) One city council member from each of the five supervisorial districts. Those five members shall be selected by city selection committees representing the cities of that supervisorial district.

(B) A city shall not have more than two members.

(4) Three public members shall be appointed by the members appointed pursuant to paragraphs (1) to (3), inclusive, at a public hearing. The public members shall be appointed according to the following:

(A) One public member shall be a physician or public health professional actively practicing within the boundaries of the San Diego County Air Pollution Control District. The member's speciality shall be in the health effects of air pollution on vulnerable populations.

(B) One public member shall be a person representing environmental justice interests and who works directly with communities within the boundaries of the San Diego County Air Pollution Control District that are most significantly burdened by, and vulnerable to, high levels of pollution, including communities with diverse racial and ethnic populations and communities with low-income populations. This member may be a resident of that community and have a demonstrated record of community leadership.

(C) One public member shall be a person with a scientific or technical background in air pollution, such as an environmental engineer, chemist, meteorologist, or air pollution specialist.

(b) All members shall be appointed on the basis of their demonstrated interest and proven ability in the field of air pollution control and their understanding of the needs of the general public in connection with the air pollution problems of the San Diego Air Basin.

(c) All members shall reside within the boundaries of the San Diego County Air Pollution Control District.

(d) Each member of the San Diego County Air Pollution Control District shall serve a four-year term and until that member's successor is appointed.

(e) Each member of the San Diego County Air Pollution Control District governing board appointed pursuant to paragraph (4) of subdivision (a) shall receive compensation of one hundred dollars ($100) for each day, or a portion thereof, but not to exceed one thousand dollars ($1,000) per month, while attending meetings of the district governing board or any committee of the district governing board or, upon authorization of the district governing board, while on official business of the San Diego County

Air Pollution Control District, and the actual and necessary expenses incurred in performing the member's official duties.

(f) (1) A vacancy on the San Diego County Air Pollution Control District governing board shall be filled by appointment in the same manner as the vacating member was appointed.

(2) A member of the San Diego County Air Pollution Control District governing board may be removed at any time in the same manner as the member was appointed.

(g) (1) The San Diego County Air Pollution Control District governing board shall consult with the United States Navy, the United States Marine Corps, and the United States Coast Guard on all permitting, rules, regulations, and planning issues that have the potential to impact the mission of the United States Navy, the United States Marine Corps, and the United States Coast Guard.

(2) The San Diego County Air Pollution Control District governing board shall designate one member appointed pursuant to paragraph (1) of subdivision (a) to serve as the liaison to the United States Navy, the United States Marine Corps, and the United States Coast Guard. The liaison shall report to the San Diego County Air Pollution Control District governing board as necessary to inform the governing board of any issues with the activities described in paragraph (1) and of any potential resolution to those issues.

(h) This section shall become operative on March 1, 2021.

(Added by Stats. 2019, Ch. 744, Sec. 6. (AB 423) Effective January 1, 2020. Operative March 1, 2021, by its own provisions.)

CHAPTER 5.7. San Joaquin Valley Unified Air Pollution Control District [40600 - 40608] *(Chapter 5.7 added by Stats. 2003, Ch. 483, Sec. 2.)*

40600. (a) The San Joaquin Valley Unified Air Pollution Control District formed by the Counties of Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare pursuant to Chapter 3 (commencing with Section 40150), and consisting of the Counties of Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare, and that portion of the County of Kern that is within the San Joaquin Valley Air Basin, is a single integrated agency with all staff under one centralized management structure that is able to implement programs on a basinwide basis, and has all of the following:

(1) An individual air pollution control officer who is responsible for the issuance of all permits by the unified district.

(2) A single budget for the unified district with resources allocated based on the program needs of the San Joaquin Valley Air Basin.

(3) A uniform fee structure.

(4) Three hearing boards established pursuant to Section 40800. One hearing board shall serve the northern region, one shall serve the central region, and one shall serve the southern region. Identical policies governing the operation of each hearing board shall be established by the unified district board and shall be binding upon each hearing board.

(5) A citizen’s advisory committee.

(b) Rules and regulations adopted by the San Joaquin Valley Unified Air Pollution Control District are binding on all counties within the unified district. The unified district shall enforce all permits issued by the unified district and all permits issued by the individual county districts prior to formation of the unified district. The unified district shall review, revise, adopt, and implement any air pollution control plans required within the San Joaquin Valley Air Basin by state and federal law.

(c) Notwithstanding any other provision of law, the San Joaquin Valley Unified Air Pollution Control District shall be governed by a district board composed of 15 voting members, appointed as follows:

(1) Eight members, one of whom shall be appointed by each of the Counties of Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare. The board of supervisors of each of those counties shall, by majority vote, appoint one of its members to serve as a member of the district board.

(2) Five city council members appointed by the special city selection committee created pursuant to Section 40600.5. The special city selection committee shall not appoint more than one city council member representing a city located in the same county. Of the five city council members appointed pursuant to this paragraph, three shall be from a city having a population of less than 100,000, with one member selected from the northern region, one from the central region, and one from the southern region of the district. The other two city council members appointed pursuant to this paragraph shall be from a city having a population of 100,000 or more, with each member selected from different regions of the district.

(3) The terms of office for members appointed pursuant to paragraph (2) after April 1, 2007, shall be three years.

(4) Two public members appointed by the Governor, with the advice and consent of the Senate, as follows:

(A) One public member who is a physician, actively practicing within the district, whose daily practice or research specialty lies in the health effects of air pollution on vulnerable populations.

(B) One public member who has medical or scientific expertise in the health effects of air pollution.

(5) The terms of office for the members initially appointed pursuant to subparagraphs (A) and (B) of paragraph (4) shall be as follows:

(A) For the member appointed pursuant to subparagraph (A) of paragraph (4), the term shall be four years.

(B) For the member appointed pursuant to subparagraph (B) of paragraph (4), the term shall be two years.

(6) After the initial term of appointment, the terms of office for the members appointed pursuant to subparagraphs (A) and (B) of paragraph (4) shall be four years.

(d) Each member shall be appointed on the basis of his or her demonstrated interest and proven ability in the field of air pollution control and their understanding of the needs of the general public in connection with air pollution problems of the San Joaquin Valley Air Basin.

(e) Each member shall be appointed on the basis of his or her ability to attend substantially all meetings of the district board, to discharge all duties and responsibilities of a member of the district board on a regular basis, and to participate actively in the affairs of the district. A member shall not designate an alternate for any purpose or otherwise be represented by another person in his or her capacity as a member of the district board.

(f) All members shall be residents of the district.

(g) Any vacancy in the office of a member of the district board shall be filled promptly by the appointing authority.

(h) As used in this section, the following terms have the following meanings:

(1) “Central region” means the Counties of Fresno, Kings, and Madera.

(2) “Northern region” means the Counties of Merced, San Joaquin, and Stanislaus.

(3) “Southern region” means the Counties of Kern and Tulare.

(Amended by Stats. 2008, Ch. 622, Sec. 1. Effective January 1, 2009.)

HEALTH AND SAFETY CODE - HSC

DIVISION 26. AIR RESOURCES [39000 - 44474] *(Division 26 repealed and added by Stats. 1975, Ch. 957.)*

PART 3. AIR POLLUTION CONTROL DISTRICTS [40000 - 41357] *(Part 3 added by Stats. 1975, Ch. 957.)*

CHAPTER 5.5. South Coast Air Quality Management District [40400 - 40540] *(Chapter 5.5 added by Stats. 1976, Ch. 324.)*

ARTICLE 3. Governing Body [40420 - 40428] *(Heading of Article 3 renumbered from Article 2.5 by Stats. 1980, Ch. 1085.)*

40420. (a) The south coast district shall be governed by a district board consisting of 13 members appointed as follows:

(1) One member appointed by the Governor, with the advice and consent of the Senate.

(2) One member appointed by the Senate Committee on Rules.

(3) One member appointed by the Speaker of the Assembly.

(4) Four members appointed by the boards of supervisors of the counties in the south coast district. Each board of supervisors shall appoint one of these members, who shall be one of the following:

(A) A member of the board of supervisors of the county making the appointment.

(B) A mayor or member of a city council from a city in the portion of the county making the appointment that is included in the south coast district.

(5) Three members appointed by cities in the south coast district. The city selection committee of Orange, Riverside, and San Bernardino Counties shall each appoint one of these members, who shall be either a mayor or a member of the city council of a city in the portion of the county included in the south coast district.

(6) A member appointed by the cities of the western region of Los Angeles County, consisting of the Cities of Agoura Hills, Artesia, Avalon, Bell, Bellflower, Bell Gardens, Beverly Hills, Calabasas, Carson, Cerritos, Commerce, Compton, Cudahy, Culver City, Downey, El Segundo, Gardena, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Inglewood, La Habra Heights, La Mirada, Lakewood, Lawndale, Lomita, Long Beach, Lynwood, Malibu, Manhattan Beach, Maywood, Montebello, Norwalk, Palos Verdes Estates, Paramount, Pico Rivera, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Santa Fe Springs, Santa Monica, Signal Hill, South Gate, Torrance, Vernon, West Hollywood, Westlake Village, and Whittier. These cities shall organize as a city selection committee for the purposes of subdivision (f), and shall be known as the city selection committee of the western region of Los Angeles County. The member appointed shall be either a mayor or a member of the city council of a city in the western region.

(7) A member appointed by the cities of the eastern region of Los Angeles County, consisting of the cities in Los Angeles County that are not listed in paragraph (6) or (8), and excluding the Cities of Lancaster, Los Angeles, and Palmdale. These cities shall organize as a city selection committee for the purposes of subdivision (f), and shall be known as the city selection committee of the eastern region of Los Angeles County. The member appointed shall be either a mayor or a member of the city council of a city in the eastern region.

(8) A member appointed by the Mayor of the City of Los Angeles from among the members of the Los Angeles City Council.

(b) All members shall be appointed on the basis of their demonstrated interest and proven ability in the field of air pollution control and their understanding of the needs of the general public in connection with air pollution problems of the South Coast Air Basin.

(c) The member appointed by the Governor shall be either a physician who has training and experience in the health effects of air pollution, an environmental engineer, a chemist, a meteorologist, or a specialist in air pollution control.

(d) Each member shall be appointed on the basis of his or her ability to attend substantially all meetings of the south coast district board, to discharge all duties and responsibilities of a member of

the south coast district board on a regular basis, and to participate actively in the affairs of the south coast district. No member may designate an alternate for any purpose or otherwise be represented by another in his or her capacity as a member of the south coast district board.

(e) Each appointment by a board of supervisors shall be considered and acted on at a duly noticed, regularly scheduled hearing of the board of supervisors, which shall provide an opportunity for testimony on the qualifications of the candidates for appointment.

(f) The appointments by cities in the south coast district shall be considered and acted on at a duly noticed meeting of the city selection committee, which shall meet in a government building and provide an opportunity for testimony on the qualifications of the candidates for appointment. Each appointment shall be made by not less than a majority of all the cities in the portion of the county included in the south coast district having not less than a majority of the population of all the cities in the portion of the county included in the south coast district. Population shall be determined on the basis of the most recent verifiable census data developed by the Department of Finance. Persons residing in unincorporated areas or areas of a county outside the south coast district shall not be considered for the purposes of this subdivision.

(g) The members appointed by the Senate Committee on Rules and the Speaker of the Assembly shall have one or more of the qualifications specified in subdivision (c) or shall be a public member. None of those appointed members may be a locally elected official.

(h) All members shall be residents of the district.

(i) (1) The member who was serving on the district board as of June 1, 2007, who had been appointed to represent the eastern region of Los Angeles County shall be deemed on January 1, 2008, to be the member appointed to represent the western region of Los Angeles County pursuant to paragraph (6) of subdivision (a) and shall serve from January 1, 2008, until the end of the term of office for the member who had been appointed to represent the western region of Los Angeles County. At the end of that term, the city selection committee of the western region of Los Angeles County shall make an appointment pursuant to paragraph (6) of subdivision (a).

(2) The member who was serving on the district board as of June 1, 2007, who had been appointed to represent the western region of Los Angeles County shall be deemed on January 1, 2008, to be the member appointed pursuant to paragraph (8) of subdivision (a) until the end of that member's term. At the end of that term, the Mayor of the City of Los Angeles shall make an appointment pursuant to paragraph (8) of subdivision (a).

(3) On or after January 1, 2008, the city selection committee of the eastern region of Los Angeles County shall convene promptly to make an appointment pursuant to paragraph (7) of subdivision (a).

(Amended by Stats. 2007, Ch. 664, Sec. 1. Effective January 1, 2008.)

40421.5. For the purpose of complying with Section 50271 of the Government Code, each mayor shall designate a member of the city's legislative body to attend and vote in his or her place and as his or her representative if the mayor is unable to attend any meeting of the city selection committee to be held pursuant to this article. If a mayor does not make this designation within 10 days preceding a meeting of the city selection committee, the legislative body shall designate one of its own members to represent the city.

(Added by Stats. 1988, Ch. 741, Sec. 2.)

40422. (a) The term of each member of the south coast district board shall be four years and until his or her successor is appointed. Upon the expiration of his or her term, a member who is a mayor from the County of Orange or a member of a city council from the County of Orange may be reappointed, in accordance with subdivision (f) of Section 40420, within 60 days, and the office shall become vacant if the member is not so reappointed within 60 days. Any vacancy on the south coast district board shall be filled within 60 days of its occurrence by its appointing authority.

(b) The members first appointed to the board shall classify themselves by lot so that the terms of four members expire January 15, 1990, the terms of four members expire January 15, 1991, and the terms of three members expire January 15, 1992.

(c) Notwithstanding subdivision (a), no member of a board of supervisors, mayor, or member of a city council shall hold office on the south coast district board for more than 60 days after ceasing to be supervisor, mayor, or member of the city council, respectively, and the membership on the board held by that person terminates upon the expiration of that 60-day period. However, any mayor who immediately resumes the office of member of the city council, and any member of a city council who becomes mayor, has not ceased to hold office for the purposes of this subdivision.

(d) Any member who does not attend three consecutive meetings of the south coast district board without good and sufficient cause therefor, shall be removed by the appointing authority. Any member who does not attend three consecutive meetings of the south coast district board, without good and sufficient cause therefor, and is not thereupon removed by the appointing authority, may be removed by the affirmative vote of at least eight members of the south coast district board.

(Amended by Stats. 1993, Ch. 563, Sec. 1. Effective January 1, 1994.)

40423. The south coast district board shall provide for the frequency and location of its meetings, except that no meeting of the south coast district board shall take place without public notice given at least seven days in advance of the scheduled date of the meeting or, as to special and emergency meetings, without complying with the requirements of Section 54956 or 54956.5, respectively, of the Government Code.

(Amended by Stats. 1988, Ch. 741, Sec. 3.)

40424. (a) Except as provided in subdivision (b), seven members of the south coast district board shall constitute a quorum, and no official action shall be taken by the south coast district board except in the presence of a quorum and upon the affirmative votes of a majority of the members of the south coast district board.

(b) Notwithstanding subdivision (a), whenever there are two or more vacancies on the south coast district board, six members shall constitute a quorum, and the two vacant positions shall not be counted toward the majority required for official action by the south coast district board. Thereafter, whenever at least one of those vacancies is filled, the quorum and voting requirements of subdivision (a) shall apply.

(Amended by Stats. 1988, Ch. 741, Sec. 4.)

40424.5. Voting by the south coast district board on the adoption of all items on its agenda shall be by rollcall. Unless any board member objects, a substitute rollcall may be used on any agenda item. A substitute rollcall shall consist of a unanimous voice vote of the south coast district board members in attendance and shall be recorded by the clerk of the board as an "aye" vote for all members present. For purposes of this section, any consent calendar is a single item.

(Amended by Stats. 1992, Ch. 371, Sec. 1. Effective January 1, 1993.)

40425. The south coast district board shall elect a chairperson every two years from its membership.

(Amended by Stats. 2007, Ch. 664, Sec. 2. Effective January 1, 2008.)

40426. Each member of the south coast district board shall receive compensation of one hundred dollars ($100) for each day, or portion thereof, but not to exceed one thousand dollars ($1,000) per month, while attending meetings of the south coast district board or any committee thereof or, upon authorization of the south coast district board, while on official business of the south coast district, and the actual and necessary expenses incurred in performing the member's official duties.

(Amended by Stats. 1987, Ch. 1301, Sec. 6.)

40426.5. (a) Upon the request of any person, or on his or her own initiative, the Attorney General may file a complaint in the superior court for the county in which the south coast district board has its principal office alleging that a member of the south coast district board knowingly or willfully violated

any provision of Title 9 (commencing with Section 81000) of the Government Code, setting forth the facts upon which the allegation is based, and asking that the member be removed from office. Further proceedings shall be in accordance as near as may be with rules governing civil actions. If, after trial, the court finds that the member of the south coast district board knowingly violated this section, it shall issue an order removing the member from office.

(b) The remedy provided in this section is in addition to, and not to the exclusion of, any other remedy, sanction, or penalty available pursuant to law.

(Added by Stats. 1987, Ch. 1301, Sec. 7.)

40426.7. (a) No retired, dismissed, or separated employee or officer of the south coast district, or member of the south coast district board, shall participate in any contract of the district in which he or she engaged in any of the negotiations, transactions, planning, arrangements, or any part of the decisionmaking process relevant to the contract while acting in the capacity of employee or officer of the south coast district, or member of the south coast district board, during the 24-month period commencing on the date the person became retired, dismissed, or separated from service with the south coast district or ceased being a member of the south coast district board.

(b) For a period of 12 months following retirement, dismissal, or separation from service with the south coast district, no former employee or officer of the south coast district, or member of the south coast district board, shall enter into a contract with the south coast district if that person had been with the south coast district in a position involving making any decision, giving or withholding any approval, making any recommendation, rendering any advice, or conducting any investigation concerning the general subject of the proposed contract within 12 months prior to retirement, dismissal, or separation from service with the south coast district. Notwithstanding the prohibitions in this subdivision, the south coast district board may, by a two-thirds vote, enter into a contract with a retired employee of the south coast district or an employee who separated under conditions satisfactory to the south coast district if the south coast district board finds and determines that, at the time of the retirement or separation, the employee was working on one or more programs that are of great importance to the south coast district, that the services of the employee are necessary to assure the continued effectiveness of the program or programs, that the contract is only for that period of time necessary to complete the employee's work on the program or programs, and that the employee is the most qualified person to provide the needed services.

(c) No former employee or officer of the south coast district previously holding a position designated in the conflict-of-interest code of the south coast district, and no member of the south coast district board, who was, at any time while in the service of the south coast district, involved in making any decision, giving or withholding any approval, making any recommendation, rendering any advice, or conducting any investigation involving a particular person shall, with respect to any of these matters that the former employee, officer, or member of the south coast district board was involved in, do any of the following:

(1) Act as an agent or attorney, or otherwise represent, that person in an appearance before the south coast district board or the hearing board.

(2) Make a communication on behalf of that person with the intent to influence the south coast district board or its officers or employees or the hearing board.

(3) Represent, aid, counsel, advise, consult with, or otherwise assist that person in connection with any of these matters in any capacity.

(4) Knowingly enter into a contract or accept employment for any purpose specified in this subdivision.

(d) Any violation of this section is a misdemeanor.

(e) This section applies only to employees and officers who are in the employment of the south coast district on or after July 1, 1988, and members serving on the south coast district board on or after July 1, 1988.

(f) This section shall become operative on July 1, 1988.

(Amended by Stats. 1988, Ch. 1412, Sec. 2. Section applicable July 1, 1988, as specified by this amendment.)

40427. The south coast district board shall determine the location of its headquarters and may establish branch offices in each of the counties included, in whole or in part, within the south coast district, and in such other parts of the south coast district as it deems necessary.

(Added by renumbering Section 40227 by Stats. 1976, Ch. 1063.)

40428. There is continued in existence the South Coast Air Quality Management District Advisory Council, which is appointed by the south coast district board, to advise and consult with the south coast district board in effectuating the purpose of this division.

The membership and rules of the advisory council shall be as established by resolution of the south coast district board.

(Added by Stats. 1980, Ch. 1085.)

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Report of the Richmond Area Community Emissions Reduction Plan Steering Committee Meeting of April 25, 2022

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

None.

DISCUSSION

The Richmond Area Community Emissions Reduction Plan Steering Committee met on Monday, April 25, 2022, and amended and approved the Minutes of March 21, 2022. This meeting was conducted under procedures authorized by Assembly Bill 361. Members of the Committee participated by teleconference.

The Committee then received status updates on the activities of the Committee's Community Description Ad Hoc Committee and Technical Assessment Ad Hoc Committee.

The Committee then received and discussed two guest presentations that focused on the connection between air pollution exposure and health endpoints. The Committee received the presentation *Air Pollution and Health Risks: Partnering with the Community: A Multi-Level Approach to Considering Air Pollution and Health*, given by Dr. Neeta Thakur of the University of California at San Francisco. The Committee then received the presentation *Air Pollution and Health Risk: Increasing Our Understanding*, given by Lily Wu of the Office of Environmental Health Hazard Assessment. Following these presentations, a panel, consisting of the two aforementioned presenters, as well as Dr. Ori Tzvieli of Contra Costa Health Services, and Dr. Omoniyi Omotoso of Sutter Health (and a member of the Committee), answered questions about the health impacts of air pollution exposure.

The Committee then received and discussed the staff presentation *Next Steps for Strategy*

Development. Following an overview of Air District strategies in February, and the first Technical Assessment presentation to the Committee in March, Air District staff will present and seek feedback on next steps for pivoting to Strategy Development following the second Technical Assessment presentation in May 2022.

Finally, the Committee members shared updates from the environmental justice community.

The next meeting of the Richmond Area Community Emissions Reduction Plan Steering Committee will be held on Monday, May 16, 2022, at 5:30 p.m., via webcast, teleconference, or Zoom, pursuant to procedures in accordance with Assembly Bill 361 (Rivas 2021). This concludes the Chair Report of the Richmond Area Community Emissions Reduction Plan Steering Committee.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

ATTACHMENTS:

1. Path to Clean Air Community Emissions Reduction Plan Community Steering Committee April 25, 2022 Meeting Memorandums

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Members of the Path to Clean Air Steering Committee

From: Veronica Eady
Senior Deputy Executive Officer of Policy & Equity

Date: April 25, 2022

Re: Health Presentation: Air Pollution and Health Risks

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Building on the March 2022 Path to Clean Air Steering Committee Meeting Technical Assessment presentation, staff from the Air District and the Office of Environmental Health Hazard Assessment, and public health experts will give a health presentation on emissions to exposure to health effects and outdoor environmental exposure to asthma in children.

DISCUSSION

Air District staff and community health experts will present and facilitate a dialogue with Steering Committee members on their health presentation about the questions and concerns about the connections between air pollution and public health.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Veronica Eady
Senior Deputy Executive Officer of Policy & Equity

Prepared by: Karissa White
Reviewed by: Veronica Eady

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Members of the Path to Clean Air Steering Committee

From: Veronica Eady
Senior Deputy Executive Officer of Policy & Equity

Date: April 25, 2022

Re: Next Steps for Strategy Development

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Following an overview of Air District strategies in February, and the first Technical Assessment presentation in March, Air District staff will present and seek feedback on next steps for pivoting to Strategy Development following next month's second Technical Assessment presentation.

DISCUSSION

Air District staff will present and seek feedback from Steering Committee members on next steps for Strategy Development.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Veronica Eady
Senior Deputy Executive Officer of Policy & Equity

Prepared by: Karissa White
Reviewed by: Veronica Eady

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Report of the Budget and Finance Committee Meeting of April 27, 2022

RECOMMENDED ACTION

A) Continued Discussion of Proposed Budget for Fiscal Year 2022-2023.

The Committee recommends the Board:

1. Conduct Public Hearings on the Fiscal Year 2022-2023 Proposed Budget; and
2. Adopt the Fiscal Year 2022-2023 Proposed Budget.

B) California Employers' Pension Prefunding Trust Participation and Recommended Adoption.

The Committee recommends the Board:

1. Adopt a resolution to authorize the Air District to participate in California Employers' Pension Prefunding Trust;
2. Delegate the Air Pollution Control Officer/Executive Officer and Chief Financial Officer with authority to request disbursements and;
3. Authorize the Executive Officer to execute the California Employers' Pension Prefunding Trust legal and administrative documents on behalf of the Air District.

BACKGROUND

None.

DISCUSSION

The Budget & Finance Committee met on Wednesday, April 27, 2022, and approved the minutes of March 23, 2022. This meeting was conducted under procedures authorized by Assembly Bill 361. Members of the Committee participated by teleconference.

The Committee then reviewed and discussed the presentation *Cost Recovery and Containment Study Results Overview*, given by Courtney Ramos of Matrix Consulting Group. Although this

was not an action item, the consensus of the Committee members present was to recommend that the Board considers the implementation of Cost Recovery Option #2, to move closer towards 100% cost recovery in five years.

The Committee then reviewed and discussed the staff presentation *Amendments to Regulation 3, Fees.* Although this was not an action item, the consensus of the Committee members present was to recommend that the Board considers the adoption of Fee Schedule Changes Option #1, upon which the Fiscal Year Ending 2023 Proposed Budget is based. This option would: increase any fee schedule recovering less than the fully recovered rate and administrative fees by 15%; increased the estimated budget by $6.5 million; and has a blended fee schedule increase of 10.9%.

The Committee then reviewed and discussed the staff presentation *Continued Discussion of Proposed Budget for Fiscal Year 2022-2023.* The Committee recommends the Board:

1. Conduct Public Hearings on the Fiscal Year 2022-2023 Proposed Budget; and
2. Adopt the Fiscal Year 2022-2023 Proposed Budget.

The Committee then reviewed and discussed the staff presentation *California Employers' Pension Prefunding Trust Participation and Recommended Adoption.* The Committee recommends the Board:

1. Adopt a resolution to authorize the Air District to participate in California Employers' Pension Prefunding Trust;
2. Delegate the Air Pollution Control Officer/Executive Officer and Chief Financial Officer with authority to request disbursements and;
3. Authorize the Executive Officer to execute the California Employers' Pension Prefunding Trust legal and administrative documents on behalf of the Air District.

Finally, the Committee then reviewed and discussed the staff presentation *Third Quarter Financial Report Fiscal Year Ending 2022.*

The next meeting of the Budget & Finance Committee will be on Wednesday, May 25, 2022, at 9:30 a.m., via webcast, teleconference, or Zoom, pursuant to procedures in accordance with Assembly Bill 361 (Rivas 2021). This concludes the Chair Report of the Budget & Finance Committee.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

ATTACHMENTS:

1. Budget and Finance Committee April 27, 2022 Meeting Memorandums

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Carole Groom and Members of the Budget and Finance Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 27, 2022

Re: Continued Discussion of Proposed Budget for Fiscal Year Ending (FYE) 2023 and Consideration to Recommend Adoption

RECOMMENDED ACTION

The Interim Executive Officer/APCO requests that the Budget and Finance Committee continue discussion of the proposed budget for FYE 2023 and consider recommending that the Board of Directors:

1. Conduct public hearings on the Fiscal Year Ending (FYE) 2023 Proposed Budget; and
2. Adopt the Fiscal Year Ending (FYE) 2023 Proposed Budget

BACKGROUND

The Committee received its first presentation on the FYE 2023 Proposed Budget on March 23, 2022. At the meeting, staff presented three budget options for Committee consideration:

- Adopt the Proposed Budget which includes a 10.9% blended rate increase for permit fees
- Adopt the Alternative Budget which includes a 6.4% blended rate for permit fees. This option would reduce permit fee revenue by approximately $3.3M and remove the 20 new positions, which will reduce personnel costs by $3.3M to balance the budget. This option will likely require a discussion of agency priorities and cutting back on certain initiatives.
- Adopt the Alternative Budget and wait for the results of the management audit. Then amend the budget to increase fees to fund any additional staffing recommended.

DISCUSSION

The Committee will continue its discussion of the FYE 2023 Proposed Budget at its April 27, 2022, meeting. The proposed budget includes a 10.9% blended rate increase for permit fees. If the Committee does not wish to support the higher fee increase proposed in the budget and prefers to support the 6.4% blended rate for an increase in permit fees, the following budget adjustments would be needed to balance the budget:

- Permit fee revenue would be reduced by approx. $3.3M; and
- Removal of the 20 new positions will reduce personnel costs by $3.3M

The FYE 2023 Proposed Budget includes the following recommendations for the Committee's consideration:

- Continuation of fee increases to the District's Existing Fee Schedules up to a maximum of 15% where applicable.
- Proposed adoption of an application and renewal fee for overburdened communities
- Proposed increase from 445 Full-Time Equivalent (FTE) to 465 FTE positions to address the growing demand for core programs
- Assumes a 6% vacancy savings to account for recruitment timeline to fill new positions and attrition due to retirements
- Increases to the Services and Supplies budget for new and enhanced District programs
- Proposed use of $4.7 million of reserves; $3.7 million for funding the James Carey Smith grants program and $1.0 million for information technology improvements and buildout of space for Meteorology and Measurement staff at the Richmond Office.
- Continuation of $1.0 million discretionary contributions towards CalPERS pension plan
- Reallocate $4.0 million in discretionary contributions previously allocated for OPEB to the CalPERS pension plan

Staff requests that the Committee at its April 27, 2022, meeting, complete its review and recommend the adoption of the proposed budget to the Board. This will allow staff the necessary time required to amend, if necessary, the budget for the first public hearing of the proposed budget to be held on May 4, 2022.

Staff will publish, prior to April 27, 2022, a public notice that the first of two public hearings on the budget will be conducted on May 4, 2022, and that the second hearing will be conducted on June 15, 2022.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The proposed consolidated budget for FYE 2023 is $246,940,691 and is a balanced budget.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Stephanie Osaze
Reviewed by: Jeff McKay

ATTACHMENTS:

1. BAAQMD FYE 2023 Proposed Budget revised 4.12.2022

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

PROPOSED BUDGET
FOR
FISCAL YEAR ENDING 2023

April 11, 2022

The Bay Area Air Quality Management District

is committed to

PROTECT AND IMPROVE PUBLIC HEALTH, AIR QUALITY, AND THE GLOBAL CLIMATE

CORE VALUES

Excellence	Air District programs and policies are founded on science, developed with technical expertise, and executed with quality.
Leadership	The Air District will be at the forefront of air quality improvement and will pioneer new strategies to achieve healthy air and protect the climate.
Collaboration	Involving, listening, and engaging all stakeholders, including partner agencies, to create broad acceptance for healthy air solutions.
Dedication	Committed staff that live and believe the Air District's mission.
Equity	All Bay Area residents have the right to breathe clean air.

Bay Area Air Quality Management District

For Fiscal Year Ending June 30, 2023

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BUDGET MESSAGE

Executive Officer/APCO

EXECUTIVE SUMMARY

This document presents the proposed budget for the Bay Area Air Quality Management District (Air District) for Fiscal Year Ending June 30, 2023 (FY 2023). The Air District continues its commitment to fulfill its mission, goals, and objectives, through activities which focus on core and mandated programs, fiscally conservative internal controls, long range financial planning and the development of short and long-term sustainable approaches toward achieving cleaner air to protect the public's health and the environment.

The FY 2023 General Fund Proposed Budget increased by $15.2 million over the current year budget. This budget proposes increases to the Air District's Existing Fee Schedules, implementation of a new fee for overburdened communities, and increased staffing to address staffing needs to several core programs.

The proposed budget for FY 2023 reflects the priorities established by the Board of Directors (Board), which includes maintenance and enhancement of Air District core functions as well as work on the following key policy initiatives:

Assembly Bill 617 Implementation (AB 617)
The Air District will expand the AB 617 program by deepening partnerships with the East Oakland community to launch a new community Steering Committee and co-develop a community emissions reduction plan. The Air District will also finalize, adopt, and begin to implement a community emissions reduction plan with the Richmond-North Richmond-San Pablo Steering Committee; continue implementation of the West Oakland Community Action Plan in partnership with West Oakland Environmental Indicators Project and the Steering Committee; and continue to engage and provide support to other AB 617 communities. Assembly Bill (AB) 617, passed by the Legislature and signed by the Governor in 2017, establishes new, comprehensive air quality planning requirements for the California Air Resources Board (CARB) and local air districts, including identifying impacted communities, engaging communities to co-develop action plans to analyze and reduce localized cumulative exposure to air pollution to improve health in the most disproportionately impacted communities. AB 617 implementation activities cut across all divisions and represent a major priority for the agency in FY 2023.

Environmental Justice Policy
The Air District will deepen the Agency's progress towards Environmental Justice goals. To operationalize these goals, the Senior Deputy Executive Officer of Policy & Equity and the Environmental Justice & Community Engagement Officer will spearhead an Environmental Justice Policy in consultation with the Community Advisory Council to bring to the Board of Directors. The policy will jumpstart efforts to remove silos between the Community Engagement Office and other divisions/ programs and create a plan by which every division develops environmental justice strategies that support more transparency and accountability, support communities to speak for themselves, support community-led and decision-making, build partnerships with environmental justice communities, and provide environmental justice training for staff and participatory budgeting and funding, among other equity-driven objectives.

James Cary Smith Community Grant Program
The Air District has improved and expanded its community grant program to uplift local efforts that improve air quality disparities in environmental justice communities in the Bay Area. For the 2022 grant cycle, the Air District has aligned its two community grants into the James Cary Smith Community Grant Program and offered individual grants up to $100,000 per year for three years. The program will support more than 30 local organizations in assessing community needs, mobilizing the community to action, leveraging

community power, and authentically engaging community in air pollution reduction efforts and policy decisions.

Diversity, Equity, and Inclusion

The Air District's Office of Diversity, Equity & Inclusion (Office) is responsible for ensuring an equity lens is applied to all programs, policies, practices, and procedures across the agency. The Office utilizes the cycle of change model of normalizing, organizing, and operationalizing to achieve equitable results. Normalizing involves working to establish a shared understanding of diversity, equity and inclusion related key concepts among board, staff, and community members. Organizing involves fostering a workforce specifically designed to address some of the most complex technical air quality issues that we face. Operationalizing involves ensuring staff has the tools and information necessary to have a positive impact and track data driven results. Specific Office responsibilities include providing equity training, creating, and executing cultural awareness events and activities, partnering with Human Resources to implement recruitment and retention strategies, ensuring equity is factored into outreach efforts for grants and contract opportunities, and developing an agency-wide equity workplan. The Office will continue to ensure the contributions of all employees and community members are valued and respected with a goal to achieve equitable outcomes.

Toxics Risk Reduction Rule Implementation

The Air District will continue to implement Regulation 11, Rule 18, Reduction of Risk from Air Toxic Emissions at Existing Facilities (Rule 11-18). Under this rule, staff will improve toxic emission inventories and conduct health risk assessments (HRAs) for about 350 facilities. Sites with elevated health risks will be required to implement risk reduction plans that may include abatement devices, material substitutions, operational changes, or other measures that reduce health risks from stationary sources. The Air District is currently evaluating health risks for 34 facilities that are likely to have the highest health impacts. These sites include refineries, cement manufacturing, metal melting, large chemical plants, large power plants, and landfills. Inventory reviews for additional facilities will begin in 2022 and continue in later years as part of the rule implementation plan, followed by HRAs, and risk reduction plans when required.

Wildfire Air Quality Response Program

The Air District aims to implement projects for ventilation retrofits and air filtration improvements as part of Assembly Bill 836, *Wildfire Smoke Clean Air Center Incentive Program for Vulnerable Communities*. To complement this program, the Air District is pursuing a new home air filtration grant program to provide residential air filtration units and filters to those most vulnerable to wildfire smoke. Additional efforts underway include the launch of a new Wildfire Prevention Chipping Pilot Program to provide an alternative to open burning. Coordination with local and state partners will continue to be a primary focus of the wildfire program including a robust public messaging plan to raise awareness on the health impacts of wildfire smoke and wildfire preparedness.

Climate Tech Finance Loan Program

The Air District's first loan and loan guarantee program supports the Bay Area's industrial and municipal facilities in implementing emerging technologies that can reduce their greenhouse gas emissions, support more efficient operations and lower costs. In FY 2023, the Air District will continue to leverage partnerships with state agencies and private lenders to identify and fund climate projects through outreach, matchmaking, and technical support.

Clean Cars for All Program

The Air District has continued to support the Clean Cars for All program to provide grants for low-income residents in the Bay Area to access clean transportation options, including plug-in hybrid vehicles, battery electric vehicles, or transit. In FY 2023, this program and other electric vehicle incentive programs, will be complemented by expanded public outreach and partnership activities and include a focus on providing incentives in disadvantaged communities.

Grants for Surplus Emissions Reductions to Complement Other Air District Programs

The Air District's grants programs work to incentivize voluntary emissions reductions, primarily from mobile sources. In FY 2023, the Air District will be awarding approximately $105 million to eligible projects that will replace older cars, trucks, buses, and off-road equipment, with newer and cleaner alternatives including zero-and near-zero technologies. Incentive funds will also be awarded to projects that support single-occupancy vehicle trip reduction strategies. Air District funding is prioritized for providing benefits to the region's most disproportionately impacted communities and for projects that result in permanent reductions in emissions reductions through the adoption of zero- and new-zero emissions technologies.

INCENTIVE REVENUES

Transportation Fund for Clean Air (TFCA)

In 1991, the California State Legislature authorized the Air District to impose a $4 surcharge on motor vehicles registered within its nine-county jurisdiction to fund projects that reduce on-road motor vehicle emissions. The Air District allocates these funds to eligible projects through the Transportation Fund for Clean Air (TFCA) program. The statutory authority for the TFCA and requirements of the program are set forth in California Health and Safety Code Sections 44241 and 44242. The Air District expends a portion of the funds collected for administrative purposes and provides the remainder of the funds to project sponsors that implement eligible projects or programs.

Up to 60% of these funds received are awarded directly by the Air District to a program referred to as the TFCA Regional Fund and to eligible District programs (e.g., Spare the Air). The remaining 40% is forwarded to the designated county transportation agency within each Bay Area County to be distributed through the TFCA County Program Manager Fund program. TFCA funding may be used to support replacements and fleet expansion of eligible zero-emissions on-road passenger vehicles, trucks, and buses, and single-occupancy vehicle trip reduction strategies including the creation of new bicycle paths and lanes and installation of secure bike parking facilities.

Mobile Source Incentive Fund (MSIF)

Assembly Bill 923 (AB 923 - Firebaugh), enacted in 2004 (codified as Health and Safety Code Section 44225), authorized local air districts to increase their motor vehicle registration surcharge up to an additional $2 per vehicle. The revenues from the additional $2 surcharge are deposited in the Air District's Mobile Source Incentive Fund (MSIF). The Health & Safety Code stipulates that air districts may use the revenues generated by the additional $2 surcharge for projects eligible for funding under the following programs: Carl Moyer Program, Lower Emission School Bus Program, Light-Duty Vehicle Scrap Program, and Agricultural Assistance Program. Funds may also be used for alternative fuel and electric infrastructure projects. The Air District provides these incentives to public and private entities for the implementation of eligible projects within the region. The Air District expends a portion of the funds collected for administrative purposes and provides the remainder to project sponsors that implement eligible projects. This program was reauthorized though 2023 and new efforts are currently underway to extend this sunset date. Revenues from this funding source are separate from the General Fund budget for accounting purposes.

Carl Moyer Program (CMP)

The Air District has participated in the Carl Moyer Program, in cooperation with the California Air Resources Board, since the program began in 1999. This program provides funding for grants to public and private entities to reduce emissions of oxides of nitrogen (NOx), reactive organic gases (ROG) and particulate matter (PM) from existing heavy-duty engines by either replacing or retrofitting them. Eligible heavy-duty diesel engine applications include on-road trucks and buses, off-road equipment, marine vessels, locomotives, stationary agricultural pump engines, forklifts, and refueling infrastructure that supports zero emissions vehicles. This program was reauthorized through 2023 and new efforts are currently underway to extend this sunset date. Revenues from this funding source are separate from the General Fund budget for accounting purposes.

California Goods Movement Bond (CGMB)
In November 2006, California voters authorized the Legislature to appropriate $1 billion in bond funding to quickly reduce air pollution emissions and health risk from freight movement along California's priority trade corridors. On February 28, 2008, The California Air Resources Board approved an allocation of $140 million from projected bond sales for emission reduction projects in the Bay Area trade corridor. To date, this program has funded projects to reduce emissions from over 2,000 diesel trucks and install shore power infrastructure at 12 berths at the Port of Oakland. The Air District is currently administering the final round of CGMB funding.

Community Air Protection Grant Program (AB 617)
In 2017, AB 617 directed the California Air Resources Board, in conjunction with local air districts to establish the Community Air Protection Program (CAPP). To date, four rounds of funding for incentives to support the AB 617 effort have been approved by the California Legislature beginning in fiscal year ending (FY) 2018 and comes from the State's Greenhouse Gas Reduction Fund (GGRF), which is used to reduce criteria pollutants, toxic air contaminants, and greenhouse gases. This funding is designed to primarily target hyperlocal reductions in emissions from and exposure to diesel particulate and toxic air contaminants.

These funds are primarily distributed through the Air District's Community Health Protection Grant Program to implement projects eligible under the CMP and optionally on-road truck replacements under the Proposition 1B Goods Movement Emission Reduction Program. Staff has also begun working with CARB to expand eligibility to include stationary source projects and projects that are identified as priorities by communities with a State-approved Community Emissions Reduction Program, pursuant to HSC Section 44391.2. To date the Air District has received three cycles of CAPP incentive funding totaling nearly $118 million. Approximately $25 million in new revenue is anticipated to be awarded to the Bay Area for the fourth cycle in fiscal year ending 2023.

Volkswagen Environmental Mitigation Trust (VW Trust)
The VW Trust was established subsequent to a settlement with Volkswagen and other parties for their use of illegal defeat devices and is intended to fully mitigate the lifetime excess oxides of nitrogen (NOx) emissions caused by their actions. The California Air Resources Board is the designated Lead Agency acting on the State's behalf as beneficiary to implement California's share of VW Trust funds for eligible project categories. In 2018, the Air District was selected by the California Air Resources Board to administer VW Trust funding on a statewide-basis for the zero-emission freight and marine category totaling $70 million and the light-duty zero emission vehicle infrastructure category totaling $10 million. VW Trust funds will be awarded and managed over a ten-year period ending in 2028.

Funding Agricultural Replacement Measures for Emission Reductions (FARMER)
In 2018 the California Air Resources Board established the FARMER Program that provides grant funding for eligible projects that reduce criteria, toxic, and greenhouse gas emissions from the agricultural sector. The FARMER program targets the voluntary early replacement of older, dirtier equipment that used in agricultural operations, such as harvesting equipment, heavy-duty trucks, agricultural pump engines, tractors, and other equipment. On October 21, 2019, CARB's Executive Officer approved an update to the FARMER Program Guidelines to include eligibility criteria for demonstration projects. Since the program's inception in 2018, the State has allocated approximately $1 million annually to the Bay Area Air District for its participation in the FARMER program.

Clean Cars for All Program (CCFA)
The Air District has participated in the Clean Cars for All Program since 2018. The program is a partnership between the California Air Resources Board and local air districts that provides incentives for low-income households to retire older, high-polluting vehicles and replace them with a newer, cleaner vehicle or with mobility options. The CCFA Program reduces criteria pollutants and greenhouse gas emissions throughout the Bay Area and supports the goal of equitable access to electric vehicles and clean transportation. State funding for this program has come from the California Climate Investments (CCI) initiative that puts Cap-

and-Trade dollars to work reducing greenhouse gas emissions, the Volkswagen settlement fund, and the Air Quality Improvement Program.

Environmental Protection Agency -- Targeted Airshed Grant (TAG)
In 2021, the EPA awarded the Bay Area Air District $2.2 million in TAG funding to expedite reductions emissions of particulate matter through projects that will replace approximately 320 wood burning stoves and wood inserts with electric heat pumps in the Bay Area's most disproportionately impacted communities. This new program is tentatively scheduled to launch in fiscal year 2023 as a pilot. Funding is matched by the Air District's General Fund.

FINANCIAL SUMMARY

The Proposed Consolidated Budget Expenditure for FY 2023 is $246.9 million; a decrease of $1.0 million or 0.4% over current year. Of the $246.9 million, $114.8 million is classified as Special Revenue Funds for various grant related incentive programs and $132.2 million for General Fund programs.

General Fund Summary
Total FY 2023 Proposed General Fund Budget is expected to increase by $15.2 million or 13.0% over the current year. The following actions were taken to develop the FY 2023 Proposed Budget:

- Continuation of fee increases to the District's Existing Fee Schedules
- Proposed adoption of an application and renewal fee for the overburdened communities
- Funding of the 445 Full Time Equivalent (FTE) current authorized positions; approximately 403 are funded through the General Fund and remaining 42 with Special Revenue Funds from various grant sources.
- Proposed funding 20 additional positions; increasing the current authorized 445 FTE to 465 FTE to address the growing demands on core programs. Further details on the additional 20 new positions will be presented during the 2023 fiscal year.
- Assumes a 6% vacancy savings to account for recruitment timeline to fill new positions and attrition due to retirements.
- Proposed use of $4.7 million of reserves; $3.7 million for funding the James Carey Smith grants program and $1.0 million for information technology improvements and buildout of space for Meteorology and Measurement staff at the Richmond Office.
- Continue to address unfunded liabilities
- A 3.4 % cost of living increase for air district employees

The FY 2023 Proposed Budget is balanced, reflecting a $4.7 million transfer from General Fund reserves; of which $3.7 million will go towards funding the James Carey Smith grants program and $1.0 million for information technology improvements and build-out of space for Meteorology and Measurement staff at the Richmond Office. The proposed budget includes an economic contingency reserve policy of 20% of the operating budget. This policy allows for a sound financial footing and provides the Air District the ability to operate for a minimum of three months in the event of a total loss of projected revenue. See Appendix C for further details on the District's Fund Reserves including proposed designations.

GENERAL FUND REVENUES AND EXPENDITURES

Details of the FY 2023 General Fund Revenues and Expenditures by major categories are displayed in Appendix D, Figure I and Figure 2, including 3 years of prior year actuals and the approved budget for FY 2022.

Fee Revenue
This budget year, the Air District proposes the adoption of an overburdened community fee and implements maximum increases as applicable to existing permitted-fee schedules as allowed under the *Health and Safety Code*. Increases in permit-related fees reflect the Board's adoption of a cost recovery policy in accordance with the recommendations of the cost recovery study undertaken in 2010. An independent

review of the Air District's cost recovery and containment process in underway and is expected to be completed by March 2022. This study will also address options for 100% cost recovery target. If proposed fee increases are approved, the proposed fee schedule will become effective on July 1, 2022.

County Revenue

The County revenue budget is based on property values in the nine Bay Area counties. For the FY 2023 Proposed Budget projects a $2.9 million or 7.0% increase in property taxes receipts over the FY 2022 Approved Budget primarily due to Bay Area's high real estate prices especially in the housing market leading to increased property valuations and higher property taxes.

Other Sources of General Fund Revenue

Federal grants from the Environmental Protection Agency (EPA) and other state/federal agencies show decreased by $0.8 million or 6.0% under current year budget. We anticipate continued funding from the State of $9.0 million (CAPP 21) for AB 617 implementation efforts. However, this funding is not guaranteed and may be in jeopardy for future years. As in the past, should the Air District receive supplemental Federal grants, the amounts will be presented to the Air District's Board for approval. The State Subvention grant for FY 2023 is budgeted at $1.7 million based on actual collections in prior year. Penalties and Settlements fluctuate from time to time; and the FY 2023 projection is $2.7 million. Transfer from various grant sources of $1.1 million will support indirect costs and other eligible activities supporting these grant programs.

Operating Expenditures

The FY 2023 General Fund Proposed Operating Budget (net personnel & capital) of $38.1 million increased by $6.1 million over the FY 2022 Approved Budget primarily due to the necessary increase to address new and enhanced programs of the Air District. A summary of the General Fund Expenditures by Division from FY 2021 (actual expenditures) through FY 2023 (projected expenditures) is displayed in Table XI. In addition, the General Fund Expenditures by major categories from FY 2019 (actuals) through FY 2023 (projected expenditures) are displayed in Appendix E, Figure 2.

Personnel Expenditures

The current authorized staffing level is 445 FTE, of which 26 positions were approved in the FY 2022 adopted budget and are placed on hold for hiring pending the results of a management audit. The proposed FY 2023 budget includes funding of approximately $3.3 million to fund an additional 20 FTEs to meet the growing demands of core Air District programs. The proposed budget also assumes a 6% vacancy savings of $5.2 million to account for recruitment timeline to fill new positions and attrition due to retirements.

Capital Expenditures

The Proposed Budget for FY 2023 funds capital expenditures of $6.6 million. The capital budget is distributed across various General Fund programs. Table XIII provides details of the individual capital items.

PLANNING FOR THE FUTURE AND COST CONTAINMENT

The Air District's Five-year projections anticipate revenue is sufficient to meet projected expenditures within the accuracy level of the projection. Appendix F provides a General Fund Five-Year Projection. Reserves address future capital equipment and facility needs, uncertainties in State funding and external factors affecting the economy that could impact the Air District's ability to balance its budgets. If the economic slowdown remains stable, the forecast assumes the Air District will be well above its 20% reserve policy, with the assumption that AB617 funding from the State of California persists. If the AB617 funding does not persist, the severe strain will be placed on the Air District's ability to maintain current staffing levels. While there is a healthy reserve to address potential fiscal challenges over the next five years of the financial plan, the Air District must be fiscally prudent with its reserves to weather any potential long-term economic recovery.

The Air District's annual obligation, premiums in employee health benefits, pension costs and OPEB obligations continue to grow. Over the last few years, the Air District has made significant efforts in funding its obligations for OPEB by making additional contributions to fund its unfunded liability. Based on June 30, 2019, actuarial valuation study for OPEB, the Air District's plan is approximately 75% funded: leaving an unfunded liability of 25% or $18.4 million. As a part of the FY 2016 Budget, the Board adopted a minimum

OPEB funding target policy of 90%. The FY 2023 Budget includes the continuation of this funding with a $4.0 million contribution.

The Air District's pension obligation is also growing, especially with recent changes in actuarial assumptions by CalPERS. As a result, CalPERS anticipates increased employer rates over the next few years. Based on June 30, 2020, CalPERS actuarial valuation study, the Air District is currently funded at approximately 72%, leaving an unfunded liability of 28% or approximately $100.0 million. Given these potential impacts, the FY 2023 budget includes the continuation of $1.0 million in discretionary contributions, which will be used for the sole purpose of reducing the unfunded liability to minimize the impact of future rate increases for the Air District.

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District-Wide Revenue and Expenditure Budgets

TABLE I: Consolidated Expenditures and Revenues by Major Categories

	AUDITED ACTUALS FYE 2021			APPROVED BUDGET FYE 2022			PROPOSED BUDGET FYE 2023		
	GENERAL FUND	SPECIAL FUNDS	TOTAL FUNDS	GENERAL FUNDS	SPECIAL FUNDS	TOTAL FUNDS	GENERAL FUND	SPECIAL FUNDS	TOTAL FUNDS
REVENUES									
County Revenues	39,778,799		39,778,799	39,335,284		39,335,284	42,197,180		42,197,180
Permits / Fees	52,164,262		52,164,262	53,678,690		53,678,690	63,259,929		63,259,929
Grant Revenues	9,971,613	94,317,931	104,289,544	12,967,612	130,964,735	143,932,347	12,189,755	114,766,988	126,956,743
Other Revenues	7,826,002		7,826,002	6,745,848		6,745,848	6,273,876		6,273,876
	109,740,676	94,317,931	204,058,607	112,727,434	130,964,735	243,692,169	123,920,740	114,766,988	238,687,728
Reimbursements Programs	2,354,590		2,354,590	2,426,500		2,426,500	2,516,418		2,516,418
Transfer In	1,296,698		1,296,698	1,361,189		1,361,189	1,066,545		1,066,545
Transfer from / (to) Reserves	(11,729,493)		(11,729,493)	500,000		500,000	4,670,000		4,670,000
Total REVENUES	101,662,471	94,317,931	195,980,402	117,015,123	130,964,735	247,979,858	132,173,703	114,766,988	246,940,691
EXPENDITURES									
Personnel & Benefits	72,942,049	5,566,133	78,508,182	78,193,804	7,503,256	85,697,060	86,419,734	7,987,249	94,406,983
Services & Supplies	23,926,472	4,902,247	28,828,719	32,092,559	10,398,315	42,490,874	38,191,792	10,720,089	48,911,881
Capital Expenditures	3,501,906		3,501,906	5,187,458		5,187,458	6,562,177		6,562,177
Other Financing Uses	635,062		635,062						
	101,005,489	10,468,380	111,473,869	115,473,821	17,901,571	133,375,392	131,173,703	18,707,338	149,881,041
Program Distributions	656,982	82,552,853	83,209,835	1,541,302	111,746,976	113,288,278	1,000,000	94,993,105	95,993,105
Transfer Out		1,296,698	1,296,698		1,316,188	1,316,188		1,066,545	1,066,545
Total EXPENDITURES	101,662,471	94,317,931	195,980,402	117,015,123	130,964,735	247,979,858	132,173,703	114,766,988	246,940,691

TABLE II: Consolidated Revenues

	Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
County Revenues					
Alameda	7,160,542	6,897,046	7,452,947	555,901	8.1%
Contra Costa	4,301,160	4,673,433	4,693,206	19,773	0.4%
Marin	1,730,658	1,688,388	1,845,270	156,882	9.3%
Napa	1,255,553	1,227,157	1,306,277	79,120	6.4%
San Francisco	6,273,268	6,199,930	6,775,407	575,477	9.3%
San Mateo	5,467,678	5,121,684	5,730,760	609,076	11.9%
Santa Clara	10,980,081	10,831,380	11,624,285	792,905	7.3%
Solano	917,871	970,760	1,009,361	38,601	4.0%
Sonoma	1,691,988	1,725,506	1,759,667	34,161	2.0%
Total County Revenues	39,778,799	39,335,284	42,197,180	2,861,896	7.3%
Permits / Fees					
Permit Renewal & Application Fees	35,818,857	37,505,080	43,531,573	6,026,493	16.1%
Community Health Impact	750,623	918,891	1,108,600	189,709	20.6%
Criteria Pollutant and Toxics Emissions		1,300,000	1,219,460	(80,540)	(6.2)%
Title V Fees	6,210,781	6,261,936	8,065,278	1,803,342	28.8%
Asbestos Fees	4,094,654	4,000,000	4,000,000		
Toxics Inventory Fees	1,995,672	731,737	1,659,680	927,943	126.8%
Registration Fees	200,522	190,000	318,870	128,870	67.8%
Hearing Board Fees	14,318	25,000	25,000		
Greenhouse Gas Fees	3,078,835	2,746,046	3,331,468	585,422	21.3%
Total Permit Fees	52,164,262	53,678,690	63,259,929	9,581,239	17.8%
Grant Revenues					
Federal Grant	2,434,644	3,967,612	3,189,755	(777,857)	(19.6)%
Other Grants	7,536,969	9,000,000	9,000,000		
Total Grant Revenue	9,971,613	12,967,612	12,189,755	(777,857)	(6.0)%
Other Revenues					
Penalties & Settlements	4,212,013	2,750,000	2,750,000		
State Subvention	1,748,876	1,736,000	1,748,876	12,876	0.7%
PERP (Portable Equip Prog)	786,669	450,000	475,000	25,000	5.6%
Interest Income	938,034	1,609,848	1,000,000	(609,848)	(37.9)%
Miscellaneous Income	140,410	200,000	300,000	100,000	50.0%
Total Other Revenues	7,826,002	6,745,848	6,273,876	(471,972)	(7.0)%
Total Operating Revenues	109,740,676	112,727,434	123,920,740	11,193,306	9.9%
Reimbursement Programs					
CMAQ Funding	1,176,610	1,000,000	1,000,000		
DHS Biowatch Funding	1,177,980	1,426,500	1,516,418	89,918	6.3%
Total Reimbursement Programs	2,354,590	2,426,500	2,516,418	89,918	3.7%
Transfer from / (to) Reserves	(11,729,493)	500,000	4,670,000	4,170,000	834.0%
Transfer In	1,296,698	1,361,189	1,066,545	(294,644)	(21.6)%
Total General Fund Revenues	101,662,471	117,015,123	132,173,703	15,158,580	13.0%
Special Revenue Funds					
Grant Programs					
Carl Moyer Fund	50,347,537	59,898,128	55,058,440	(4,839,688)	(8.1)%
Mobile Source Incentive Fund (MSIF)	15,726,766	12,000,000	12,350,000	350,000	2.9%
California Goods Movement Bond (CGMB)	16,811	21,388,049	5,100,000	(16,288,049)	(76.2)%
Transportation Fund for Clean Air (TFCA)	17,381,695	19,313,364	20,400,000	1,086,636	5.6%
Other Grants Revenues	9,964,910	7,330,194	8,190,000	859,806	11.7%
Vehicle Mitigation	880,212	11,035,000	13,668,548	2,633,548	23.9%
Total Special Revenue Funds	94,317,931	130,964,735	114,766,988	(16,197,747)	(12.4)%
Total Revenues District Wide	195,980,402	247,979,858	246,940,691	(1,039,167)	(0.4)%

TABLE III: Consolidated Expenditures

	Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
Number of Positions (FTE)	400.86	445.00	465.00	20.00	4.5%
Personnel Expenditures					
Permanent Salaries	50,975,942	57,661,665	62,526,352	4,864,687	8.4%
Overtime Salaries	299,144	449,830	370,830	(79,000)	(17.6)%
Temporary Salaries	240,813	269,006	273,006	4,000	1.5%
Payroll Taxes	1,040,008	824,677	897,076	72,399	8.8%
Pension Benefits	10,695,192	13,453,506	14,348,290	894,784	6.7%
FICA Replacement Benefits	767,289	840,370	869,678	29,308	3.5%
Group Insurance Benefits	9,606,009	11,434,519	11,988,182	553,663	4.8%
Employee Transportation Subsidy	500,294	635,041	661,039	25,998	4.1%
Workers' Compensation	296,140	229,998	230,000	2	
Other Post Employment Benefits	4,000,001	4,000,000	4,000,000		
Board Stipends	87,350	92,000	118,000	26,000	28.3%
20 FTE Sal & Ben Estimate			3,290,386	3,290,386	
Vacancy Savings		(4,193,552)	(5,165,856)	(972,304)	23.2%
Total Personnel Expenditures	78,508,182	85,697,060	94,406,983	8,709,923	10.2%
Services & Supplies Expenditures					
Travel In-State	34,205	323,223	311,043	(12,180)	(3.8)%
Travel Out-of-State		288,960	234,700	(54,260)	(18.8)%
Training & Education	365,002	847,729	1,085,923	238,194	28.1%
Repair & Maintenance (Equipment)	801,858	1,087,846	1,243,491	155,645	14.3%
Communications	670,530	842,556	868,072	25,516	3.0%
Building Maintenance	267,813	671,570	828,794	157,224	23.4%
Utilities	275,220	246,315	272,416	26,101	10.6%
Postage	42,208	100,215	127,260	27,045	27.0%
Printing & Reproduction	67,791	440,103	484,138	44,035	10.0%
Equipment Rental	56,052	67,000	107,000	40,000	59.7%
Rents & Leases	2,461,382	3,331,153	3,428,751	97,598	2.9%
Professional Services & Contracts	21,580,911	31,388,305	36,324,960	4,936,655	15.7%
General Insurance	419,403	557,500	847,500	290,000	52.0%
Shop & Field Supplies	322,571	634,957	600,256	(34,701)	(5.5)%
Laboratory Supplies	68,837	186,761	198,215	11,454	6.1%
Gasoline & Variable Fuel	147,596	265,000	350,000	85,000	32.1%
Computer Hardware & Software	338,533	1,047,715	1,391,546	343,831	32.8%
Stationery & Office Supplies	29,320	100,450	98,000	(2,450)	(2.4)%
Books & Journals	45,703	52,113	58,813	6,700	12.9%
Minor Office Equipment	51,424	11,403	50,003	38,600	338.5%
Miscellaneous Expenses	184,720				
Non-Capital Assets	597,640		1,000	1,000	
Other Financing Sources	635,062				
Total Services & Supplies Expenditures	29,463,781	42,490,874	48,911,881	6,421,007	15.1%
Capital Expenditures					
Leasehold Improvements	25,411				
Building & Grounds	145,544	500,000	500,000		
Computer & Network Equipment	2,825,035	3,253,347	3,947,660	694,313	21.3%
Motorized Equipment	46,566	110,000	150,000	40,000	36.4%
Lab & Monitoring Equipment	459,350	924,111	1,764,517	840,406	90.9%
Communications Equipment		400,000	200,000	(200,000)	(50.0)%
Total Capital Expenditures	3,501,906	5,187,458	6,562,177	1,374,719	26.5%
Total Expenditures	111,473,869	133,375,392	149,881,041	16,505,649	12.4%
Transfer In/Out	1,296,698	1,316,188	1,066,545	(249,643)	(19.0)%
Program Distribution	83,209,835	113,288,278	95,993,105	(17,295,173)	(15.3)%
"Total Expenditures - District Wide"	195,980,402	247,979,858	246,940,691	(1,039,167)	(0.4)%

TABLE IV: General Fund

	Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
	2021	2022	2023	$	%
Number of Positions (FTE)	367.47	404.00	423.86	19.86	4.9%
Revenues					
Revenues	112,095,266	115,153,934	126,437,158	11,283,224	9.8%
Transfer from / (to) Reserves	(11,729,493)	500,000	4,670,000	4,170,000	834.0%
Transfer In	1,296,698	1,361,189	1,066,545	(294,644)	(21.6)%
Total Revenues - General Fund	101,662,471	117,015,123	132,173,703	15,158,580	13.0%
Personnel Expenditures					
Permanent Salaries	47,222,158	52,696,746	57,125,727	4,428,981	8.4%
Overtime Salaries	279,163	447,830	365,830	(82,000)	(18.3)%
Temporary Salaries	193,694	254,006	258,006	4,000	1.6%
Payroll Taxes	983,013	754,090	820,601	66,511	8.8%
Pension Benefits	9,891,483	12,296,429	13,121,880	825,451	6.7%
FICA Replacement Benefits	726,278	762,223	789,274	27,051	3.5%
Group Insurance Benefits	9,103,740	10,671,395	11,257,028	585,633	5.5%
Employee Transportation Subsidy	463,313	575,989	599,925	23,936	4.2%
Workers' Compensation	284,015	208,611	208,737	126	0.1%
Other Post Employment Benefits	3,707,842	3,628,037	3,630,196	2,159	0.1%
Board Stipends	87,350	92,000	118,000	26,000	28.3%
20 FTE Sal & Ben Estimate			3,290,386	3,290,386	
Vacancy Savings		(4,193,552)	(5,165,856)	(972,304)	23.2%
Total Personnel Expenditures	72,942,049	78,193,804	86,419,734	8,225,930	10.5%
Services & Supplies Expenditures					
Travel In-State	34,205	231,823	247,743	15,920	6.9%
Travel Out-of-State		194,160	212,200	18,040	9.3%
Training & Education	358,927	806,229	1,019,923	213,694	26.5%
Repair & Maintenance (Equipment)	801,858	1,087,846	1,243,491	155,645	14.3%
Communications	663,819	835,556	852,572	17,016	2.0%
Building Maintenance	267,813	671,570	828,794	157,224	23.4%
Utilities	274,976	246,315	272,416	26,101	10.6%
Postage	42,199	86,215	113,260	27,045	31.4%
Printing & Reproduction	57,360	409,603	453,138	43,535	10.6%
Equipment Rental	56,052	67,000	107,000	40,000	59.7%
Rents & Leases	2,461,382	3,331,153	3,428,751	97,598	2.9%
Professional Services & Contracts	16,706,590	21,327,530	25,915,611	4,588,081	21.5%
General Insurance	419,403	557,500	847,500	290,000	52.0%
Shop & Field Supplies	322,571	626,457	595,756	(30,701)	(4.9)%
Laboratory Supplies	68,837	186,761	198,215	11,454	6.1%
Gasoline & Variable Fuel	147,596	265,000	350,000	85,000	32.1%
Computer Hardware & Software	334,724	1,005,215	1,316,546	311,331	31.0%
Stationery & Office Supplies	28,749	95,350	95,200	(150)	(0.2)%
Books & Journals	45,627	51,273	57,673	6,400	12.5%
Minor Office Equipment	51,424	10,003	35,003	25,000	249.9%
Miscellaneous Expenses	184,720				
Non-Capital Assets	597,640		1,000	1,000	
Other Financing Sources	635,062				
Total Services & Supplies Expenditures	24,561,534	32,092,559	38,191,792	6,099,233	19.0%
Capital Expenditures					
Leasehold Improvements	25,411				
Building & Grounds	145,544	500,000	500,000		
Computer & Network Equipment	2,825,035	3,253,347	3,947,660	694,313	21.3%
Motorized Equipment	46,566	110,000	150,000	40,000	36.4%
Lab & Monitoring Equipment	459,350	924,111	1,764,517	840,406	90.9%
Communications Equipment		400,000	200,000	(200,000)	(50.0)%
Total Capital Expenditures	3,501,906	5,187,458	6,562,177	1,374,719	26.5%
Transfer In/Out					
Total Expenditures	101,005,489	115,473,821	131,173,703	15,699,882	13.6%
Program Distribution	656,982	1,541,302	1,000,000	(541,302)	(35.1)%
Total Expenditures - General Fund	101,662,471	117,015,123	132,173,703	15,158,580	13.0%

TABLE V: Carl Moyer Fund

	Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
Number of Positions (FTE)	14.35	18.82	16.62	(2.20)	(11.7)%
Revenues					
Admin Revenue	1,923,904	3,760,586	3,681,826	(78,760)	(2.1)%
Program Income	48,423,633	56,137,542	51,376,614	(4,760,928)	(8.5)%
Total Revenue - Carl Moyor	50,347,537	59,898,128	55,058,440	(4,839,688)	(8.1)%
Personnel Expenditures					
Permanent Salaries	1,266,634	2,271,087	2,172,379	(98,708)	(4.3)%
Overtime Salaries	665				
Temporary Salaries					
Payroll Taxes	18,868	32,272	30,677	(1,595)	(4.9)%
Pension Benefits	227,206	529,237	492,245	(36,992)	(7.0)%
FICA Replacement Benefits	13,495	35,867	32,486	(3,381)	(9.4)%
Group Insurance Benefits	165,597	353,206	290,841	(62,365)	(17.7)%
Employee Transportation Subsidy	12,145	27,104	24,692	(2,412)	(8.9)%
Workers' Compensation	4,084	9,816	8,591	(1,225)	(12.5)%
Other Post Employment Benefits	96,071	170,720	149,415	(21,305)	(12.5)%
Board Stipends					
Total Personnel Expenditures	1,804,765	3,429,309	3,201,326	(227,983)	(6.6)%
Services & Supplies Expenditures					
Travel In-State		12,000	12,500	500	4.2%
Travel Out-of-State		9,000	7,500	(1,500)	(16.7)%
Training & Education		10,000	22,000	12,000	120.0%
Repair & Maintenance (Equipment)					
Communications			5,000	5,000	
Building Maintenance					
Utilities					
Postage					
Printing & Reproduction		2,000	3,000	1,000	50.0%
Equipment Rental					
Rents & Leases					
Professional Services & Contracts	67,460	285,477	400,000	114,523	40.1%
General Insurance					
Shop & Field Supplies		2,000	2,000		
Laboratory Supplies					
Gasoline & Variable Fuel					
Computer Hardware & Software		10,000	22,000	12,000	120.0%
Stationery & Office Supplies		600	1,000	400	66.7%
Books & Journals	36	200	500	300	150.0%
Minor Office Equipment			5,000	5,000	
Total Services & Supplies Expenditures	67,496	331,277	480,500	149,223	45.0%
Capital Expenditures					
Leasehold Improvements					
Building & Grounds					
Office Equipment					
Computer & Network Equipment					
Motorized Equipment					
Lab & Monitoring Equipment					
Communications Equipment					
PM 2.5 Equipment					
Total Capital Expenditures					
Transfer In/Out	51,643				
Total Expenditures	1,923,904	3,760,586	3,681,826	(78,760)	(2.1)%
Program Distribution	48,423,633	56,137,542	51,376,614	(4,760,928)	(8.5)%
Total Expenditures - Carl Moyor	50,347,537	59,898,128	55,058,440	(4,839,688)	(8.1)%

TABLE VI: Mobile Source Incentive Fund (MSIF)

	Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
	2021	2022	2023	$	%
Number of Positions (FTE)	0.72	2.75	3.72	0.97	35.3%
Revenues					
Admin Revenue	4,141,538	769,168	1,235,821	466,653	60.7%
Program Income	11,585,228	11,230,832	11,114,179	(116,653)	(1.0)%
Total Revenues - MSIF	15,726,766	12,000,000	12,350,000	350,000	2.9%
Personnel Expenditures					
Permanent Salaries	357,729	331,057	474,241	143,184	43.3%
Overtime Salaries	60				
Temporary Salaries	74				
Payroll Taxes	5,348	4,704	6,700	1,996	42.4%
Pension Benefits	72,602	77,143	107,666	30,523	39.6%
FICA Replacement Benefits	3,848	5,240	7,268	2,028	38.7%
Group Insurance Benefits	47,252	47,935	67,711	19,776	41.3%
Employee Transportation Subsidy	3,467	3,960	5,524	1,564	39.5%
Workers' Compensation	1,154	1,434	1,921	487	34.0%
Other Post Employment Benefits	26,885	24,943	33,425	8,482	34.0%
Board Stipends					
Total Personnel Expenditures	518,419	496,416	704,456	208,040	41.9%
Services & Supplies Expenditures					
Travel In-State		8,000	8,000		
Travel Out-of-State			2,500	2,500	
Training & Education	725	5,000	23,500	18,500	370.0%
Repair & Maintenance (Equipment)					
Communications			2,000	2,000	
Building Maintenance					
Utilities					
Postage					
Printing & Reproduction		3,000	3,000		
Equipment Rental					
Rents & Leases					
Professional Services & Contracts	3,376,115	7,238,301	7,350,000	111,699	1.5%
General Insurance					
Shop & Field Supplies					
Laboratory Supplies					
Gasoline & Variable Fuel					
Computer Hardware & Software		4,000	30,000	26,000	650.0%
Stationery & Office Supplies		500	800	300	60.0%
Books & Journals		200	200		
Minor Office Equipment		1,000	5,000	4,000	400.0%
Total Services & Supplies Expenditures	3,376,840	7,260,001	7,425,000	164,999	2.3%
Capital Expenditures					
Leasehold Improvements					
Building & Grounds					
Office Equipment					
Computer & Network Equipment					
Motorized Equipment					
Lab & Monitoring Equipment					
Communications Equipment					
PM 2.5 Equipment					
Total Capital Expenditures					
Transfer In/Out	246,279	212,751	306,365	93,614	44.0%
Total Expenditures	4,141,538	7,969,168	8,435,821	466,653	5.9%
Program Distribution	11,585,228	4,030,832	3,914,179	(116,653)	(2.9)%
Total Expenditures - MSIF	15,726,766	12,000,000	12,350,000	350,000	2.9%

TABLE VII: California Goods Movement Bond (CGMB)

	Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
	2021	2022	2023	$	%
Number of Positions (FTE)	0.88	0.94	1.11	0.17	18.1%
Revenues					
Admin Revenue	16,811	223,537	272,911	49,374	22.1%
Program Income		21,164,512	4,827,089	(16,337,423)	(77.2)%
Total Revenues - CGMB	16,811	21,388,049	5,100,000	(16,288,049)	(76.2)%
Personnel Expenditures					
Permanent Salaries	122,435	123,006	153,527	30,521	24.8%
Overtime Salaries					
Temporary Salaries					
Payroll Taxes	1,838	1,761	2,171	410	23.3%
Pension Benefits	14,513	28,713	34,970	6,257	21.8%
FICA Replacement Benefits	1,307	1,799	2,169	370	20.6%
Group Insurance Benefits	16,143	18,345	17,373	(972)	(5.3)%
Employee Transportation Subsidy	1,174	1,359	1,649	290	21.3%
Workers' Compensation	396	492	574	82	16.7%
Other Post Employment Benefits	8,693	8,562	9,978	1,416	16.5%
Board Stipends					
Total Personnel Expenditures	166,499	184,037	222,411	38,374	20.9%
Services & Supplies Expenditures					
Travel In-State		2,000	2,000		
Travel Out-of-State					
Training & Education		1,500	1,500		
Repair & Maintenance (Equipment)					
Communications					
Building Maintenance					
Utilities	244				
Postage					
Printing & Reproduction	1,217	500	1,000	500	100.0%
Equipment Rental					
Rents & Leases					
Professional Services & Contracts	13,860	30,000	45,000	15,000	50.0%
General Insurance					
Shop & Field Supplies		3,000	1,000	(2,000)	(66.7)%
Laboratory Supplies					
Gasoline & Variable Fuel					
Computer Hardware & Software		1,500		(1,500)	(100.0)%
Stationery & Office Supplies	21	1,000		(1,000)	(100.0)%
Books & Journals					
Minor Office Equipment					
Total Services & Supplies Expenditures	15,342	39,500	50,500	11,000	27.8%
Capital Expenditures					
Leasehold Improvements					
Building & Grounds					
Office Equipment					
Computer & Network Equipment					
Motorized Equipment					
Lab & Monitoring Equipment					
Communications Equipment					
PM 2.5 Equipment					
Total Capital Expenditures					
Transfer In/Out	(165,030)				
Total Expenditures	16,811	223,537	272,911	49,374	22.1%
Program Distribution		21,164,512	4,827,089	(16,337,423)	(77.2)%
Total Expenditures - CGMB	16,811	21,388,049	5,100,000	(16,288,049)	(76.2)%

TABLE VIII: Transportation Fund for Clean Air (TFCA)

	Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
Number of Positions (FTE)	6.56	7.37	8.34	0.97	13.2%
Revenues					
Admin Revenue	2,884,486	4,028,520	3,936,342	(92,178)	(2.3)%
Program Income	14,497,209	15,284,844	16,463,658	1,178,814	7.7%
Total Revenues - TFCA	17,381,695	19,313,364	20,400,000	1,086,636	5.6%
Personnel Expenditures					
Permanent Salaries	820,294	880,353	1,128,978	248,625	28.2%
Overtime Salaries	11,415				
Temporary Salaries	231				
Payroll Taxes	12,759	12,510	16,000	3,490	27.9%
Pension Benefits	243,265	205,138	258,106	52,968	25.8%
FICA Replacement Benefits	9,297	13,943	16,294	2,351	16.9%
Group Insurance Benefits	113,177	130,842	156,912	26,070	19.9%
Employee Transportation Subsidy	8,420	10,536	12,385	1,849	17.5%
Workers' Compensation	2,653	3,816	4,309	493	12.9%
Other Post Employment Benefits	68,089	66,365	74,941	8,576	12.9%
Board Stipends					
Total Personnel Expenditures	1,289,600	1,323,503	1,667,925	344,422	26.0%
Services & Supplies Expenditures					
Travel In-State		28,000	14,000	(14,000)	(50.0)%
Travel Out-of-State		75,000	8,000	(67,000)	(89.3)%
Training & Education	5,000	16,500	11,000	(5,500)	(33.3)%
Repair & Maintenance (Equipment)					
Communications	4,536	5,000	6,000	1,000	20.0%
Building Maintenance					
Utilities					
Postage	9	14,000	14,000		
Printing & Reproduction	9,214	25,000	24,000	(1,000)	(4.0)%
Equipment Rental					
Rents & Leases					
Professional Services & Contracts	941,893	1,709,597	1,714,349	4,752	0.3%
General Insurance					
Shop & Field Supplies		3,500	1,500	(2,000)	(57.1)%
Laboratory Supplies					
Gasoline & Variable Fuel					
Computer Hardware & Software	2,970	24,000	20,000	(4,000)	(16.7)%
Stationery & Office Supplies	550	3,000	1,000	(2,000)	(66.7)%
Books & Journals	40	440	440		
Minor Office Equipment		400	5,000	4,600	1,150.0%
Total Services & Supplies Expenditures	964,212	1,904,437	1,819,289	(85,148)	(4.5)%
Capital Expenditures					
Leasehold Improvements					
Building & Grounds					
Office Equipment					
Computer & Network Equipment					
Motorized Equipment					
Lab & Monitoring Equipment					
Communications Equipment					
PM 2.5 Equipment					
Total Capital Expenditures					
Transfer In/Out	630,674	800,580	449,128	(351,452)	(43.9)%
Total Expenditures	2,884,486	4,028,520	3,936,342	(92,178)	(2.3)%
Program Distribution	14,497,209	15,284,844	16,463,658	1,178,814	7.7%
Total Expenditures - TFCA	17,381,695	19,313,364	20,400,000	1,086,636	5.6%

TABLE IX: Other Grants Revenues

	Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
	2021	2022	2023	$	%
Number of Positions (FTE)	7.70	7.68	7.85	0.17	2.2%
Revenues					
Admin Revenue	1,918,127	2,085,076	2,329,704	244,628	11.7%
Program Income	8,046,783	5,245,118	5,860,296	615,178	11.7%
Total Revenues - Other Grants	9,964,910	7,330,194	8,190,000	859,806	11.7%
Personnel Expenditures					
Permanent Salaries	819,994	909,194	1,001,684	92,490	10.2%
Overtime Salaries	7,393	2,000	5,000	3,000	150.0%
Temporary Salaries	46,814	15,000	15,000		
Payroll Taxes	12,740	12,891	14,282	1,391	10.8%
Pension Benefits	176,442	211,776	227,454	15,678	7.4%
FICA Replacement Benefits	9,163	14,640	15,347	707	4.8%
Group Insurance Benefits	112,123	146,725	134,829	(11,896)	(8.1)%
Employee Transportation Subsidy	8,267	11,062	11,665	603	5.5%
Workers' Compensation	2,652	4,007	4,059	52	1.3%
Other Post Employment Benefits	65,024	69,681	70,584	903	1.3%
Board Stipends					
Total Personnel Expenditures	1,260,612	1,396,976	1,499,904	102,928	7.4%
Services & Supplies Expenditures					
Travel In-State		13,800	13,800		
Travel Out-of-State		10,800	4,500	(6,300)	(58.3)%
Training & Education	350	8,500	6,000	(2,500)	(29.4)%
Repair & Maintenance (Equipment)					
Communications	2,175	2,000	2,500	500	25.0%
Building Maintenance					
Utilities					
Postage					
Printing & Reproduction					
Equipment Rental					
Rents & Leases					
Professional Services & Contracts	393,020	650,000	800,000	150,000	23.1%
General Insurance					
Shop & Field Supplies					
Laboratory Supplies					
Gasoline & Variable Fuel					
Computer Hardware & Software	839	3,000	3,000		
Stationery & Office Supplies					
Books & Journals					
Minor Office Equipment					
Total Services & Supplies Expenditures	396,384	688,100	829,800	141,700	20.6%
Capital Expenditures					
Leasehold Improvements					
Building & Grounds					
Office Equipment					
Computer & Network Equipment					
Motorized Equipment					
Lab & Monitoring Equipment					
Communications Equipment					
General Equipment					
PM 2.5 Equipment					
Total Capital Expenditures					
Transfer In/Out	261,131				
Total Expenditures	1,918,127	2,085,076	2,329,704	244,628	11.7%
Program Distribution	8,046,783	5,245,118	5,860,296	615,178	11.7%
Total Expenditures - Other Grants Revenues	9,964,910	7,330,194	8,190,000	859,806	11.7%

TABLE X: Vehicle Mitigation

	Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
	2021	2022	2023	$	%
Number of Positions (FTE)	3.18	3.44	3.50	0.06	1.7%
Revenues					
Admin Revenue	880,212	1,150,872	1,117,279	(33,593)	(2.9)%
Program Income		9,884,128	12,551,269	2,667,141	27.0%
Total Revenues - VM	880,212	11,035,000	13,668,548	2,633,548	23.9%
Personnel Expenditures					
Permanent Salaries	366,698	450,222	469,816	19,594	4.4%
Overtime Salaries	448				
Temporary Salaries					
Payroll Taxes	5,442	6,449	6,645	196	3.0%
Pension Benefits	69,681	105,070	105,969	899	0.9%
FICA Replacement Benefits	3,901	6,658	6,840	182	2.7%
Group Insurance Benefits	47,977	66,071	63,488	(2,583)	(3.9)%
Employee Transportation Subsidy	3,508	5,031	5,199	168	3.3%
Workers' Compensation	1,186	1,822	1,809	(13)	(0.7)%
Other Post Employment Benefits	27,397	31,692	31,461	(231)	(0.7)%
Board Stipends					
Total Personnel Expenditures	526,238	673,015	691,227	18,212	2.7%
Services & Supplies Expenditures					
Travel In-State		27,600	13,000	(14,600)	(52.9)%
Travel Out-of-State					
Training & Education			2,000	2,000	
Repair & Maintenance (Equipment)					
Communications					
Building Maintenance					
Utilities					
Postage					
Printing & Reproduction					
Equipment Rental					
Rents & Leases					
Professional Services & Contracts	81,973	147,400	100,000	(47,400)	(32.2)%
General Insurance					
Shop & Field Supplies					
Laboratory Supplies					
Gasoline & Variable Fuel					
Computer Hardware & Software					
Stationery & Office Supplies					
Books & Journals					
Minor Office Equipment					
Total Services & Supplies Expenditures	81,973	175,000	115,000	(60,000)	(34.3)%
Capital Expenditures					
Leasehold Improvements					
Building & Grounds					
Office Equipment					
Computer & Network Equipment					
Motorized Equipment					
Lab & Monitoring Equipment					
Communications Equipment					
General Equipment					
PM 2.5 Equipment					
Total Capital Expenditures					
Transfer In/Out	272,001	302,857	311,052	8,195	2.7%
Total Expenditures	880,212	1,150,872	1,117,279	(33,593)	(2.9)%
Program Distribution		9,884,128	12,551,269	2,667,141	27.0%
Total Expenditures - VM	880,212	11,035,000	13,668,548	2,633,548	23.9%

TABLE XI: General Fund Expenditures by Division

	Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
Executive Office					
Executive Office	7,139,404	6,889,315	8,867,174	1,977,859	28.7%
Bay Area Regional Collaborative (BARC)	326,266	351,000		(351,000)	(100.0)%
Board of Directors	507,978	586,067	469,186	(116,881)	(19.9)%
Hearing Board	37,031	62,852	56,974	(5,878)	(9.4)%
Advisory Council & Community Advisory Council	27,912	395,451	448,792	53,341	13.5%
External Affairs		410,249	672,859	262,610	64.0%
Total Executive Office	8,038,591	8,694,934	10,514,985	1,820,051	20.9%
Diversity, Equity and Inclusion Division					
Office of Diversity Equity & Inclusion	572,593	924,507	972,885	48,378	5.2%
Total Diversity, Equity and Inclusion Division	572,593	924,507	972,885	48,378	5.2%
Finance Office					
Finance	2,293,320	3,674,786	3,744,665	69,879	1.9%
Total Finance Office	2,293,320	3,674,786	3,744,665	69,879	1.9%
Human Resources Office					
Payroll	677,599	469,766	660,525	190,759	40.6%
Benefits Administration	3,678,234	3,660,226	3,887,680	227,454	6.2%
Organizational Development	495,870	459,958	666,644	206,686	44.9%
Employment Relations	785,484	1,067,735	1,109,416	41,681	3.9%
Recruitment & Testing	618,727	688,925	817,309	128,384	18.6%
Total Human Resources Office	6,255,914	6,346,610	7,141,574	794,964	114.2%
Administrative Resources Division					
Facilities	1,356,943	1,612,121	1,990,716	378,595	23.5%
Mail and Reproduction	690,344	864,971	1,153,373	288,402	33.3%
Headquarters East (Richmond)	311,533	711,000	813,000	102,000	14.3%
Purchasing	741,797	962,807	1,314,829	352,022	36.6%
Headquarters West (Beale Street)	2,916,578	3,800,000	4,210,000	410,000	10.8%
Fleet Services	1,273,637	1,728,212	1,952,518	224,306	13.0%
Total Administrative Resources Division	7,290,832	9,679,111	11,434,436	1,755,325	131.5%
Legislative Office					
Legislative Program		590,849	623,159	32,310	5.5%
Total Legislative Office		590,849	623,159	32,310	5.5%
Legal Services Division					
Legal Counsel	2,365,572	2,287,543	2,910,984	623,441	27.3%
Hearing Board Proceedings	38,196	12,949	34,434	21,485	165.9%
Penalties Enforcement & Settlement	929,223	1,093,173	1,174,823	81,650	7.5%
Litigation	582,613	426,743	374,227	(52,516)	(12.3)%
Total Legal Services Division	3,915,604	3,820,408	4,494,468	674,060	188.4%
Communications Office					
Media Relations	1,572,034	1,333,083	1,919,880	586,797	44.0%
Intermittent Control	1,334,702	1,650,281	1,275,457	(374,824)	(22.7)%
Spare The Air (CMAQ)	1,177,825	1,000,000	1,000,000		
Total Communications Office	4,084,561	3,983,364	4,195,337	211,973	5.3%
Technology Implementation Office					
Greenhouse Gas Technologies	678,297	745,515	1,018,977	273,462	36.7%
Total Technology Implementation Office	678,297	745,515	1,018,977	273,462	36.7%
Strategic Incentives					
Non-Mobile Source Grant Programs		147,544	138,492	(9,052)	(6.1)%
Grant Program Development	120,630	663,479	260,372	(403,107)	(60.8)%
Total Strategic Incentives	120,630	811,023	398,864	(412,159)	(50.8)%
Compliance & Enforcement					
Enforcement	4,995,029	6,037,452	6,944,654	907,202	15.0%
Compliance Assistance & Operations	2,548,990	3,374,570	3,714,328	339,758	10.1%
Compliance Assurance	6,108,430	6,736,380	7,113,062	376,682	5.6%

TABLE XI: General Fund Expenditures by Division

	Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
	2021	2022	2023	$	%
Total Compliance & Enforcement	13,652,449	16,148,402	17,772,044	1,623,642	10.1%
Engineering					
Permit Evaluation	7,724,123	8,906,514	8,741,400	(165,114)	(1.9)%
Air Toxics	1,497,690	1,492,604	1,811,164	318,560	21.3%
Permit Operations	939,144	1,027,578	1,018,692	(8,886)	(0.9)%
Title V	408,092	1,086,037	1,001,787	(84,250)	(7.8)%
Engineering Special Projects	1,065,202	1,499,284	1,681,586	182,302	12.2%
Total Engineering	11,634,251	14,012,017	14,254,629	242,612	1.7%
Assessment, Inventory & Model					
Source Inventories	1,573,703	1,781,961	1,736,608	(45,353)	(2.5)%
Air Quality Modeling Support	1,017,773	1,182,142	1,183,162	1,020	0.1%
Air Quality Modeling & Research	728,275	809,837	841,676	31,839	3.9%
Community Air Risk Evaluation	997,554	1,154,539	1,301,746	147,207	12.8%
Total Assessment, Inventory & Model	4,317,305	4,928,479	5,063,192	134,713	2.7%
Planning & Climate Protection					
Air Quality Plans	1,681,643	1,874,045	2,183,721	309,676	16.5%
Implement Plans, Policies and Measures	1,459,697	1,442,301	1,363,472	(78,829)	(5.5)%
Climate Protection	2,516,618	2,004,463	1,852,820	(151,643)	(7.6)%
Total Planning & Climate Protection	5,657,958	5,320,809	5,400,013	79,204	1.5%
Rules Division					
Rule Development	2,179,437	2,402,631	2,957,742	555,111	23.1%
Total Rules Division	2,179,437	2,402,631	2,957,742	555,111	23.1%
Community Engagement					
Community Engagement Office	2,480,821	4,850,952	8,732,937	3,881,985	80.0%
Total Community Engagement	2,480,821	4,850,952	8,732,937	3,881,985	80.0%
Information Services					
Information Management Records & Content	508,577	901,688	1,134,316	232,628	25.8%
IT Engineering & Operations	2,989,546	3,699,684	4,923,201	1,223,517	33.1%
User Support Desk		918,574	460,181	(458,393)	(49.9)%
Total Information Services	3,498,123	5,519,946	6,517,698	997,752	9.0%
My Air Online					
Permitting and Compliance System	4,253,992	4,348,141	4,792,733	444,592	10.2%
Website Development & Maintenance	1,592,535	1,506,110	1,606,838	100,728	6.7%
Legacy Systems Support	1,128,605	1,282,726	1,311,775	29,049	2.3%
Total My Air Online	6,975,132	7,136,977	7,711,346	574,369	19.2%
Meteorology, Measurement & Rules					
Air Monitoring – Operations	5,373,718	5,946,697	6,794,452	847,755	14.3%
Laboratory	1,540,989	2,412,281	2,082,770	(329,511)	(13.7)%
Source Test	2,970,534	3,366,406	3,534,372	167,966	5.0%
Meteorology	1,142,589	997,022	948,802	(48,220)	(4.8)%
Air Monitoring Instrument Performance Evaluation	560,942	619,164	863,942	244,778	39.5%
BioWatch Monitoring	1,177,959	1,426,500	1,516,419	89,919	6.3%
Air Monitoring - Projects & Technology	1,940,573	4,255,037	2,622,879	(1,632,158)	(38.4)%
Ambient Air Quality Analysis	720,607	1,052,946	1,736,586	683,640	64.9%
Total Meteorology, Measurement & Rules	15,427,911	20,076,053	20,100,222	24,169	0.1%
Others					
20 FTE Sal & Ben Estimate			3,290,386	3,290,386	
Vacancy Savings		(4,193,552)	(5,165,856)	(972,304)	23.2%
Other Financing Sources	635,062				
Program Distribution	656,982	1,541,302	1,000,000	(541,302)	(35.1)%
Transfer In/Out	1,296,698				
Total Expenditures - General Fund Divisions	101,662,471	117,015,123	132,173,703	15,158,580	(565.0)%

Capital Expenditure

TABLE XII
CAPITAL EXPENDITURE SUMMARY

The list below includes all capital expenditures budgeted for FYE 2023

	Description	PGM	Capital Type	Amount	Program Total	Division Total
1	One (1) Air Quality Analyzer	802	Lab & Monitoring	655,000		
2	One (1) Air Quality Analyzers - PM2.5 equipment	802	Lab & Monitoring	129,517		
3	One (1) Air Quality Analyzers - Schedule X equipment	802	Lab & Monitoring	450,000	1,234,517	
4	Three (3) Source Test Analyzers	804	Lab & Monitoring	60,000		
5	One (1) Multi Test Program Field Testing Van	804	Motorized Equipment	60,000		
6	One (1) PM Van Custom Equipment and Build Out	804	Motorized Equipment	40,000	160,000	
7	One (1) Lab & Monitoring Equipment (Picarro G2401)	807	Lab & Monitoring	90,000	90,000	
8	One (1) Volatile Organic Compounds Monitor	810	Lab & Monitoring	20,000		
9	One (1) Instrumentation for Particulate Matter Speciation (Metals)	810	Lab & Monitoring	185,000		
10	One (1) Instrumentation for Particulate Matter Speciation (EC/OC)	810	Lab & Monitoring	75,000	280,000	**1,764,517**
11	One (1) Optical Gas Imaging Camera	403	Lab & Monitoring	100,000	100,000	**100,000**
12	Phase 2 HQE build out for Meterology & Measurement staff	707	Building and Grounds	500,000	500,000	
13	Leasing of Additional Vehicles	710	Motorized Equipment	50,000	50,000	**550,000**
14	Design & POC for IT Infrastructure Datacenter Refresh	726	Computer & Network Equipment	400,000		
15	Replacement of End-of-Life Network Components	726	Computer & Network Equipment	500,000		
16	Communication Equipment	726	Communications Equipment	200,000	1,100,000	**1,100,000**
17	Public Permitting & Compliance Systems	125	Computer & Network Equipment	3,047,660	3,047,660	**3,047,660**
	Total Capital Expenditures					**6,562,177**

TABLE XII
CAPITAL EXPENDITURE DETAILS
THE LIST BELOW INCLUDES ALL CAPITAL EXPENDITURES BUDGETED FOR FYE 2023

	Item Description	Cost	Program/ Capital Type
1	One (1) Air Quality Analyzer	$655,000	802/Lab & Monitoring
	Replacements / upgrades for aging air monitoring equipment.		
2	One (1) Air Quality Analyzers - PM2.5 equipment	$129,517	802/Lab & Monitoring
	Replacements / upgrades for aging air monitoring equipment. PM2.5 equipment only.		
3	One (1) Air Quality Analyzers - Schedule X equipment	$450,000	802/Lab & Monitoring
	Replacements / upgrades for aging air monitoring equipment. Schedule X equipment only.		
4	Three (3) Source Test Analyzers	$60,000	804/Lab & Monitoring
	Replacements for current equipment that reached the end of its useful life.		
5	One (1) Multi Test Program Field Testing Van	$60,000	804/Motorized Equipment
	Field testing van to be used for multiple source testing programs. Current vehicle inventory limits the sections ability to transport equipment and personnel during larger field measurement projects.		
6	One (1) PM Van Custom Equipment and Build Out	$40,000	804/Motorized Equipment
	Field testing new particulate matter van custom equipment and build out to include instrument racks, plumbing, cylinder storage, and work areas.		
7	One (1) Lab & Monitoring Equipment (Picarro G2401)	$90,000	807/Lab & Monitoring
	The equipment is needed as a back-up for performing EPA-mandated audits on Air District Air Monitoring Stations.		
8	One (1) Volatile Organic Compounds Monitor	$20,000	810/Lab & Monitoring
	Instrumentation for a portable platform to identify and quantify gaseous VOC contributions from sources of air pollution in complex urban industrial areas. Speciation and quantitation of gaseous VOCs are important in resolving suspected air toxics issues and odor complaints.		
9	One (1) Instrumentation for Particulate Matter Speciation (Metals)	$185,000	810/Lab & Monitoring
	Instrumentation for a portable platform to identify and quantify contributions from sources of air pollution in complex urban industrial areas. Continuous monitoring of particle-bound metals is needed to identify and quantify ambient concentrations of these types of emissions near large and small sources.		
10	One (1) Instrumentation for Particulate Matter Speciation (EC/OC)	$75,000	810/Lab & Monitoring
	Instrumentation for a portable platform to provide consolidated, near-real time data of TOC, OC, and EC or BC to provide critical information for teasing apart the contributions of sources in complex urban industrial environments.		
11	One (1) Optical Gas Imaging Camera	$100,000	403/Lab & Monitoring
	The Optical Gas Imaging Camera is needed for leak detection and repair (LDAR) program for various compliance programs.		
12	Phase 2 HQE build out for Meterology & Measurement staff	$500,000	707/Building and Grounds
	Preparation of space for Meterology & Measurement staff.		
13	Leasing of Additional Vehicles	$50,000	710/Motorized Equipment
	Leasing of additional vehicles as a result of an increase in Air District field		
14	Design & POC for IT Infrastructure Datacenter Refresh	$400,000	726/Computer & Network Equipment
	Every 6-8 years the District modernizes its information technology infrastructure. This project encompasses the initial design work and proof of concept prototyping for the next generation of technology.		
15	Replacement of End-of-Life Network Components	$500,000	726/Computer & Network Equipment
	Replace key end of life computer networking components. Several of the District's key computer networking components will reach end of life and will not be supported in FYE23. This project is to replace key components with newer like components before they are no longer supported by their		
16	Communication Equipment	$200,000	726/Communications Equipment
	The District's phone systems and associated equipment telecommunications equipment is approaching fifteen years old, and is reaching the end of its useful life. Additionally, key functionality required to support distributed/remote work is either not supported or supported insufficiently in the current system.		
17	Public Permitting & Compliance Systems	$3,047,660	125/Computer & Network Equipment
	Development and implementation of permitting and enforcement software functionality for medium and complex facilities, including data cleanup and consolidation activities.		
	Total Capital Expenditures	**$6,562,177**	

General Fund
Program Narratives and Expenditure Details

Note: Definitions are provided on page 232-234
And are an integral part of this budget document.

Executive Division

Despite the continuing challenges of the pandemic, the Air District furthered our vision of providing a healthy breathing environment for all Bay Area residents. We continued to address disparities in air quality and health protections by expanding partnerships in historically disadvantaged communities. At the same time, our climate protection work progressed to accelerate electrification and incentivize greenhouse gas reductions by funding cutting-edge technologies.

Under the leadership and direction of the Executive Officer/APCO and the Board of Directors, the Executive Office guides the Bay Area Air Quality Management District (Air District) in meeting its mission of protecting and improving public health, air quality, and the global climate. To fulfill this mission, the Air District builds its programs and policies on sound science, develops them with technical expertise and rigor, and executes them with quality. Air District programs and policies include both traditional air quality management approaches and new strategies for achieving clean air.

In FYE 2023, the Air District will continue to implement State and Federal regulations and directives, and will also continue to implement and develop the following key initiatives:

- Clean Air Plan Implementation
- Climate Action Work Program
- Assembly Bill (AB) 617 Implementation
- Wildfire Air Quality Response Program
- Diesel Free by '33 Campaign
- Technology Implementation Office
- Wood Smoke Program and Rule Amendments
- My Air Online Program
- Clean Air Foundation
- Spare the Air Everyday Campaign
- Public Participation Plan Implementation
- Diversity, Equity, and Inclusion Office

The Executive Office is responsible for developing and maintaining strategic partnerships to achieve clean air. These partnerships include but are not limited to collaboration with: community groups, non-profits, peer regional agencies (Metropolitan Transportation Commission, Association of Bay Area Governments & Bay Conservation and Development Commission), regulatory agencies (U.S. Environmental Protection Agency and California Air Resources Board), and associations (California Air Pollution Control Officers Association, Air and Waste Management Association & National Association of Clean Air Agencies), as well as the State Legislature. In FYE 2023, these key partnerships will also address regional coordination of climate protection activities, and implementation of State initiatives at the regional level.

Managing Division:

Executive Division

Contact Person:

Vanessa Johnson

Program Purpose:

Administration and Direction of Air District Programs.

Description of Program:

This budget program is responsible for providing overall administration and direction to Air District staff. Through this budget program, the Executive Officer/APCO interprets and oversees implementation of Board directives and policies and administers the business of the Air District.

Justification of Change Request:

Not Applicable

Activities
Implement and develop key initiatives to meet Air District goals and objectives.
Coordinate development of Air District's legislative agenda and implement strategy for achieving Air District's legislative goals.
Coordinate Air District activities with staff, stakeholders, and community groups.
Help sponsor stakeholder events in support of Air District Initiatives.
Monitor actions of and serve as liaison to regional governmental agencies (e.g. MTC, ABAG, BCDC), federal and statewide governmental organizations (e.g. U.S. EPA, CARB, CAPCOA), as well as the state legislature, and representatives of the regulated community.
Compliance and enforcement actions.
Administer and manage the Bay Area Clean Air Foundation.

Major Objectives	Delivery Date
Rule Development and Amendments	Ongoing
Issue all non-Title V permits on a timely basis (within a 45 day period)	Ongoing
Production System Implementation	Ongoing
Clean Air Plan Implementation	Ongoing
Assembly Bill (AB) 617 Implementation	Ongoing
Public Participation Plan Implementation	Ongoing
Adopt District Budget for FYE 2023	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		21.52	21.51	22.41	0.90	4.2%
Personnel Expenditures						
Permanent Salaries	51100	4,047,740	3,464,614	4,290,537	825,923	23.8%
Overtime Salaries	51150	4,538	2,500	10,000	7,500	300.0%
Temporary Salaries	51200					
Payroll Taxes	51300	60,615	52,840	65,737	12,897	24.4%
Pension Benefits	51400	799,535	813,355	993,880	180,525	22.2%
FICA Replacement Benefits	51500	43,564	37,129	43,803	6,674	18.0%
Group Insurance Benefits	51600	533,849	343,432	422,067	78,635	22.9%
Employee Transportation Subsidy	51700	39,265	28,057	33,295	5,238	18.7%
Workers' Compensation	51800	13,068	10,162	11,585	1,423	14.0%
Other Post Employment Benefits	51850	312,746	176,726	201,470	24,744	14.0%
Board Stipends	51900					
Total Personnel Expenditures		5,854,920	4,928,815	6,072,374	1,143,559	23.2%
Services & Supplies Expenditures						
Travel In-State	52200	3,950	18,000	18,000		
Travel Out-of-State	52220		43,000	45,000	2,000	4.7%
Training & Education	52300	29,868	30,500	36,000	5,500	18.0%
Repair & Maintenance (Equipment)	52400	278				
Communications	52500	18,450	5,000	5,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800	154		200	200	
Printing & Reproduction	52900	9,303	2,500	4,000	1,500	60.0%
Equipment Rental	53100					
Rents & Leases	53200	30,452	100,000	50,000	(50,000)	(50.0)%
Professional Services & Contracts	53300	1,245,719	1,760,000	2,630,000	870,000	49.4%
General Insurance	53400					
Shop & Field Supplies	53500	955				
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	2,329		4,000	4,000	
Stationery & Office Supplies	53900	903	1,000	1,100	100	10.0%
Books & Journals	54100	1,058	500	1,500	1,000	200.0%
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		1,343,419	1,960,500	2,794,800	834,300	42.6%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		(243,655)				
Total Expenditures		6,954,684	6,889,315	8,867,174	1,977,859	28.7%

Bay Area Regional Collaborative (BARC) 105

Managing Division:
Executive Division
Contact Person:
Vanessa Johnson
Program Purpose:
Not Applicable
Description of Program:
Not Applicable
Justification of Change Request:
Program 105 now merged with program 104

Activities	
Major Objectives	**Delivery Date**

		Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
Number of Positions (FTE)						
Personnel Expenditures						
Permanent Salaries	51100					
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300					
Pension Benefits	51400					
FICA Replacement Benefits	51500					
Group Insurance Benefits	51600					
Employee Transportation Subsidy	51700					
Workers' Compensation	51800					
Other Post Employment Benefits	51850					
Board Stipends	51900					
Total Personnel Expenditures						
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	326,266	351,000		(351,000)	(100.0)%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		326,266	351,000		(351,000)	(100.0)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		326,266	351,000		(351,000)	(100.0)%

Managing Division:

Executive Division

Contact Person:

Vanessa Johnson

Program Purpose:

Oversee Activities of the Board of Directors.

Description of Program:

Administration of activities of the Board of Directors.

Justification of Change Request:

Not Applicable

Activities
Prepare and distribute all meeting materials, including agendas, minutes and correspondence for Board of Directors regular and special meetings, approximately 20 per year.
Prepare all logistics for Board of Directors regular and special meetings, including scheduling, polling, providing refreshments, preparation of facilities, and legal noticing requirements, approximately 20 per year.
Prepare and distribute all agenda materials and logistics for Board of Directors Committee meetings, approximately 25 per year.Receive, route, and appropriately address all correspondence directed to the Board.
Receive, route, and appropriately address all correspondence directed to the Board.
Track, process and issue monthly travel reimbursement and per diem payments for each member of the Board of Directors.
Prepare all travel logistics for Board of Directors participation at the Annual Air & Waste Management Association (A&WMA) Conference.
Maintain archive of Board materials, including minutes, agendas, correspondence and adopted resolutions.
Maintain the Air District's website as it relates to the Board of Directors membership, calendar, meeting materials and minutes.
Assure timely filing of Statement of Economic Interests with the California Fair Political Practices Commission.

Major Objectives	Delivery Date
Coordinate all Board and Committee meetings.	Ongoing
Coordinate Board Ethics Training and Unconscious Bias Training.	Ongoing
Coordinate New Board Member Orientation.	Ongoing
Coordinate transition to new Chair of the Board of Directors.	Annually
Coordinate Board of Directors Annual Retreat.	Annually
Update of Board Committee assignments.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.71	2.55	1.78	(0.77)	(30.2)%
Personnel Expenditures						
Permanent Salaries	51100	290,018	300,091	204,192	(95,899)	(32.0)%
Overtime Salaries	51150	2,252				
Temporary Salaries	51200					
Payroll Taxes	51300	4,380	4,300	2,866	(1,434)	(33.3)%
Pension Benefits	51400	61,450	69,889	45,447	(24,442)	(35.0)%
FICA Replacement Benefits	51500	3,113	4,864	3,480	(1,384)	(28.5)%
Group Insurance Benefits	51600	38,167	41,766	31,132	(10,634)	(25.5)%
Employee Transportation Subsidy	51700	2,928	3,675	2,645	(1,030)	(28.0)%
Workers' Compensation	51800	939	1,331	920	(411)	(30.9)%
Other Post Employment Benefits	51850	23,066	23,151	16,004	(7,147)	(30.9)%
Board Stipends	51900	78,000	60,000	78,000	18,000	30.0%
Total Personnel Expenditures		504,313	509,067	384,686	(124,381)	(24.4)%
Services & Supplies Expenditures						
Travel In-State	52200	174	15,500	19,500	4,000	25.8%
Travel Out-of-State	52220		10,500	13,500	3,000	28.6%
Training & Education	52300	111	28,000	28,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	3,380	23,000	23,500	500	2.2%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		3,665	77,000	84,500	7,500	9.7%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		507,978	586,067	469,186	(116,881)	(19.9)%

Managing Division:

Executive Division

Contact Person:

Vanessa Johnson

Program Purpose:

Records, documents, and maintains records of actions of the quasi-judicial Hearing Board.

Description of Program:

The Hearing Board is a quasi-judicial body that rules on particular cases that affect only individual facilities. It is authorized to hear requests for variance relief, permit revocation, abatement orders, and appeals by permit applicants, or by interested third parties, concerning the issuance or denial of permits.

Justification of Change Request:

Not Applicable

Activities
Prepare logistics for all Hearing Board meetings, including scheduling, polling, providing refreshments, preparation of facilities, and legal noticing requirements.Develop and maintain Hearing Board calendar and schedules.
Develop and maintain Hearing Board calendar and schedules.
Attend all hearings of the Hearing Board.
Draft selected Orders for Hearing Board review and signature.
Print and reproduce Hearing Board notices.
Maintain Record of Actions (Docket Book).
Prepare and maintain docket files for each hearing.
Collect required fees from Applicants.
Follow-up on actions resulting from Hearing Board Orders/decisions.
Process incoming documents and inquiries.
Make arrangements for all off-site and webinar hearings.
Research, compile and prepare reports for presentation to the Board of Directors and others as requested by the Hearing Board.
Arrange for Hearing Board members attendance at Hearing Board Conferences and CARB Trainings.
Track, process and issue monthly travel reimbursement and per diem payments for each member of the Hearing Board.
Archive Hearing Board Dockets and related documents.
Maintain the Air District's website as it pertains to the Hearing Board membership, calendar, and decisions/orders.
Coordinate recruitment and orientation of new Hearing Board members as necessary.

Major Objectives	Delivery Date
Coordinate Hearing Board Activities	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.14	0.09	0.04	(0.05)	(55.6)%
Personnel Expenditures						
Permanent Salaries	51100	17,626	14,477	4,957	(9,520)	(65.8)%
Overtime Salaries	51150	288				
Temporary Salaries	51200					
Payroll Taxes	51300	271	206	70	(136)	(66.0)%
Pension Benefits	51400	4,584	3,379	1,097	(2,282)	(67.5)%
FICA Replacement Benefits	51500	195	211	78	(133)	(63.0)%
Group Insurance Benefits	51600	2,384	1,856	612	(1,244)	(67.0)%
Employee Transportation Subsidy	51700	193	160	59	(101)	(63.1)%
Workers' Compensation	51800	57	58	21	(37)	(63.8)%
Other Post Employment Benefits	51850	1,565	1,005	360	(645)	(64.2)%
Board Stipends	51900	9,350	32,000	40,000	8,000	25.0%
Total Personnel Expenditures		36,513	53,352	47,254	(6,098)	(11.4)%
Services & Supplies Expenditures						
Travel In-State	52200	88				
Travel Out-of-State	52220		1,000	1,000		
Training & Education	52300		1,000	1,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800	93		120	120	
Printing & Reproduction	52900		1,500	1,500		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	337	5,000	5,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900		250	250		
Books & Journals	54100		500	600	100	20.0%
Minor Office Equipment	54200		250	250		
Total Services & Supplies Expenditures		518	9,500	9,720	220	2.3%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		37,031	62,852	56,974	(5,878)	(9.4)%

Managing Division:

Executive Division

Contact Person:

Vanessa Johnson

Program Purpose:

The Advisory Council studies and makes recommendations on specific matters referred from the Board of Directors or the Air Pollution Control Officer. Matters can include technical, social, economic and environmental aspects of air quality issues. The Community Advisory Council will advise the Board of Directors and the Executive Officer on technical, community, health, and policy matters.

Description of Program:

The Advisory Council is comprised of 7 members, appointed by the Board of Directors. SB1415 requires that the Advisory Council members be skilled and experienced in the fields of air pollution, climate change, or the health impacts of air pollution. The Council advises and consults with the Board of Directors and Executive Officer and makes recommendations and reports on matters that affect both policy and the legislative agenda.

The Community Advisory Council was created at the request of community advocates in the Bay Area. The CAC is a Brown Act Committee and consists of 17 community members. The Councilmembers reflect the diversity of the communities in the Bay Area, the lived experiences in communities heavily impacted by air pollution and are individuals with diverse skill sets and a range of relevant knowledge and technical experience.

Justification of Change Request:

Not Applicable

Activities

Prepare and distribute all meeting materials, including agendas and minutes for Advisory Council regular and special meetings, approximately 4 per year. Prepare logistics for all Advisory Council regular and special meetings, including scheduling, polling, providing refreshments, preparation of facilities, providing stenographer, and legal noticing requirements, approximately 4 per year.

Make travel, registration and payment arrangements for Advisory Council participation at the annual Air and Waste Management Association Conference.

Maintain archive of Advisory Council materials, including minutes, agendas, and presentations.

Maintain the District's website as it relates to the Advisory Council membership, calendar, meeting materials and minutes. Attend all Regular and Committee meetings of the Advisory Council.

Track, process and issue quarterly travel reimbursement for each member of the Advisory Council.

Coordinate recruitment of new Advisory Council members as necessary.

The Community Advisory Council, which is a Brown Act advisory committee of the Board, will choose its own areas of focus, and provide input on key Air District policies and programs. Potential activities include: Disbursing the Community Benefits Fund; EJ Policy and Community Engagement Guidelines; Racial Equity Framework.

Major Objectives	Delivery Date
Coordinate activities of the Advisory Council.	Ongoing
Conduct approximately four (4) meetings, based on the topics selected by the Board of Directors and Executive Officer.	Ongoing
Discuss presentations, materials and recommendations received meetings, and prepare and present a report to the Board of Directors.	Ongoing
The CAC advises the Board of Directors and the Executive Officer on technical, community, health, and policy matters.	Ongoing
The Council also exercises its own initiative to select areas for exploration or develop air quality projects or programs that emerge from impacted communities.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.07	0.14	0.11	(0.03)	(21.4)%
Personnel Expenditures						
Permanent Salaries	51100	7,475	14,991	13,549	(1,442)	(9.6)%
Overtime Salaries	51150	1,638				
Temporary Salaries	51200					
Payroll Taxes	51300	117	212	191	(21)	(9.9)%
Pension Benefits	51400	2,275	3,484	3,010	(474)	(13.6)%
FICA Replacement Benefits	51500	90	264	213	(51)	(19.3)%
Group Insurance Benefits	51600	1,066	1,976	1,631	(345)	(17.5)%
Employee Transportation Subsidy	51700	93	199	162	(37)	(18.6)%
Workers' Compensation	51800	24	72	56	(16)	(22.2)%
Other Post Employment Benefits	51850	833	1,253	980	(273)	(21.8)%
Board Stipends	51900					
Total Personnel Expenditures		13,611	22,451	19,792	(2,659)	(11.8)%
Services & Supplies Expenditures						
Travel In-State	52200		4,000	22,000	18,000	450.0%
Travel Out-of-State	52220		10,000	20,500	10,500	105.0%
Training & Education	52300		3,000	10,500	7,500	250.0%
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		1,000	1,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	14,301	355,000	375,000	20,000	5.6%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		14,301	373,000	429,000	56,000	15.0%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		27,912	395,451	448,792	53,341	13.5%

Managing Division:

Executive Division

Contact Person:

Lisa Fasano

Program Purpose:

The External Affairs Office was created to advance rules, partnerships and messaging programs to to address the need to develop solutions to reducing air pollution from drive alone vehicles, Program created to advance employer commuter programs to reduce single occupancy driving during employee commutes.

Description of Program:

Directs the programming of initiatives to help reduce drive alone commuting through the employer program, Flex Your Commute and the Commuter Benefit Program. Flex Your Commute is a new program targeted to employers and will actively message to companies registered in the Commuter Benefits Program. Spare the Air survey and focus group data indicates that employees are more willing to make commuting changes when encouraged to do so by their employers. Flex Your Commute will optimize the experiences employees and employers have learned during the pandemic to help Bay Area companies develop strong commuter partnerships and messaging programs to reduce daily solo commuting.

Air District liaison to local, statewide and national organizations. Directs event planning and coordination for Air District events and conferences as well as track and optimize the agency's presence at sponsored events. Messaging and programs will be tailored by county based on several factors including availability and access to transit, carpool and casual carpool options, multi-county commutes and established localized commute requirements. Flex Your Commute will target employers registered in the Spare the Air and Metropolitan Transportation Commission employer programs as well as registrants of the Air District's Commuter Benefits Program. Video production of Air District initiatives and new programming as well as internal training and messaging campaigns.

Justification of Change Request:

N/A

Activities

Major Objectives	Delivery Date
Increase awareness and adoption of the benefits of commuting options.	Ongoing

		Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
Number of Positions (FTE)			1.00	1.00		
Personnel Expenditures						
Permanent Salaries	51100		216,391	224,663	8,272	3.82%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300		3,221	3,394	173	5.4%
Pension Benefits	51400		50,941	53,971	3,030	5.9%
FICA Replacement Benefits	51500		1,906	1,954	48	2.5%
Group Insurance Benefits	51600		26,758	27,886	1,128	4.2%
Employee Transportation Subsidy	51700		1,440	1,485	45	3.1%
Workers' Compensation	51800		522	517	(5)	(1.0)%
Other Post Employment Benefits	51850		9,070	8,989	(81)	(0.9)%
Board Stipends	51900					
Total Personnel Expenditures			310,249	322,859	12,610	4.1%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		100,000	350,000	250,000	250.0%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures			100,000	350,000	250,000	250.0%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures			410,249	672,859	262,610	64.01%

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Diversity, Equity and Inclusion Division

The work of the Air District requires diverse perspectives, talents, and life experiences to solve some of the most complex technical air quality issues that we face. The Office of Diversity, Equity & Inclusion (Office) is taking meaningful steps to build an antiracist and inclusive environment. The efforts will be informed by working with the Senior Deputy Executive Officer of Policy & Equity, Board of Directors' Community Health, Equity and Justice Committee and staff to shift long-standing environmental justice inequities throughout the region. Key initiatives for the Office will be the development and implementation of an agency-wide Equity Action Plan and trainings that encompass equity tools to provide a blueprint of systems and structures to operationalize cross-divisional efforts relative to Air District programs. In addition, the Office will work on internal initiatives by applying an equity lens to programs, policies, practices and procedures related to staffing, recruitment, promotions, inclusive practices in the workplace, contracting for capital projects and services.

Managing Division:

Diversity Equity & Inclusion Office

Contact Person:

Tim Williams

Program Purpose:

The Air District's Office of Diversity, Equity & Inclusion is responsible for developing initiatives applying an equity lens to programs, policies, practices and procedures. Responsibilities include capacity building related to staffing, recruitment, promotions, inclusive practices in the workplace, contracting for capital projects and services, and equity training. The Office recognized the contributions of all employees and community members and works to sustain an environment where everyone is valued and respected.

Description of Program:

The Office of Diversity, Equity & Inclusion (Office) is taking meaningful steps to build an antiracist and inclusive environment. The efforts will be informed by working with the Senior Deputy Executive Officer of Policy & Equity, Board of Directors' Community Health, Equity and Justice Committee and staff to shift long-standing environmental justice inequities throughout the region.

Justification of Change Request:

Not Applicable

Activities

Work with Board of Directors' Community Equity, Health and Justice Committee on its workplan, meeting agendas, speakers, and community convening meetings
Manage Employee Resource Teams
Provide Human Resources guidance on inclusive recruitment and retention strategies (e.g. equity language in job postings, job screenings, panel interviews, promotional opportunities for diverse candidates)
Work cross-agency on policies, practices and initiatives to mitigate inequities. Review equity aspects within division documents and provide suggested amendment(s)
Interview departments, outline and create written policy for an Equity Action Plan.
Leverage Workforce Diversity and Empower Diverse Perspectives throughout Training & Leadership Development

Major Objectives	Delivery Date
Board of Directors' Community Health, Equity and Justice Committee Support	Ongoing
Development and Implementation of Equity Action Plan	Ongoing
Develop Strategies to Expand Diversity and Inclusion in Human Resources Practices and Processes Applying an Equity Lens	Ongoing
Continue Internal Capacity Building	Ongoing
Creation, Development, and Guidance of Employee Resource Teams	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.73	2.00	2.38	0.38	19.0%
Personnel Expenditures						
Permanent Salaries	51100	362,142	304,542	345,131	40,589	13.3%
Overtime Salaries	51150	3,023		4,000	4,000	
Temporary Salaries	51200					
Payroll Taxes	51300	5,240	4,337	4,878	541	12.5%
Pension Benefits	51400	72,388	71,308	80,402	9,094	12.8%
FICA Replacement Benefits	51500	3,745	3,811	4,652	841	22.1%
Group Insurance Benefits	51600	45,930	41,545	38,260	(3,285)	(7.9)%
Employee Transportation Subsidy	51700	3,373	2,880	3,536	656	22.8%
Workers' Compensation	51800	1,132	1,043	1,230	187	17.9%
Other Post Employment Benefits	51850	26,632	18,141	21,396	3,255	17.9%
Board Stipends	51900					
Total Personnel Expenditures		523,605	447,607	503,485	55,878	12.5%
Services & Supplies Expenditures						
Travel In-State	52200		6,600	3,100	(3,500)	(53.0)%
Travel Out-of-State	52220		11,600	6,600	(5,000)	(43.1)%
Training & Education	52300	2,055	48,000	48,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		6,000	6,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	85,669	404,000	405,000	1,000	0.2%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900	143	700	700		
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		87,867	476,900	469,400	(7,500)	(1.6)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		(38,879)				
Total Expenditures		572,593	924,507	972,885	48,378	5.2%

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Finance Office

The Finance Office provides services to internal and external customers and stakeholders, including fee payers, internal divisions, employees, the Clean Air Foundation, and the Richmond Hilltop Commercial Condominium Association.

The Finance Office is responsible for accounting, financial reporting, accounts payable, revenue posting, cost recovery analysis, budget development, budgetary reporting, and asset management.

Managing Division:

Finance Office

Contact Person:

Stephanie Osaze

Program Purpose:

The Finance/Accounting Program is responsible for maintaining the fiscal stewardship and financial accountability of the District.

Description of Program:

The Finance Office is responsible for maintaining the fiscal stewardship and financial accountability of the District. These responsibilities include accounting activities, financial audits, and reporting, vendor payments, receipt of permit fees, asset management, and maintenance of the District's financial system. The office is also responsible for the development of the District's annual budget and annual cost recovery analysis, the fiscal maintenance, and financial reporting of all federal and state grants.

Justification of Change Request:

Not Applicable

Activities
Reconcile various grants and assist in preparation of reimbursement request reports.
Reconcile receipts and disbursements with County Treasurer's Office Reports.
Prepare quarterly comparison statements for the Budget and Finance Committee presentation.
Prepare for the annual audit of the District's financial records.
Analyze and Prepare the annual cost recovery analysis
Process receipts (checks/credit card payments) on a daily basis.
Prepare annual proposed budget book.
Process vendor invoices on a daily basis

Major Objectives	Delivery Date
Implement Concur State Travel Program	June 2022
Complete implementation of Government Accounting Standards Board Statement No. 87 Leases	July 2022
Provide timely financial reports to Division Directors/Officer	Ongoing
Complete Annual Financial Report.	Annually
Ensure timely payment of accounts payable.	Daily
Record timely processing of check and credit card receipts.	Daily
Update and maintain Finance Procedures and Desk Manuals for Finance Office Staff	December 2022
Update the Air District's Annual Financial Plan	Annually

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		11.14	17.00	16.92	(0.08)	(0.5)%
Personnel Expenditures						
Permanent Salaries	51100	1,218,480	2,037,983	2,079,226	41,243	2.0%
Overtime Salaries	51150	1,560	1,000	2,000	1,000	100.0%
Temporary Salaries	51200	18,495	20,000	20,000		
Payroll Taxes	51300	18,337	28,880	34,299	5,419	18.8%
Pension Benefits	51400	246,730	474,847	472,651	(2,196)	(0.5)%
FICA Replacement Benefits	51500	13,150	32,386	33,074	688	2.1%
Group Insurance Benefits	51600	161,286	335,405	360,093	24,688	7.4%
Employee Transportation Subsidy	51700	12,003	24,473	25,139	666	2.7%
Workers' Compensation	51800	3,943	8,864	8,747	(117)	(1.3)%
Other Post Employment Benefits	51850	93,341	154,148	152,120	(2,028)	(1.3)%
Board Stipends	51900					
Total Personnel Expenditures		1,787,325	3,117,986	3,187,349	69,363	2.2%
Services & Supplies Expenditures						
Travel In-State	52200		5,700	5,700		
Travel Out-of-State	52220		1,500	1,500		
Training & Education	52300	9,885	9,800	9,800		
Repair & Maintenance (Equipment)	52400	38				
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900	4,414	7,000	7,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	594,992	526,800	527,316	516	0.1%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	1,337	3,000	3,000		
Stationery & Office Supplies	53900	596	1,000	1,000		
Books & Journals	54100		1,000	1,000		
Minor Office Equipment	54200	1,060	1,000	1,000		
Total Services & Supplies Expenditures		612,322	556,800	557,316	516	0.1%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Transfer In/Out		(106,327)				
Total Expenditures		2,293,320	3,674,786	3,744,665	69,879	1.9%

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Human Resources Office

The Human Resources Office is responsible for personnel matters including payroll and benefits, labor and employee relations, recruitment and testing, employee engagement, processing personnel actions, employee performance appraisal and recognition programs, organizational development and training, health and safety compliance, workers compensation and special events coordination.

Vision

A work environment in which honesty, integrity, and trust enriches the employee experience.

Mission

Through strategic partnership and collaboration, we attract, retain, support and develop a diverse and inclusive workforce while fostering a fair, healthy and respectful work environment.

Managing Division:

Human Resources Office

Contact Person:

Judy Yu

Program Purpose:

Administer payroll for District employees.

Description of Program:

The Payroll Program includes administering all aspects of the Air District's payroll, leave accruals, deductions, and other related areas dealing with payroll. It includes maintaining and utilizing the current Dayforce payroll system.

Justification of Change Request:

Increase funds to improve and add features to payroll system to allow for greater efficiency, and increase in professional service fees.

Activities
Process biweekly payroll.
Maintain payroll and time keeping system.
Monitor leave accruals.
Audit payroll records.
Customize payroll system to improve process and workflow.
Submit required payroll reports.
Respond to employment verifications and other external request for payroll information.
Monitor and comply with federal, state, and local regulations related to payroll.
Implement self-service features of payroll system.

Major Objectives	Delivery Date
Administer and process biweekly payroll in an efficient and effective manner. Assists with problem solving on all aspects of payroll.	Ongoing
Implement new features of the payroll and timekeeping system and customize system to improve process and workflow. Expand and implement self service features.	Ongoing
Implement document management module in payroll system.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.89	1.51	1.62	0.11	7.3%
Personnel Expenditures						
Permanent Salaries	51100	312,078	188,831	242,961	54,130	28.7%
Overtime Salaries	51150	5,781	10,000		(10,000)	(100.0)%
Temporary Salaries	51200		10,000	40,000	30,000	300.0%
Payroll Taxes	51300	4,713	2,678	3,564	886	33.1%
Pension Benefits	51400	56,775	44,037	56,402	12,365	28.1%
FICA Replacement Benefits	51500	3,378	2,884	3,165	281	9.7%
Group Insurance Benefits	51600	41,461	29,842	31,850	2,008	6.7%
Employee Transportation Subsidy	51700	3,043	2,179	2,406	227	10.4%
Workers' Compensation	51800	1,020	789	834	45	5.7%
Other Post Employment Benefits	51850	22,829	13,726	14,543	817	6.0%
Board Stipends	51900					
Total Personnel Expenditures		451,078	304,966	395,725	90,759	29.8%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220		2,800	2,800		
Training & Education	52300		2,000	2,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	256,872	160,000	260,000	100,000	62.5%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		256,872	164,800	264,800	100,000	60.7%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		(30,351)				
Total Expenditures		677,599	469,766	660,525	190,759	40.6%

Managing Division:

Human Resources Office

Contact Person:

Judy Yu

Program Purpose:

Administer benefits, workers' compensation, and safety programs for District employees.

Description of Program:

The Benefits Administration Program includes administering all aspect of employee and retiree benefits, workers' compensation, safety, ergonomics and special events. It includes maintaining and utilizing the current Dayforce human resources information system.

Justification of Change Request:

None

Activities
Administer benefits for employees and retirees in compliance with policies and procedures.
Administer health, dental, vision, life and long term disability plans.
Administer retirement and pension plans.
Administer flexible spending accounts, employee assistance program, and transit subsidy.
Administer onboarding and separation.
Maintain human resources information systems.
Administer workers' compensation program.
Administer safety and ergonomics program.
Conduct a variety of benefits, safety, special trainings and events.
Administer requirements for fitness medical examinations.
Monitor and comply with federal, state, and local regulations related to benefits.

Major Objectives	Delivery Date
Administer employee benefit program.	Ongoing
Develop and administer the worker's compensation, safety and ergonomic program.	Ongoing
Review and perform cost benefit analysis of existing benefit contracts and consider alternative plans.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.17	1.70	1.40	(0.30)	(17.6)%
Personnel Expenditures						
Permanent Salaries	51100	228,479	204,785	186,950	(17,835)	(8.7)%
Overtime Salaries	51150	21,287	10,000		(10,000)	(100.0)%
Temporary Salaries	51200	15,126	10,000	40,000	30,000	300.0%
Payroll Taxes	51300	276,067	2,902	2,636	(266)	(9.2)%
Pension Benefits	51400	41,175	47,720	42,235	(5,485)	(11.5)%
FICA Replacement Benefits	51500	217,832	3,239	2,736	(503)	(15.5)%
Group Insurance Benefits	51600	2,877,679	3,128,625	3,362,535	233,910	7.5%
Employee Transportation Subsidy	51700	2,934	2,448	2,080	(368)	(15.0)%
Workers' Compensation	51800	132,030	887	724	(163)	(18.4)%
Other Post Employment Benefits	51850	18,249	15,420	12,584	(2,836)	(18.4)%
Board Stipends	51900					
Total Personnel Expenditures		3,830,858	3,426,026	3,652,480	226,454	6.6%
Services & Supplies Expenditures						
Travel In-State	52200		2,800	2,800		
Travel Out-of-State	52220		1,400	1,400		
Training & Education	52300	42,520	55,000	56,000	1,000	1.8%
Repair & Maintenance (Equipment)	52400					
Communications	52500	320				
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	62,194	140,000	140,000		
General Insurance	53400					
Shop & Field Supplies	53500	27	35,000	35,000		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		105,061	234,200	235,200	1,000	0.4%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		(257,685)				
Total Expenditures		3,678,234	3,660,226	3,887,680	227,454	6.2%

Managing Division:

Human Resources Office

Contact Person:

Judy Yu

Program Purpose:

Provide appropriate workplace learning and organization development to increase organizational effectiveness and results through training and development activities. Administer wellness events and activities to increase the well-being of the employees.

Description of Program:

The District's training and development program includes career developmental training for all non-management employees; and career developmental training, skills enhancement, safety, knowledge transfer, and succession planning for supervisory and management employees. It includes analysis of needs assessments and implementation of workforce development activities as part of an overall strategy to retain a top performing and motivated workforce. The program also includes the administration and coordination of wellness activities and events.

Justification of Change Request:

Increase in professional service fees and employee engagement program.

Activities
Provide District-wide and Division-specific trainings.
Develop leadership development program and mentorship program as part of overall succession planning.
Provide Ethics, Harassment Prevention, and any required trainings.
Provide coaching and development support to management and staff as needed.
Administer the performance evaluation program.
Administer the educational reimbursement and loan program.
Coordinate and implement the various wellness activities and events.
Coordinate the employee engagement program.
Monitor and comply with federal, state, and local regulations related to training.
Administer Form 700.

Major Objectives	Delivery Date
Develop and administer the training programs for all staff level focusing in the changing needs and priorities of the Air District.	Ongoing
Administer Learning Management System and E-learning.	Ongoing
Coordinate the employee engagement program	Ongoing
Develop and administer the wellness program.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.20	1.23	1.40	0.17	13.8%
Personnel Expenditures						
Permanent Salaries	51100	245,139	158,818	205,052	46,234	29.1%
Overtime Salaries	51150	1,636				
Temporary Salaries	51200	287	10,000		(10,000)	(100.0)%
Payroll Taxes	51300	3,679	2,255	2,909	654	29.0%
Pension Benefits	51400	43,286	37,071	46,898	9,827	26.5%
FICA Replacement Benefits	51500	2,641	2,329	2,727	398	17.1%
Group Insurance Benefits	51600	32,349	23,204	30,920	7,716	33.3%
Employee Transportation Subsidy	51700	2,377	1,760	2,073	313	17.8%
Workers' Compensation	51800	793	637	721	84	13.2%
Other Post Employment Benefits	51850	18,720	11,084	12,544	1,460	13.2%
Board Stipends	51900					
Total Personnel Expenditures		350,907	247,158	303,844	56,686	22.9%
Services & Supplies Expenditures						
Travel In-State	52200		1,400	1,400		
Travel Out-of-State	52220		1,400	1,400		
Training & Education	52300	168,162	210,000	360,000	150,000	71.4%
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	150				
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		168,312	212,800	362,800	150,000	70.5%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		(23,349)				
Total Expenditures		495,870	459,958	666,644	206,686	44.9%

Managing Division:

Human Resources Office

Contact Person:

Judy Yu

Program Purpose:

Provide management and staff support in the area of employment relations.

Description of Program:

The Employment Relations Program includes the following District activities: employee relations, labor relations, classification and compensation, Equal Employment Opportunity (EEO) programs, regulatory compliance, research and recordkeeping.

Justification of Change Request:

Increase in professional service fees.

Activities
Administer, interpret, and implement the Memorandum of Understanding (MOU) and Personnel Policies and Procedures of the Administrative Code.
Provide management and staff consultation.
Meet with Employee Association on appropriate subjects.
Administer EEO Policy.
Provide support of grievance/arbitration processes.
Maintain accurate employment records.
Provide discipline counseling.
Monitor and comply with federal, state, and local regulations related to labor.

Major Objectives	Delivery Date
Administer, interpret, implement and comply with the MOU and Administrative Code.	Ongoing
Negotiate successor contract and continue positive relations with the Employees' Association.	Ongoing
Monitor and comply with federal, state, and local regulations.	Ongoing
Administer the Equal Employment Opportunity policy.	Ongoing
Ensure reliability of employment history and data.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.00	3.12	3.15	0.03	0.96%
Personnel Expenditures						
Permanent Salaries	51100	311,933	499,474	515,841	16,367	3.28%
Overtime Salaries	51150	1,434				
Temporary Salaries	51200					
Payroll Taxes	51300	4,630	7,119	7,342	223	3.1%
Pension Benefits	51400	60,629	117,057	119,573	2,516	2.1%
FICA Replacement Benefits	51500	3,296	5,941	6,160	219	3.7%
Group Insurance Benefits	51600	40,525	53,753	55,857	2,104	3.9%
Employee Transportation Subsidy	51700	2,964	4,489	4,682	193	4.3%
Workers' Compensation	51800	1,009	1,626	1,629	3	0.2%
Other Post Employment Benefits	51850	22,736	28,276	28,332	56	0.2%
Board Stipends	51900					
Total Personnel Expenditures		449,156	717,735	739,416	21,681	3.0%
Services & Supplies Expenditures						
Travel In-State	52200	110	6,000	6,000		
Travel Out-of-State	52220					
Training & Education	52300	8,486	11,000	11,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500	332				
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	357,580	332,000	352,000	20,000	6.0%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900		500	500		
Books & Journals	54100		500	500		
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		366,508	350,000	370,000	20,000	5.7%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		(30,180)				
Total Expenditures		785,484	1,067,735	1,109,416	41,681	3.90%

Managing Division:

Human Resources Office

Contact Person:

Judy Yu

Program Purpose:

Administer a merit based recruitment and selection process for external and internal candidates to fill vacant positions.

Description of Program:

The Recruitment and Testing Program includes the following activities: testing of internal and external candidates, outreaching and advertising the positions as a choice of employment, maintaining the recruiting online system, maintaining equal employment policy, including diversity, equity and inclusion as part of the recruiting process, and compliance with all laws, policies, and requirements.

Justification of Change Request:

None

Activities
Conduct testing, including application screening, panel and hiring interviews, testing, etc.
Advertise and outreach vacant positions in various mediums.
Work with hiring managers to determine recruitment strategies.
Perform background checks, reference checks, DMV checks and physical abilities checks.
Participate in local, state and federal job fairs and similar outreach activities.
Contract professional services for specialized executive management recruitments.
Maintain online applicant tracking system.
Monitor and comply with federal, state, and local regulations related to testing

Major Objectives	Delivery Date
Conduct merit based testing for internal and external candidates.	Ongoing
Comply with all applicable recruitment policies, requirements and law.	Ongoing
Conduct regional, statewide and nationwide outreach to attract quality and diversity of candidates.	Ongoing
Maintain Air District's Equal Opportunity Policy for recruitment and testing.	Ongoing
Update classification specifications.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.80	2.80	3.10	0.30	10.71%
Personnel Expenditures						
Permanent Salaries	51100	377,994	342,203	428,786	86,583	25.30%
Overtime Salaries	51150	3,185				
Temporary Salaries	51200	23,429	40,000	40,000		
Payroll Taxes	51300	5,674	4,851	6,063	1,212	25.0%
Pension Benefits	51400	79,912	79,768	100,105	20,337	25.5%
FICA Replacement Benefits	51500	4,084	5,336	6,058	722	13.5%
Group Insurance Benefits	51600	50,096	47,278	53,625	6,347	13.4%
Employee Transportation Subsidy	51700	3,677	4,032	4,605	573	14.2%
Workers' Compensation	51800	1,223	1,460	1,602	142	9.7%
Other Post Employment Benefits	51850	28,541	25,397	27,865	2,468	9.7%
Board Stipends	51900					
Total Personnel Expenditures		577,815	550,325	668,709	118,384	21.5%
Services & Supplies Expenditures						
Travel In-State	52200		2,800	2,800		
Travel Out-of-State	52220		2,800	2,800		
Training & Education	52300	262	3,000	3,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500	36,744	50,000	50,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900	145				
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	38,968	80,000	90,000	10,000	12.5%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		76,119	138,600	148,600	10,000	7.2%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		(35,207)				
Total Expenditures		618,727	688,925	817,309	128,384	18.64%

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Administrative Resources Division

The Administrative Resources Division provides administrative and operational support functions for the Air District, and is comprised of the Executive Operations Office, Business Office, Fleet and Facilities Office, Finance Office and the Human Resources Office.

The Executive Operations Office is responsible for providing overall administration and direction to Air District staff. Through this office, the Executive Officer/APCO interprets and oversees implementation of Board directives and policies and administers the business of the Air District.

The Business Office is responsible for contracts, purchasing, non-workers compensation risk management, mailroom services, and office support services.

The Fleet Office is responsible for the acquisition and maintenance of Air District pool vehicles and fleet, management of vehicle accidents and procurement of new vehicles. The facilities office is responsible for the planning, maintenance, construction oversight and operations of all Air District facilities, and manage security and safety measures.

The Human Resources Office is responsible for personnel matters including payroll and benefits, labor and employee relations, recruitment and testing, processing personnel actions, employee performance appraisal and recognition programs, organizational development and training, health and safety compliance, workers compensation and special events coordination.

Managing Division:

Administrative Resources Division

Contact Person:

Maricela Martinez

Program Purpose:

Facilities Planning and Maintenance of existing Air District owned facilities, leased satellite offices, equipment and supplies.

Description of Program:

The Facilities Office provides for the day to day operations of the Air District's offices at 375 Beale Street and 4114 Lakeside Drive and all (80+) leased satellite offices. The development of safety protocols is ongoing, security, and maintenance of existing infrastructure and equipment is ongoing and includes satellite offices.

Justification of Change Request:

Not Applicable

Activities

Work with BAHA and consultants on facility related projects in reference to shared space and services at 375 Beale Street.

Respond to emergency facility repair requests.

Oversee general contractors for the construction of offices and cubicles. Procure furniture and reconfigure cubicle spaces. Oversee electricians and plumbers.

Routine maintenance at offsite facilities: performing preventive and scheduled maintenance as well as maintenance performed in response to signs of wear and tear observed during planned maintenance activities.

Special AD events and workshop logistics.

Major Objectives	Delivery Date
Implement a fire, life and safety preventative maintenance program for all District offices	Ongoing
Work with BAHA and consultants on facility related projects in reference to shared space and services at 375 Beale Street.	Ongoing
Respond to emergency facility repair requests.	Ongoing
Oversee general contractors for the construction of offices and cubicles. Procure furniture and reconfigure cubicle spaces. Oversee electricians and plumbers.	Ongoing
Routine maintenance at offsite facilities: performing preventive and scheduled maintenance as well as maintenance performed in response to signs of wear and tear observed during planned maintenance activities.	Ongoing
Special Air District events and workshop logistics	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		4.52	3.97	4.00	0.03	0.76%
Personnel Expenditures						
Permanent Salaries	51100	422,174	431,728	464,145	32,417	7.51%
Overtime Salaries	51150	25,426	20,000		(20,000)	(100.0)%
Temporary Salaries	51200					
Payroll Taxes	51300	6,512	6,103	6,518	415	6.8%
Pension Benefits	51400	88,167	100,351	109,773	9,422	9.4%
FICA Replacement Benefits	51500	4,686	7,570	7,817	247	3.3%
Group Insurance Benefits	51600	57,393	80,643	84,149	3,506	4.3%
Employee Transportation Subsidy	51700	4,223	5,721	5,942	221	3.9%
Workers' Compensation	51800	1,402	2,072	2,067	(5)	(0.2)%
Other Post Employment Benefits	51850	33,844	36,033	35,955	(78)	(0.2)%
Board Stipends	51900					
Total Personnel Expenditures		643,827	690,221	716,366	26,145	3.8%
Services & Supplies Expenditures						
Travel In-State	52200	2,187				
Travel Out-of-State	52220					
Training & Education	52300			2,000	2,000	
Repair & Maintenance (Equipment)	52400					
Communications	52500	5,809				
Building Maintenance	52600	254,463	575,000	575,000		
Utilities	52700	59,210	50,100	50,250	150	0.3%
Postage	52800					
Printing & Reproduction	52900		200	200		
Equipment Rental	53100		2,000	2,000		
Rents & Leases	53200	91,166	65,000	65,000		
Professional Services & Contracts	53300	268,122	225,000	550,250	325,250	144.6%
General Insurance	53400					
Shop & Field Supplies	53500	53	3,600	3,650	50	1.4%
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900	219	1,000	1,000		
Books & Journals	54100					
Minor Office Equipment	54200	49,796		25,000	25,000	
Total Services & Supplies Expenditures		731,025	921,900	1,274,350	352,450	38.2%
Capital Expenditures						
Leasehold Improvements	60100	25,411				
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures		25,411				
Transfer In/Out		(43,320)				
Total Expenditures		1,356,943	1,612,121	1,990,716	378,595	23.48%

Managing Division:

Administrative Resources Division

Contact Person:

Satnam Hundel

Program Purpose:

Maintenance and administration of the day to day incoming/outgoing mail and reproduction operations of the Air District.

Description of Program:

The day-to-day administrative operations include: sorting and distribution of incoming and outgoing mail, and processing reproduction requests.

Justification of Change Request:

Not Applicable

Activities

Process incoming and outgoing mail.
Process reproduction requests, including document binding and package preparation.
Prepare, reproduce and mail board packets, asbestos reports, permits, permit invoices, data update forms, and other materials as requested.
Receive and deliver incoming packages and deliveries.

Major Objectives	Delivery Date
Process incoming and outgoing mail as well as packages.	Ongoing
Process reproduction requests.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		1.03	1.03	1.08	0.05	4.85%
Personnel Expenditures						
Permanent Salaries	51100	224,309	183,960	197,612	13,652	7.42%
Overtime Salaries	51150	187				
Temporary Salaries	51200	16,855				
Payroll Taxes	51300	3,391	2,627	2,808	181	6.9%
Pension Benefits	51400	39,965	43,188	47,297	4,109	9.5%
FICA Replacement Benefits	51500	2,434	1,967	2,104	137	7.0%
Group Insurance Benefits	51600	29,908	21,844	23,751	1,907	8.7%
Employee Transportation Subsidy	51700	2,190	1,486	1,599	113	7.6%
Workers' Compensation	51800	733	538	556	18	3.3%
Other Post Employment Benefits	51850	17,147	9,361	9,676	315	3.4%
Board Stipends	51900					
Total Personnel Expenditures		337,119	264,971	285,403	20,432	7.7%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300		2,500	2,500		
Repair & Maintenance (Equipment)	52400					
Communications	52500	241,249	246,225	295,470	49,245	20.0%
Building Maintenance	52600					
Utilities	52700					
Postage	52800	41,849	38,475	65,000	26,525	68.9%
Printing & Reproduction	52900					
Equipment Rental	53100	56,052	65,000	105,000	40,000	61.5%
Rents & Leases	53200					
Professional Services & Contracts	53300	36,758	247,800	400,000	152,200	61.4%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		375,908	600,000	867,970	267,970	44.7%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		(22,683)				
Total Expenditures		690,344	864,971	1,153,373	288,402	33.34%

Headquarters East (Richmond) 707

Managing Division:

Administrative Resources Division

Contact Person:

Maricela Martinez

Program Purpose:

This program will pay operating and maintenance costs associated with the Air District's office space located in Richmond, CA.

Description of Program:

This program will pay for the reconfiguring of the Headquarters East (Richmond) office and all costs associated with building maintenance of the facility, including shared costs associated with the Condominium Association. This year includes costs associated with building out Phase 2 and 3 of the Richmond Office.

Justification of Change Request:

Not Applicable

Activities

operating and maintenance costs associated with the Air District's office space located in Richmond, CA

Major Objectives	Delivery Date
Reconfigure the Richmond Office (Headquarters East) with building out Phase 2 and 3 of the Richmond Office.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)						
Personnel Expenditures						
Permanent Salaries	51100					
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300					
Pension Benefits	51400					
FICA Replacement Benefits	51500					
Group Insurance Benefits	51600					
Employee Transportation Subsidy	51700					
Workers' Compensation	51800					
Other Post Employment Benefits	51850					
Board Stipends	51900					
Total Personnel Expenditures						
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600	5,515		6,000	6,000	
Utilities	52700	91,276	11,000	56,000	45,000	409.1%
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	57,376	200,000	250,000	50,000	25.0%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Non-Capital Assets	54600	11,822		1,000	1,000	
Total Services & Supplies Expenditures		165,989	211,000	313,000	102,000	48.3%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105	145,544	500,000	500,000		
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures		145,544	500,000	500,000		
Transfer In/Out						
Total Expenditures		311,533	711,000	813,000	102,000	14.35%

Managing Division:

Administrative Resources Division

Contact Person:

Satnam Hundel

Program Purpose:

Provide for the purchasing of equipment and supplies and the negotiating of service contracts.

Description of Program:

The purchasing section is responsible for the procurement of services, equipment and supplies. The section facilitates the administration of limited access license agreements, lease agreements, professional service contracts, and request for proposals/qualifications. The section is also responsible for the property management administration of various insurance policies, and the coordination of the disposal of surplus equipment.

Justification of Change Request:

Not Applicable

Activities
Process purchase order requests.
Approve the purchase of necessary office supplies as requested by District personnel.
Administer District service contracts and negotiate lease renewals.
Process service requests on equipment under maintenance.
Deliver requested office supplies.
Negotiate best price on sale of surplus equipment.
Manage District insurance policies

Major Objectives	Delivery Date
Process purchase order requests.	Daily
Approve the purchase of necessary office supplies as requested by District personnel.	Ongoing
Administer District service contracts, leases, and limited access license agreements.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.03	2.00	2.00		
Personnel Expenditures						
Permanent Salaries	51100	219,107	218,052	258,340	40,288	18.48%
Overtime Salaries	51150	46	20,000		(20,000)	(100.0)%
Temporary Salaries	51200					
Payroll Taxes	51300	3,304	3,083	3,640	557	18.1%
Pension Benefits	51400	55,515	50,688	59,490	8,802	17.4%
FICA Replacement Benefits	51500	2,377	3,811	3,909	98	2.6%
Group Insurance Benefits	51600	29,148	34,445	35,567	1,122	3.3%
Employee Transportation Subsidy	51700	2,141	2,880	2,971	91	3.2%
Workers' Compensation	51800	709	1,043	1,034	(9)	(0.9)%
Other Post Employment Benefits	51850	17,397	18,141	17,978	(163)	(0.9)%
Board Stipends	51900					
Total Personnel Expenditures		329,744	352,143	382,929	30,786	8.7%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300		1,500	1,500		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900	370	44,164	75,400	31,236	70.7%
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300					
General Insurance	53400	416,903	500,000	790,000	290,000	58.0%
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900	16,967	65,000	65,000		
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		434,240	610,664	931,900	321,236	52.6%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		(22,187)				
Total Expenditures		741,797	962,807	1,314,829	352,022	36.56%

Managing Division:

Administrative Resources Division

Contact Person:

Maricela Martinez

Program Purpose:

This program will pay for sharing of limited business operations and technology functions between the Air District, Metropolitan Transportation Commission, and the Association of Bay Area Governments at 375 Beale Street. This program will also pay for the lease payments associated with the Air District's financing ownership interest of its portion of the facility.

Description of Program:

Shared services between the Air District, Metropolitan Transportation Commission and the Association of Bay Area Governments, including personnel and shared business operations, IT license and maintenance agreements required for a shared services component for the agencies and payments related to its lease payments through the issuance of a private placement of Certificate of Participation Notes (COPS) with the Bay Area Housing Authority.

Justification of Change Request:

The shared services component includes general services and technology functions: personnel, conference room scheduling, conference room set-up, video conferencing, webcasting, copy/print/mail production and distribution, shared fleet management, wellness center; email, calendaring, telephone systems, wireless network, internet connectivity, printing, electronic file storage, server rooms maintenance. Beginning in FYE 2019, the lease payments associated with paying down the COPS are being paid through this program.

Activities
Maintain service level agreements with partner agencies
Maintain communication plan for building protocols
Maintain and develop training materials for new technologies and services available at 375 Beale Street
Maintain Shared Services Budget and Responsibilities

Major Objectives	Delivery Date
Maintain service level agreements with partner agencies	Ongoing
Maintain communication plan for building protocols	Ongoing
Maintain and develop training materials for new technologies and services available at 375 Beale Street	Ongoing
Maintain Shared Services Budget and Responsibilities	Ongoing

		Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
Number of Positions (FTE)						
Personnel Expenditures						
Permanent Salaries	51100					
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300					
Pension Benefits	51400					
FICA Replacement Benefits	51500					
Group Insurance Benefits	51600					
Employee Transportation Subsidy	51700					
Workers' Compensation	51800					
Other Post Employment Benefits	51850					
Board Stipends	51900					
Total Personnel Expenditures						
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700	3,416		5,000	5,000	
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200	564,938	1,200,000	1,200,000		
Professional Services & Contracts	53300	2,348,224	2,600,000	3,005,000	405,000	15.6%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		2,916,578	3,800,000	4,210,000	410,000	10.8%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		2,916,578	3,800,000	4,210,000	410,000	10.79%

Managing Division:

Administrative Resources Division

Contact Person:

Maricela Martinez

Program Purpose:

Fleet maintenance and inspection to ensure safe and reliable transportation.

Description of Program:

The vehicle maintenance section includes the maintenance of the District's 135-vehicle fleet, vehicle financing, tracking and diagnostics fuel records of District vehicles. All vehicle maintenance is outsourced for service. As of FYE 2021/22, one-hundred and five (105) vehicles are leased from Enterprise Fleet Services on a Full Maintenance Program. One (3) Electric vehicle is leased from Nissan Motor Acceptance Corporation where routine services are covered by the vehicle warranty plan; one (3) Hydrogen Fuel Cell vehicle is leased from Anderson Honda Motors Co. Inc; and twenty-seven (23) vehicles are owned by the District and are included in the Enterprise Maintenance Management Program in which Enterprise assists the District in handling all scheduled and non-scheduled repairs. One (1) Diesel vehicle is owned by the District and is service at a local service shop.

Justification of Change Request:

Not Applicable

Activities
Perform factory-recommended preventive and routine vehicle maintenance.
Maintain service support for response to emergency calls within one hour.
Manage insurance contracts on District vehicles; process damage claims.
Train staff in new technology in vehicle maintenance, evaluation and repairs.
Modify and maintain up-to-date vehicle maintenance procedures.
Oversee Enterprise-leased vehicles maintenance appointments.
Perform yearly smog checks and reports on District vehicles.
Quarterly Fuel Reporting.
Vehicle disposal and purchasing.
Cost management and billing.
Plan and prepare annual budget, expenditures and analyze all financial objectives
Create/update fleet policy and procedures, to include vehicle assignment, personal use, replacement policy, accident reporting process, and other procedures

Major Objectives	Delivery Date
Implement Telematics vehicle management system	Ongoing
Completion of yearly maintenance on all District vehicles.	Annually
Completion of annual smog check for District vehicles.	Annually
Reduce the District vehicles carbon foot print with alternative fuel options such as Hybrid Vehicles, Electric Vehicles (EVs), and Hydrogen Fuel Cell	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.36	2.77	2.76	(0.01)	(0.36)%
Personnel Expenditures						
Permanent Salaries	51100	285,820	288,149	349,875	61,726	21.42%
Overtime Salaries	51150	2,708	25,000		(25,000)	(100.0)%
Temporary Salaries	51200					
Payroll Taxes	51300	4,267	4,069	4,927	858	21.1%
Pension Benefits	51400	56,812	66,898	79,580	12,682	19.0%
FICA Replacement Benefits	51500	3,084	5,287	5,387	100	1.9%
Group Insurance Benefits	51600	37,759	45,204	45,754	550	1.2%
Employee Transportation Subsidy	51700	2,778	3,995	4,094	99	2.5%
Workers' Compensation	51800	917	1,447	1,425	(22)	(1.5)%
Other Post Employment Benefits	51850	22,164	25,163	24,776	(387)	(1.5)%
Board Stipends	51900					
Total Personnel Expenditures		416,309	465,212	515,818	50,606	10.9%
Services & Supplies Expenditures						
Travel In-State	52200	8,631				
Travel Out-of-State	52220					
Training & Education	52300		3,000	3,000		
Repair & Maintenance (Equipment)	52400	76	25,000	25,000		
Communications	52500	1,465		1,000	1,000	
Building Maintenance	52600	4,008				
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200	674,063	850,000	900,000	50,000	5.9%
Professional Services & Contracts	53300		12,500	50,000	37,500	300.0%
General Insurance	53400	2,500	57,500	57,500		
Shop & Field Supplies	53500	177		200	200	
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700	147,403	265,000	350,000	85,000	32.1%
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		838,323	1,213,000	1,386,700	173,700	14.3%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120	46,566	50,000	50,000		
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures		46,566	50,000	50,000		
Transfer In/Out		(27,561)				
Total Expenditures		1,273,637	1,728,212	1,952,518	224,306	12.98%

Legislative Office

The Legislative Office mission is to advocate for Air District policy and budget priorities at both the state and federal levels. The Legislative Office is responsible for tracking and developing positions on state and federal legislation and budget proposals, meeting with legislators and legislative staff about policy proposals and updating them on Air District activities, representing the Air District at legislative hearings, and interacting with stakeholder groups, state and local agencies, and members of the public. The Legislative Office works closely with other divisions within the Air District to help achieve the Air District's commitment to reducing air pollution in California and the Bay Area region by sharing information on current legislative policy and budget proposals that affect Air District programs and policies.

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Managing Division:

Legislative Office

Contact Person:

Alan Abbs

Program Purpose:

State and Federal legislative advocacy.

Description of Program:

The Legislative Office advocates for Air District policy and budget priorities at the state and federal level. The Legislative Office interacts with legislators and staff, advocate and opposition stakeholders, state and local agencies, and members of the public.

Justification of Change Request:

This is a new program.

Activities

Legislative Advocacy

Information sharing with Air District staff

Outreach to Legislature on Air District activities

Major Objectives	Delivery Date
Track and develop positions on state and federal legislation.	Bi-weekly
Meet with legislators and legislative staff about policy proposals.	Ongoing
Update legislators and staff on Air District activities.	Ongoing
Publish legislative newsletter.	Monthly
Track and develop positions on state and federal budget proposals.	Ongoing
Attend legislative hearings.	Ongoing
Staff Air District Legislative Committee meetings.	Monthly
Represent Air District at meetings with stakeholder groups.	Monthly
Staff other Air District Board and Committee meetings, as necessary.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)			2.00	2.00		
Personnel Expenditures						
Permanent Salaries	51100		313,666	334,811	21,145	6.74%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300		4,546	4,938	392	8.6%
Pension Benefits	51400		73,483	74,671	1,188	1.6%
FICA Replacement Benefits	51500		3,811	3,909	98	2.6%
Group Insurance Benefits	51600		42,329	49,297	6,968	16.5%
Employee Transportation Subsidy	51700		2,880	2,971	91	3.2%
Workers' Compensation	51800		1,043	1,034	(9)	(0.9)%
Other Post Employment Benefits	51850		18,141	17,978	(163)	(0.9)%
Board Stipends	51900					
Total Personnel Expenditures			459,899	489,609	29,710	6.5%
Services & Supplies Expenditures						
Travel In-State	52200		3,000	3,250	250	8.3%
Travel Out-of-State	52220		3,450	3,750	300	8.7%
Training & Education	52300		750	2,500	1,750	233.3%
Repair & Maintenance (Equipment)	52400					
Communications	52500		2,000	2,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		121,200	121,200		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900		250	250		
Books & Journals	54100		300	600	300	100.0%
Minor Office Equipment	54200					
Total Services & Supplies Expenditures			130,950	133,550	2,600	2.0%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures			590,849	623,159	32,310	5.47%

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Legal Services Division

The District Counsel provides legal advice, counseling and representation to the Board of Directors and its Committees, the Executive Officer/APCO, District staff, and the Advisory Council in the execution of their respective statutory mandates and responsibilities. The District Counsel also represents, or manages outside counsel, representing the District in all litigation involving the District and in matters before the District's Hearing Board. The District Counsel primarily practices in the areas of general civil law, Federal, State and local air pollution control law, administrative law, Federal and State civil litigation, government law and the California Environmental Quality Act (CEQA).

The District Counsel will continue to implement significant changes in the Mutual Settlement and Civil Penalty Programs; such efforts over the past several fiscal years have been very effective in improving these programs. Efforts by District Counsel's attorneys and the Mutual Settlement Program staff have resulted in a nearly complete effort of resolving the existing inventory of enforcement cases. In addition, implementation of a Small Claims Court program for some enforcement cases in which settlement could not be reached through pre-litigation negotiation has been highly successful. The efforts to be undertaken this fiscal year are once again designed to properly implement legal requirements regarding settlements, deter repeat violations, impose civil penalties commensurate with the nature of the air quality violation involved, remove the economic benefit of violations, and encourage rule compliance by the regulated community. This fiscal year, District Counsel will continue the development and improvement of the Mutual Settlement Program. The District Counsel will also continue to coordinate with, and provide training for, Compliance and Enforcement Division staff regarding case development. These efforts will ensure that effective enforcement cases are built from the beginning of investigations, and will result in more effective settlements and prosecutions. The District Counsel's attorneys will continue their focus on civil penalty enforcement investigations and actions, including civil litigation and, where appropriate, Hearing Board enforcement proceedings.

District Counsel's attorneys will continue to advise District staff on rulemaking, permitting and air quality planning activities. In this regard, District Counsel will continue its efforts to coordinate closely with the District's staff on these issues to minimize challenges to District decision-making. District Counsel will also continue to represent the Executive Officer/APCO before the Hearing Board, counsel the Board of Directors and its Committees as to their legal authority and duties and interact with EPA, CARB, other Air Districts and private attorneys on various matters. District Counsel will continue to use outside labor/employment law firms to handle the specialized practice of labor and employment law counseling, negotiations and litigation. Due in large part to the efforts of attorneys in the District Counsel's office, the vast majority of the litigation pending against the District was resolved in FYE 2005. Cases filed in the intervening years have been more efficiently addressed and resolved. In addition to continuing to provide pre-litigation counseling, and to handle litigation matters internally, the District Counsel will continue to manage the efforts of outside counsel as appropriate in litigation, employment, and specialized counseling matters.

The District Counsel will continue to provide the Board of Directors, the Executive Officer/APCO and District staff with exemplary legal counsel and representation.

Managing Division:

Legal Services Division

Contact Person:

Adan Schwartz

Program Purpose:

To advise, counsel and assist the Board of Directors, the Executive Officer/APCO, and District staff on all legal matters related to the Air District's clean air mission and operations.

Description of Program:

The Air District Counsel provides a wide variety of legal services to the Board of Directors, the Executive Officer/APCO, Advisory Council, and District staff. Those services include advising and counseling on issues arising under Federal and State air pollution laws, the Brown Act, the California Environmental Quality Act (CEQA), the Public Records Act, and conflict of interest laws. Attorneys in the District Counsel's office prepare and review complex contracts, provide legal opinions and advice on rule development, and governmental and general law issues, such as enforcement, permitting and air quality planning matters. Work in the District Counsel's office also includes the development and implementation of legal policy documents for the District.

Justification of Change Request:

Not Applicable

Activities

Staff all Board of Director and Board Committee meetings and provide legal advice and direction, as necessary, at such meetings.

Draft all necessary resolutions for adoption by the Board of Directors.

Provide all legal opinions, reports and correspondence requested by the Board of Directors, the Advisory Council and the Executive Officer/APCO.Provide all legal opinions, reports and correspondence requested by the Board of Directors, the Advisory Council and the Executive Officer/APCO.Review and comment on all legislative proposals affecting the District. Provide legal advice and review of all rule adoptions and amendments including CEQA analysis.Staff all meetings with District staff, members of the public, representatives of other public agencies, environmental groups, industry, the press and legislative representatives involving District permitting, rule development or enforcement.Provide legal advice, direction and contract drafting to administration of TFCA.Advise and assist the Executive Officer/APCO and District staff in legal matters involving contracts, the Public Records Act, conflicts of interest, leases and copyrights.Provide all staff support functions associated with the above activities.Advise Air District staff and the Board of Directors on all issues related to the Federal Clean Air Act, California Clean Air Act and associated State and Federal regulations.

Provide all legal opinions, reports and correspondence requested by the Board of Directors, the Advisory Council and the Executive Officer/APCO.

Review and comment on all legislative proposals affecting the District.

Provide legal advice and review of all rule adoptions and amendments including CEQA analysis.

Staff all meetings with District staff, members of the public, representatives of other public agencies, environmental groups, industry, the press and legislative representatives involving District permitting, rule development or enforcement.

Provide legal advice, direction and contract drafting to administration of TFCA.

Advise and assist the Executive Officer/APCO and District staff in legal matters involving contracts, the Public Records Act, conflicts of interest, leases and copyrights.

Provide all staff support functions associated with the above activities.

Advise Air District staff and the Board of Directors on all issues related to the Federal Clean Air Act, California Clean Air Act and associated State and Federal regulations.

Major Objectives	Delivery Date
Not Applicable	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		8.00	10.00	10.00		
Personnel Expenditures						
Permanent Salaries	51100	1,649,228	1,541,621	1,964,311	422,690	27.4%
Overtime Salaries	51150	7,617				
Temporary Salaries	51200					
Payroll Taxes	51300	24,825	23,038	29,557	6,519	28.3%
Pension Benefits	51400	348,024	362,274	460,191	97,917	27.0%
FICA Replacement Benefits	51500	17,946	15,457	19,178	3,721	24.1%
Group Insurance Benefits	51600	219,714	148,170	207,390	59,220	40.0%
Employee Transportation Subsidy	51700	16,194	11,680	14,577	2,897	24.8%
Workers' Compensation	51800	5,334	4,230	5,072	842	19.9%
Other Post Employment Benefits	51850	132,552	73,573	88,208	14,635	19.9%
Board Stipends	51900					
Total Personnel Expenditures		2,421,434	2,180,043	2,788,484	608,441	27.9%
Services & Supplies Expenditures						
Travel In-State	52200	3,387	3,000	3,000		
Travel Out-of-State	52220		4,000	4,000		
Training & Education	52300	5,980	6,500	6,500		
Repair & Maintenance (Equipment)	52400					
Communications	52500	3,066	5,000	5,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		4,000	4,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	35,942	44,000	54,000	10,000	22.7%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900	208	1,000	1,000		
Books & Journals	54100	44,569	40,000	45,000	5,000	12.5%
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		93,152	107,500	122,500	15,000	14.0%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		(149,014)				
Total Expenditures		2,365,572	2,287,543	2,910,984	623,441	27.3%

Managing Division:

Legal Services Division

Contact Person:

Adan Schwartz

Program Purpose:

To represent the Air District in all proceedings involving variances, orders of abatement, permit appeals and permit revocations before the Air District's Hearing Board.

Description of Program:

The Air District Counsel provides all necessary legal representation and counsel for the District in variance, order of abatement, permit appeal and permit revocation actions before the Air District's Hearing Board. Permit holders may seek variance relief from the Hearing Board when they are unable to meet a District rule or permit requirement as long as state law requirements are met. The District may seek orders of abatement against facilities for on-going violations, or seek to revoke those facilities' permits. The Air District Counsel also represents the District in appeals by applicants or third parties to permit, emission reduction credit, and interchangeable emission reduction credit decisions made by the District. In addition, the Air District Counsel works with the Hearing Board's members and staff to improve the Hearing Board's rules and procedures.

Justification of Change Request:

Not Applicable

Activities

Review and advise Air District staff regarding the legal and factual sufficiency of variance requests.
Prepare and/or review all required written correspondence, pleadings and orders.
Represent the Air District in all Hearing Board matters, including preparing all written submissions for these cases.
Prepare Air District witnesses for hearings.
Provide staff support functions associated with the above activities.

Major Objectives	Delivery Date
Not applicable.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.17	0.05	0.15	0.10	200.0%
Personnel Expenditures						
Permanent Salaries	51100	29,814	8,958	24,059	15,101	168.6%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	382	128	341	213	166.4%
Pension Benefits	51400	2,873	2,104	5,361	3,257	154.8%
FICA Replacement Benefits	51500	244	93	293	200	215.1%
Group Insurance Benefits	51600	3,095	1,129	2,731	1,602	141.9%
Employee Transportation Subsidy	51700	218	70	223	153	218.6%
Workers' Compensation	51800	96	25	78	53	212.0%
Other Post Employment Benefits	51850	1,474	442	1,348	906	205.0%
Board Stipends	51900					
Total Personnel Expenditures		38,196	12,949	34,434	21,485	165.9%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300					
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		38,196	12,949	34,434	21,485	165.9%

Penalties Enforcement & Settlement 203

Managing Division:

Legal Services Division

Contact Person:

Adan Schwartz

Program Purpose:

To remove the economic benefit from, and provide a credible and effective deterrence to, violations of Air District Rules by reaching settlements or pursuing penalty enforcement actions fairly and consistently.

Description of Program:

The Air District Counsel, in cooperation with the Enforcement and Compliance Division, enforces the Air District's rules by reaching informal settlements through the Mutual Settlement Program, by pursuing administrative enforcement actions (orders of abatement and revocation of permits), by filing and prosecuting civil penalty actions, or by referring cases to other agencies for consideration of civil or criminal enforcement actions within those agencies' jurisdiction.

Justification of Change Request:

Not Applicable

Activities
Administer Mutual Settlement Program.
Pursue Small Claims Court actions to collect civil penalties.
Provide full time clerical staff support for this program.
Prepare witnesses and documentary evidence for administrative hearings and civil litigation associated with actions to recover civil penalties.
Meet and confer with District staff and defendants to discuss settlement or to advance litigation.
Represent the District in all court hearings, settlement conferences and civil discovery.
Coordinate the referral of cases for civil and criminal prosecution to District Attorney offices and other agencies with jurisdiction over air quality issues.
Prepare all correspondence and prepare and file all pleadings in civil and administrative actions.
Settle or pursue enforcement actions on all Notices of Violation (NOVs).

Major Objectives	Delivery Date
Not applicable.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		4.58	5.27	5.18	(0.09)	(1.7)%
Personnel Expenditures						
Permanent Salaries	51100	630,117	743,340	814,158	70,818	9.5%
Overtime Salaries	51150	178				
Temporary Salaries	51200					
Payroll Taxes	51300	9,536	10,570	11,562	992	9.4%
Pension Benefits	51400	137,097	173,797	186,992	13,195	7.6%
FICA Replacement Benefits	51500	6,923	10,051	10,114	63	0.6%
Group Insurance Benefits	51600	84,426	91,424	89,315	(2,109)	(2.3)%
Employee Transportation Subsidy	51700	6,249	7,596	7,688	92	1.2%
Workers' Compensation	51800	2,038	2,751	2,675	(76)	(2.8)%
Other Post Employment Benefits	51850	52,659	47,844	46,519	(1,325)	(2.8)%
Board Stipends	51900					
Total Personnel Expenditures		929,223	1,087,373	1,169,023	81,650	7.5%
Services & Supplies Expenditures						
Travel In-State	52200		2,800	2,800		
Travel Out-of-State	52220					
Training & Education	52300		2,000	2,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300					
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100		1,000	1,000		
Minor Office Equipment	54200					
Total Services & Supplies Expenditures			5,800	5,800		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		929,223	1,093,173	1,174,823	81,650	7.5%

Managing Division:

Legal Services Division

Contact Person:

Adan Schwartz

Program Purpose:

To represent and oversee the Air District representation in State and Federal courts.

Description of Program:

Individuals, corporations and organizations may sue the Air District in State or Federal court over District actions; he District Counsel represents the District in such matters. The District Counsel also directs the efforts of outside counsel handling such litigation and advising the District in specialized legal areas such as labor law, employment law and tort actions.

Justification of Change Request:

Not Applicable

Activities
Represent Air District in State court actions.
Represent Air District in Federal court actions.
Provide litigation status reports to Air District Board of Directors.
Legal research for litigation matters.
Monitor and direct activities of outside counsel in general litigation and specialized legal areas such as labor law, employment law and tort actions.
Provide clerical support for litigation matters.

Major Objectives	Delivery Date
Not Applicable	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.45	0.56	0.46	(0.10)	(17.9)%
Personnel Expenditures						
Permanent Salaries	51100	93,535	126,160	88,490	(37,670)	(29.9)%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	1,451	1,947	1,278	(669)	(34.4)%
Pension Benefits	51400	25,833	29,715	20,760	(8,955)	(30.1)%
FICA Replacement Benefits	51500	1,063	1,066	905	(161)	(15.1)%
Group Insurance Benefits	51600	12,856	14,383	10,704	(3,679)	(25.6)%
Employee Transportation Subsidy	51700	961	806	688	(118)	(14.6)%
Workers' Compensation	51800	303	292	239	(53)	(18.2)%
Other Post Employment Benefits	51850	8,385	5,074	4,163	(911)	(18.0)%
Board Stipends	51900					
Total Personnel Expenditures		144,387	179,443	127,227	(52,216)	(29.1)%
Services & Supplies Expenditures						
Travel In-State	52200	36				
Travel Out-of-State	52220					
Training & Education	52300		3,000	3,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800	16	2,300	2,000	(300)	(13.0)%
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	437,606	235,000	235,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100		4,000	4,000		
Minor Office Equipment	54200	568	3,000	3,000		
Total Services & Supplies Expenditures		438,226	247,300	247,000	(300)	(0.1)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		582,613	426,743	374,227	(52,516)	(12.3)%

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Communications Office

The Communications Office coordinates all agency media outreach, Air District messaging, crisis communications, media relations as well as print, digital and social media outreach for the Air District. The Office provides media and public outreach about the Air District's programs, operations and emergency response.

The Office manages advertising and outreach for Spare the Air, the Employer Program, and the Commuter Benefits Program. The Office oversees the Air District and Spare the Air social media sites, strategies and programs. The Office maintains the Spare the Air website and related sites and the Spare the Air mobile apps. The Office represents the Air District at community events for Spare the Air throughout the region.

Office functions include production of publications and digital collateral for the general public and target audiences. This includes publishing newsletters, the annual report, videos and collateral materials. The Office also provides and oversees graphic design services, social media content creation, translation services and videography. The Office also provides Air District presentations and tours for international delegations, organizations and school groups.

Managing Division:

Communications Office

Contact Person:

Kristine Roselius

Program Purpose:

Act as the Air District's main point of contact to the public through media and social media. Increase public awareness and understanding of the roles that the public and the Air District have in creating behavior change and reducing air pollution and the impacts of climate change.

Description of Program:

Provide proactive media outreach about air quality issues, Air District programs and the purpose and functions of the agency through printed materials, media events, promotional materials, baaqmd.gov website, press releases, publications, videos, podcasts and social media. Develop graphically appealing and compelling images and infographics to better message Air District efforts on social media, presentations and displays.

Justification of Change Request:

Budget increase due to ongoing AB617 support, increased videography and website accessibility needs.

Activities

Maintain up-to-date and relevant air quality information on the Air District website.
Develop video and audio podcasts about air quality issues and the Air District's programs and rules.
Develop wildfire messaging, procedures, graphics, printed and web materials.
Produce publications including plans, brochures, booklets and other Air District documents.
Issue press releases and host media events highlighting Air District accomplishments.
Coordinate the Air District presence at events and fairs throughout the region.
Develop and implement media, social media and communication strategies around major Air District policies and issues.
Develop and maintain effective working relationships with members of the media and social media influencers.
Track and analyze print, internet, radio, social media and television coverage of the Air District.
Provide development opportunities for staff related to activities and objectives of the Air District.
Develop emergency response internal, media and social media outreach procedures
Develop crisis communications internal, media and social media outreach procedures
Development and management of Air District social media sites
Support for AB617 efforts.

Major Objectives	Delivery Date
Develop media response / operating procedures, Air District media policy, and social media policy.	Ongoing
Produce Air District Annual Report.	June 2023
Publish quarterly Air Currents newsletter.	Quarterly
Conduct media training for public information officers and other Air District staff.	Ongoing
Develop videos, news releases / statements, infographics and display graphics for Air District programs / events.	Ongoing
Develop and manage Air District social media posts.	Ongoing
Crisis communications and emergency response for air quality incidents.	Ongoing
Develop and maintain media relations.	Ongoing
Host media events to promote Air District programs and initiatives.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		7.88	3.91	6.48	2.57	65.7%
Personnel Expenditures						
Permanent Salaries	51100	890,185	496,369	863,334	366,965	73.9%
Overtime Salaries	51150	12,407	7,000	7,000		
Temporary Salaries	51200					
Payroll Taxes	51300	13,413	7,043	12,210	5,167	73.4%
Pension Benefits	51400	177,100	115,805	200,888	85,083	73.5%
FICA Replacement Benefits	51500	9,629	7,444	12,668	5,224	70.2%
Group Insurance Benefits	51600	117,895	63,830	118,290	54,460	85.3%
Employee Transportation Subsidy	51700	8,671	5,625	9,628	4,003	71.2%
Workers' Compensation	51800	2,906	2,037	3,350	1,313	64.5%
Other Post Employment Benefits	51850	69,896	35,430	58,262	22,832	64.4%
Board Stipends	51900					
Total Personnel Expenditures		1,302,102	740,583	1,285,630	545,047	73.6%
Services & Supplies Expenditures						
Travel In-State	52200	686	14,000	14,000		
Travel Out-of-State	52220		6,000	6,000		
Training & Education	52300	5,058	21,500	21,500		
Repair & Maintenance (Equipment)	52400					
Communications	52500	9,205	47,000	47,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800		4,000	4,000		
Printing & Reproduction	52900	19,003	42,500	42,500		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	289,543	441,000	482,750	41,750	9.5%
General Insurance	53400					
Shop & Field Supplies	53500		500	500		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	1,803	11,000	11,000		
Stationery & Office Supplies	53900	3,258	4,000	4,000		
Books & Journals	54100					
Minor Office Equipment	54200		1,000	1,000		
Total Services & Supplies Expenditures		328,556	592,500	634,250	41,750	7.0%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		(58,624)				
Total Expenditures		1,572,034	1,333,083	1,919,880	586,797	44.0%

Managing Division:

Communications Office

Contact Person:

Kristina Chu

Program Purpose:

The Spare the Air winter program informs the public about the Wood Burning Rule, the health impacts of wood smoke pollution and alternative, cleaner forms of heat and change-out incentives.

Description of Program:

The Wood Burning Rule was passed in 2008 and wood burning is banned when a Spare the Air Alert is called for fine particulate pollution. The Spare the Air winter campaign informs the public about the health impacts of wood smoke both inside and outside the home. A seasonal messaging/advertising campaign is developed and delivered to the public through regional advertising, media outreach, neighborhood events and through seasonal door-to-door outreach and survey campaign.

Justification of Change Request:

No change.

Activities

Develop and disseminate a Spare the Air winter campaign to inform the public about the health impacts of wood smoke.
Prepare and issue media releases, respond to media inquiries and plan media events/deskside & editorial board visits.
Conduct public opinion surveys to evaluate program and measure behavior change.
Manage and update the baaqmd.gov and sparetheairnow.org websites as well as social media sites including Twitter, Linked In, Pinterest and Facebook.
Manage notification methods for Spare the Air Alerts, including automated phone alerts, text and email alerts, online banners, iPhone/Android app and widget.
Deliver public outreach, advertising and media relations campaigns.
Provide public outreach at community events throughout the Bay Area.
Door to door outreach/surveys
Provide overview of campaign to Executive Committee and Board of Directors.
Provide outreach to local government leaders and community organizations and the general public about the Spare the Air winter program.
Promote cleaner heating options and available incentives.

Major Objectives	Delivery Date
Media outreach for Spare the Air winter.	Ongoing
Launch Spare the Air winter season.	November 2022
Execute and evaluate Spare the Air winter season public outreach campaign.	June 2023
Develop video podcasts, video news releases / statements, displays and infographics for Spare the Air winter programs / events.	Ongoing
Respond to public inquiries, provide informational speeches and presentations.	Ongoing
Update website alerts and Spare the Air app.	Ongoing
Monitor and measure campaign effectiveness via public opinion surveys.	March 2023
Develop Spare the Air winter season summary.	April 2023
Issue Alert advisories when air quality is forecast to reach unhealthy levels.	Ongoing
Provide information about the health impacts of wood smoke to the public, community organizations and local government leaders.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.77	2.92	0.80	(2.12)	(72.6)%
Personnel Expenditures						
Permanent Salaries	51100	84,758	349,558	100,716	(248,842)	(71.2)%
Overtime Salaries	51150	1,884				
Temporary Salaries	51200					
Payroll Taxes	51300	1,286	4,953	1,418	(3,535)	(71.4)%
Pension Benefits	51400	20,694	81,443	23,415	(58,028)	(71.2)%
FICA Replacement Benefits	51500	961	5,565	1,569	(3,996)	(71.8)%
Group Insurance Benefits	51600	11,746	51,547	14,513	(37,034)	(71.8)%
Employee Transportation Subsidy	51700	868	4,205	1,193	(3,012)	(71.6)%
Workers' Compensation	51800	274	1,523	415	(1,108)	(72.8)%
Other Post Employment Benefits	51850	9,308	26,487	7,218	(19,269)	(72.7)%
Board Stipends	51900					
Total Personnel Expenditures		131,779	525,281	150,457	(374,824)	(71.4)%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	1,202,923	1,125,000	1,125,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		1,202,923	1,125,000	1,125,000		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,334,702	1,650,281	1,275,457	(374,824)	(22.7)%

Managing Division:

Communications Office

Contact Person:

Kristina Chu

Program Purpose:

The Spare the Air program encourages the public to reduce their driving, a major source of Bay Area air pollution, and promotes the use of public transit, biking, walking, carpooling, trip reduction and other behavior changes that reduce pollution from transportation sources.

Description of Program:

The Spare the Air Program provides health alerts and informs Bay Area residents about air pollution and encourages them to reduce single occupancy driving, especially during their commute to and from work, to improve air quality. The Spare the Air program will also help to promote the Commuter Benefits Program which supports the overall goal of reducing the number of vehicles on Bay Area roads.

When air quality is forecast to be unhealthy, the Air District issues Spare the Air Alerts. Outreach to the public is conducted through an advertising and media relations campaign as well as through social media sites such as Twitter and Facebook.

Justification of Change Request:

No change.

Activities
Conduct campaign to educate the public about individual choices to reduce air pollution.
Prepare and issue media releases, respond to media inquiries and plan media events.
Conduct public opinion surveys to evaluate program and measure behavior change.
Manage, re-design and update website landing pages and provide regular updates, measurements and responses for social media sites such as Twitter, Pinterest and Facebook.
Provide public outreach at community events throughout the Bay Area.
Notify the public of Spare the Air Alerts through AirAlerts, text alerts, the media, sparetheair.org, baaqmd.gov, the iPhone/Android app and social media sites.
Manage public outreach campaigns for advertising, social media and media relations.
Provide overview of campaign to Administrative Committee and Board of Directors.

Major Objectives	Delivery Date
Develop the Spare the Air campaign.	Ongoing
Launch Spare the Air summer season.	Ongoing
Monitor and measure campaign effectiveness via public opinion surveys.	October 2022
Manage the Spare the Air advertising, media relations and social media campaign.	Ongoing
Promote Spare the Air at public events.	Ongoing
Develop videos, news releases / statements, displays and infographics for Spare the Air program / events.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)						
Personnel Expenditures						
Permanent Salaries	51100	745				
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	11				
Pension Benefits	51400	249				
FICA Replacement Benefits	51500	9				
Group Insurance Benefits	51600	108				
Employee Transportation Subsidy	51700	8				
Workers' Compensation	51800	2				
Other Post Employment Benefits	51850	83				
Board Stipends	51900					
Total Personnel Expenditures		1,215				
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	1,176,610	1,000,000	1,000,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		1,176,610	1,000,000	1,000,000		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,177,825	1,000,000	1,000,000		

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Technology Implementation Office

The Technology Implementation Office (TIO) mission is to advance emerging, cost-effective solutions to achieve greenhouse gas emissions reductions for the transportation and industrial source sectors. TIO will connect climate technologies and customers by providing financial incentives (through grants and loans) as well as technical and matchmaking support. Climate technology areas include zero emissions vehicles and infrastructure, zero emissions energy storage and backup systems, composting, and waste-to-energy projects (co-digestion, waste treatment, anaerobic digestion, combined heat and power). By supporting the scale-up of climate technologies, TIO can help achieve state and regional greenhouse gas emissions targets, reduce emissions in impacted communities, while also making technologies cost-effective even in regions without strong climate policies.

Managing Division:

Technology Implementation Office

Contact Person:

Derrick Tang

Program Purpose:

The Air District's Climate Investments program advances emerging and cost-effective solutions to achieve greenhouse gas emissions reduction. The program's goal is to support the 2017 Clean Air Plan goal of a carbon-free Bay Area by 2050 and mainstream technologies so they can be scaled up throughout and beyond the Bay Area.

Description of Program:

The Climate Tech Finance program increases access to capital for entrepreneurs and public agencies to develop and adopt technologies that reduce greenhouse gases. The Clean Air Centers program establishes a network of publicly accessible facilities with high-end air filtration for use during smoke events in communities most impacted by those events.

Justification of Change Request:

Not Applicable

Activities

Oversee loan and loan guarantee partnership and projects.
Perform evaluations of climate technologies.
Identify technologies and customers and provide technical support and financing to implement technologies.
Convene stakeholders for technology matchmaking and peer-to-peer information exchanges.
Implement grant program to fund the purchase of air filtration units for publicly accessible Clean Air Centers.

Major Objectives	Delivery Date
1. Provide loans and loan guarantees for implementing new technologies.	Ongoing
2. Expand partnerships to offer enhanced climate loan services statewide.	December 2022
3. Launch, implement, and maintain Clean Air Centers grant program.	June 2023

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.29	2.26	3.12	0.86	38.1%
Personnel Expenditures						
Permanent Salaries	51100	362,877	311,043	441,447	130,404	41.9%
Overtime Salaries	51150	434	25,000	25,000		
Temporary Salaries	51200		75,000	75,000		
Payroll Taxes	51300	5,500	4,421	6,250	1,829	41.4%
Pension Benefits	51400	80,802	72,691	98,326	25,635	35.3%
FICA Replacement Benefits	51500	3,905	4,300	6,101	1,801	41.9%
Group Insurance Benefits	51600	47,724	46,963	66,341	19,378	41.3%
Employee Transportation Subsidy	51700	3,521	3,250	4,637	1,387	42.7%
Workers' Compensation	51800	1,174	1,177	1,614	437	37.1%
Other Post Employment Benefits	51850	27,606	20,470	28,061	7,591	37.1%
Board Stipends	51900					
Total Personnel Expenditures		533,543	564,315	752,777	188,462	33.4%
Services & Supplies Expenditures						
Travel In-State	52200	35	2,300	2,300		
Travel Out-of-State	52220		3,000	3,000		
Training & Education	52300	65	6,000	6,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500	1,225	1,500	1,500		
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	143,429	165,000	250,000	85,000	51.5%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		3,000	3,000		
Stationery & Office Supplies	53900		400	400		
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		144,754	181,200	266,200	85,000	46.9%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		678,297	745,515	1,018,977	273,462	36.7%

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Strategic Incentives Division

The Strategic Incentives Division administers grant programs to facilitate the execution of projects and programs focused primarily on the reduction of emissions from mobile sources in the Bay Area. The primary grant programs include the Transportation Fund for Clean Air (TFCA), the Carl Moyer Program (CMP), the Mobile Source Incentive Fund (MSIF), the Lower-Emission School Bus Program (LESBP), in addition to other miscellaneous grant programs. These programs support the implementation of transportation and mobile source measures, as well as other incentive-based initiatives that improve air quality in the region. In FYE 2022 the Strategic Incentives Division will administer more than $100 million in new grant revenue funds.

Managing Division:

Strategic Incentives Division

Contact Person:

Alona Davis

Program Purpose:

Administer funding for grant programs related to non-mobile sources.

Description of Program:

In 2022, the Air District will implement a program that will provide incentive funding to reduce particulate matter from wood-burning devices in residential homes. The program is funded by a US Environmental Protection Agency (EPA) Targeted Airshed Grant award and funding from the Air District's General Fund as match. On January 20, 2021, the Air District Board of Directors, authorized the District to accept, obligate, and expend up to $2,120,345 in funding from the US EPA and allocated up to $500,000 of General Fund from Designated Reserves as match funding. The funding will be awarded on a first-come first-serve basis and is anticipated to have a program duration of two to five years.

Justification of Change Request:

Not Applicable

Activities

Develop guidelines and policies & procedures for the administration of the woodsmoke reduction program.
Contract with vendors that wish to participate in the low-income voucher program.
Conduct workshops and outreach.
Review and evaluate applications for eligibility with program requirements, and recommend projects to be awarded.
Prepare and execute contracts and vouchers for projects awarded.
Monitor status and performance of projects, and conduct inspections.
Prepare technical, financial, and staff reports.
Conduct program development for each solicitation cycle

Major Objectives	Delivery Date
Update online grants management system.	July 2022
Open solicitation for first round of woodsmoke program.	July 2022
Submit quarterly reports and other required reports to funding source (EPA).	Ongoing
Contract with vendors that wish to participate in the low-income voucher program.	December 2022

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)			0.49	0.43	(0.06)	(12.24)%
Personnel Expenditures						
Permanent Salaries	51100		65,097	60,073	(5,024)	(7.72)%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300		929	854	(75)	(8.1)%
Pension Benefits	51400		15,202	13,594	(1,608)	(10.6)%
FICA Replacement Benefits	51500		934	840	(94)	(10.1)%
Group Insurance Benefits	51600		9,976	8,405	(1,571)	(15.7)%
Employee Transportation Subsidy	51700		706	639	(67)	(9.5)%
Workers' Compensation	51800		256	222	(34)	(13.3)%
Other Post Employment Benefits	51850		4,444	3,865	(579)	(13.0)%
Board Stipends	51900					
Total Personnel Expenditures			97,544	88,492	(9,052)	(9.3)%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		50,000	50,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures			50,000	50,000		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures			147,544	138,492	(9,052)	(6.14)%

Grant Program Development 313

Managing Division:

Strategic Incentives Division

Contact Person:

Chengfeng Wang

Program Purpose:

Expand availability of funding for emission reduction projects in the Bay Area by identifying and securing new sources of funding. Also manage small pilot and demonstration projects funded by Air District general funds.

Description of Program:

This program, established in 2010, is focused on identifying and securing new sources of funding for the Bay Area region. Staff identifies and secures funding from Federal, State, local governments and other funding sources. Over time, this program aims to expand the availability of grant funding in the region in order to create additional opportunities for Bay Area businesses and residents to implement projects that reduce criteria pollutants, greenhouse gases, and toxic air contaminants from mobile and stationary sources. This program is also used to conduct activities to support pilot and demonstration projects that are not funded by non-Air District funding sources.

Justification of Change Request:

Not Applicable

Activities

Identify new sources of funding and prepare grant applications to secure new funding sources.

Form partnerships to leverage Air District funding resources.

Manage Air District funded programs: conduct outreach, evaluate applications and award funding to eligible recipients, and process reimbursement requests.

Major Objectives	Delivery Date
Form partnerships to leverage Air District funding sources.	Ongoing
Secure new sources of funding	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.61	2.49	0.54	(1.95)	(78.3)%
Personnel Expenditures						
Permanent Salaries	51100	80,445	345,305	79,177	(266,128)	(77.1)%
Overtime Salaries	51150	572				
Temporary Salaries	51200					
Payroll Taxes	51300	1,181	4,927	1,138	(3,789)	(76.9)%
Pension Benefits	51400	20,723	80,708	18,132	(62,576)	(77.5)%
FICA Replacement Benefits	51500	832	4,745	1,055	(3,690)	(77.8)%
Group Insurance Benefits	51600	10,360	50,624	10,235	(40,389)	(79.8)%
Employee Transportation Subsidy	51700	745	3,586	802	(2,784)	(77.6)%
Workers' Compensation	51800	260	1,299	279	(1,020)	(78.5)%
Other Post Employment Benefits	51850	5,512	22,585	4,854	(17,731)	(78.5)%
Board Stipends	51900					
Total Personnel Expenditures		120,630	513,779	115,672	(398,107)	(77.5)%
Services & Supplies Expenditures						
Travel In-State	52200		13,200	13,200		
Travel Out-of-State	52220		8,000	8,000		
Training & Education	52300		7,500	7,500		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		100,000	95,000	(5,000)	(5.0)%
General Insurance	53400					
Shop & Field Supplies	53500		1,000	1,000		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		20,000	20,000		
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures			149,700	144,700	(5,000)	(3.3)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		120,630	663,479	260,372	(403,107)	(60.8)%

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Compliance & Enforcement Division

The Compliance & Enforcement Division ensures the Air District will realize the emission reductions achieved by the air quality regulations adopted by the Board of Directors, and permit conditions issued by the Executive Officer/APCO. Compliance with Air District, state, and federal regulations is achieved through a robust Compliance Assurance and Enforcement Program that includes comprehensive inspections and investigations and a complementary Compliance Assistance Program that supports compliance objectives of the Division by maintaining operations and assisting industry with air quality regulations and requirements. The Division works closely with local and state regulatory agencies, regulated industry and members of the community to provide the highest level of service to protect air quality and public health. The Division implements Air District strategies and enforces regulations that pertain to stationary sources, and has some mobile source enforcement authority in collaboration with the California Air Resources Board. Division priorities include conducting Title V and Synthetic Minor facility inspections, locating unpermitted sources of operations, resolving violations at facilities with ongoing non-compliance and responding to and investigating air quality complaints. Staff work collaboratively across Divisions to achieve the Air District's mission and apply the appropriate level of enforcement proportional to the level of non-compliance. The Division vigorously pursues violators who show a disregard for the law and well-being of the public and ensures corrective actions and measures to resolve violations are taken.

The Compliance and Enforcement Division continues to focus on activities that support the Air District's commitment to achieve clean air to protect public health and the environment as follows:

The Compliance Assurance and Enforcement Programs focus on announced and unannounced inspections of air pollution sources to ensure compliance. Targeted strategies are used to guide inspections to identify non-compliance and reduce excess emissions. Sources include: Title V and Synthetic Minors facilities, petroleum refineries, chemical plants, dry cleaners, gasoline dispensing facilities, autobody shops, asbestos renovations and demolitions, agricultural and prescribed burning, and other permitted sources. Other facets of the program requiring Division resources include investigations of Title V deviation reporting, Reportable Compliance Activities, and other inspections pertaining to the Portable Equipment Registration Program (PERP), Asbestos projects (renovations, demolitions and naturally occurring asbestos – NOA), compliance determinations for State Air Toxics Control Measures (ATCMs) and Federal Maximum Available Control Technology (MACTs) for air toxics. Air pollution complaints and incident response and investigations are a high priority in the Division that aim to address and resolve air quality concerns of local communities.

The Compliance Assistance Program develops outreach materials, advisories, policies and procedures and guidance information and implements compliance strategies that complement a wide range of enforcement efforts. The program aims to enhance industry and public understanding of compliance and enforcement programs and regulatory requirements, address compliance concerns and assist in resolving air quality violations. Key programs and projects in Compliance Assistance and Operations include the Air District's Wood Smoke Reduction Program, Air Quality Complaint Program, AB617 Community Health Protection Program in West Oakland and Richmond/San Pablo, Wildfire Air Quality Response Program, Commuter Benefits, Title V, Open Burning, Flare Monitoring, Naturally Occurring Asbestos, Inspector Training, Green Business Certifications, Variance and Hearing Board Activities, and many others involving state, federal and Air District regulations and requirements. The program also maintains online web information, the dispatch operating system and the compliance assistance and complaint phone lines which are all integral interfaces with the public.

Managing Division:

Compliance & Enforcement Division

Contact Person:

John Marvin

Program Purpose:

Enforce applicable Federal, State, and District air pollution regulations and permit conditions.

Description of Program:

The Enforcement Program consists of activities designed to respond when sources are found in violation of applicable Federal, State and Air District regulations and permit conditions. A strong, technically-based enforcement program provides both an essential deterrent to continued or future non-compliance as well as consistency in enforcement practices throughout the regulated community. This program includes all Division activities necessary to address non-compliance, including issuing Notices of Violation (NOV) and Notices to Comply (NTC), identifying causes and solutions for non-compliance, developing enforcement cases for legal action, and providing testimony during hearings and court cases. Other elements of the program include responding to the public's air pollution complaints, returning sources to compliance, and supporting enforcement of the variance and abatement order process. In addition, the toxic air contaminant activities, such as mobile source enforcement of diesel particulate matter ATCMs and asbestos demolition/renovation enforcement, ensure compliance with Federal, State and District regulations to protect the public from exposure to known carcinogens. Oversight of the Division's Safety Program is coordinated with the training functions in Program 402.

Justification of Change Request:

Not Applicable

Activities

Investigate and enforce air quality violations; issue and process NOVs and NTCs; re-inspect sources to verify compliance status after issuance. Work with Legal Division to procure penalty settlement and/or successful prosecution.
Receive and investigate citizen inquiries and general air pollution complaints. Respond to these complaints as soon as possible where highest priority response is given to ongoing complaints alleged against potential nuisance sites.
Prepare enforcement cases in coordination with Legal Division; conduct/coordinate investigations to support their development for legal actions.
Provide technical analysis and support for variances, abatement orders, and permit appeals to the Hearing Board. Prepare a weekly District position report on all matters before the Hearing Board. Ensure that increments of progress are met.
Refinery Flares: review, comment, approve and enforce provisions in Regulation 12, Rules 11 and 12.
Provide staff at community meetings to present information on the complaint process, enforcement activities, etc.
Participate in interagency environmental task force programs to coordinate District enforcement activities with other County/State/Federal governmental agencies.
CARB Mobile Source regulations enforcement in CARE impacted areas with special focus on AB617 communities of West Oakland and Richmond.

Major Objectives	Delivery Date
Not applicable	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		31.87	33.15	34.55	1.40	4.2%
Personnel Expenditures						
Permanent Salaries	51100	3,296,880	3,605,878	4,164,545	558,667	15.5%
Overtime Salaries	51150	22,099	117,000	117,000		
Temporary Salaries	51200	1,414	10,000	10,000		
Payroll Taxes	51300	49,610	50,977	58,651	7,674	15.1%
Pension Benefits	51400	699,988	838,168	952,894	114,726	13.7%
FICA Replacement Benefits	51500	35,663	63,171	67,519	4,348	6.9%
Group Insurance Benefits	51600	436,760	605,071	709,341	104,270	17.2%
Employee Transportation Subsidy	51700	32,209	47,736	51,321	3,585	7.5%
Workers' Compensation	51800	10,668	17,289	17,856	567	3.3%
Other Post Employment Benefits	51850	259,649	300,682	310,547	9,865	3.3%
Board Stipends	51900					
Total Personnel Expenditures		4,844,940	5,655,972	6,459,674	803,702	14.2%
Services & Supplies Expenditures						
Travel In-State	52200	2,734	18,800	18,800		
Travel Out-of-State	52220		1,450	1,450		
Training & Education	52300		6,790	6,790		
Repair & Maintenance (Equipment)	52400	50	91,250	191,250	100,000	109.6%
Communications	52500	64,041	137,000	137,000		
Building Maintenance	52600		2,500	2,500		
Utilities	52700	1,403	4,000	4,000		
Postage	52800					
Printing & Reproduction	52900	1,240	2,000	2,000		
Equipment Rental	53100					
Rents & Leases	53200	63,465	73,600	77,100	3,500	4.8%
Professional Services & Contracts	53300	12	23,000	23,000		
General Insurance	53400					
Shop & Field Supplies	53500	16,430	18,090	18,090		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	678	2,000	2,000		
Stationery & Office Supplies	53900	36				
Books & Journals	54100					
Minor Office Equipment	54200		1,000	1,000		
Total Services & Supplies Expenditures		150,089	381,480	484,980	103,500	27.1%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		4,995,029	6,037,452	6,944,654	907,202	15.0%

Compliance Assistance & Operations 402

Managing Division:

Compliance & Enforcement Division

Contact Person:

Tracy Lee & Edward Giacometti

Program Purpose:

Promote compliance with Air District regulations through program development and industry/source education.

Description of Program:

The Compliance Assistance and Operations Program is an essential part of the Compliance & Enforcement Division. This program focuses on the development of outreach materials, advisories, policies and procedures and guidance information and the implementation of compliance strategies that complement a wide range of enforcement efforts. Staff conduct comprehensive program reviews, analyze and process petitions, plans, reportable compliance activities and other notifications received, maintain compliance and enforcement data tracking systems, and coordinate within the division and across other Air District teams to develop program strategies that address compliance concerns. The program also maintains online web information, the dispatch operating system and compliance assistance and complaint phone lines which are all integral interfaces with the public. The Compliance Assistance and Operations Program provides administrative support to enforcement activities, programs and projects and strives to improve consistency and efficiency of the division through staff training, program and policy development and enhancements.

Justification of Change Request:

Not Applicable

Activities

Provide industry and members of the public with specialized educational and technical assistance to achieve and maintain compliance. Develop Compliance Assistance materials for specific business sectors and the public (woodsmoke). Provide compliance assistance during routine inspections and following enforcement action. Compliance assistance is also provided for all air quality complaints for the public through dispatch or other 1-800 or 1-877 telephone line systems. Outreach is conducted for compliance assistance for several programs, including mass-mailings of woodsmoke reduction program brochures and educational materials in sensitive wood smoke areas. Division staff identify and translate Compliance Assistance materials for small businesses and other industry sectors where non-English speaking operators need additional assistance.

Develop and maintain Division Policies and Procedures, compliance advisories, and other documents/processes to ensure consistent application of enforcement activities. Build partnerships with other public and community organizations to strengthen compliance assistance activities. Conduct compliance assistance and enforcement activities for the woodsmoke reduction and other stationary sources. Maintain compliance assistance phone lines and dispatch operating system during core business hours.

Training and Safety: provide staff with pertinent classes, educational materials and a robust safety curriculum to support core activities. Maintain ongoing Safety Training and implement new OSHA requirements as needed.

Operations: develop and maintain air programs to support Air District and California Air Resources Board (CARB) rule requirements, including but not limited to woodsmoke, flare monitoring, asbestos demolition/renovation, naturally occurring asbestos, boilers, open burning, reportable compliance activities. soil aeration and mobile source(s) compliance. Provide equipment and capital management for communication, computers and related devices. Provide multilingual services to access all Division programs. Review, analyze and process petitions, plans, complaints, Reportable Compliance Activities (RCAs - e.g., breakdowns, Ground-level monitor (GLM) releases, non-operational monitors, pressure relief valve releases) and other notifications received.

Major Objectives	Delivery Date
Not applicable.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		14.53	18.12	18.32	0.20	1.1%
Personnel Expenditures						
Permanent Salaries	51100	1,712,292	2,060,331	2,317,396	257,065	12.5%
Overtime Salaries	51150	7,360	5,000	5,000		
Temporary Salaries	51200		25,000	25,000		
Payroll Taxes	51300	25,812	29,160	32,629	3,469	11.9%
Pension Benefits	51400	332,646	479,447	534,721	55,274	11.5%
FICA Replacement Benefits	51500	18,429	34,527	35,803	1,276	3.7%
Group Insurance Benefits	51600	226,420	329,523	350,221	20,698	6.3%
Employee Transportation Subsidy	51700	16,576	26,091	27,214	1,123	4.3%
Workers' Compensation	51800	5,587	9,450	9,469	19	0.2%
Other Post Employment Benefits	51850	126,559	164,341	164,675	334	0.2%
Board Stipends	51900					
Total Personnel Expenditures		2,471,681	3,162,870	3,502,128	339,258	10.7%
Services & Supplies Expenditures						
Travel In-State	52200	336	9,200	9,200		
Travel Out-of-State	52220		7,000	7,000		
Training & Education	52300	14,912	17,000	17,000		
Repair & Maintenance (Equipment)	52400		4,000	4,000		
Communications	52500	23,826	128,000	128,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800		1,500	2,000	500	33.3%
Printing & Reproduction	52900	4,232	8,000	8,000		
Equipment Rental	53100					
Rents & Leases	53200		500	500		
Professional Services & Contracts	53300	30,094	30,000	30,000		
General Insurance	53400					
Shop & Field Supplies	53500	243				
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		1,000	1,000		
Stationery & Office Supplies	53900	3,666	4,000	4,000		
Books & Journals	54100					
Minor Office Equipment	54200		1,500	1,500		
Total Services & Supplies Expenditures		77,309	211,700	212,200	500	0.2%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		2,548,990	3,374,570	3,714,328	339,758	10.1%

Managing Division:

Compliance & Enforcement Division

Contact Person:

Tracy Lee & Edward Giacometti

Program Purpose:

A robust inspection program aimed to ensure facilities operating in the Bay Area comply with all applicable Air District, State and Federal regulations to protect air quality and public health.

Description of Program:

The program involves conducting comprehensive compliance inspections and investigations of stationary sources ranging from large industrial facilities, such as refineries, chemical plants, wastewater treatment, landfills, power plants and metal facilities, to smaller businesses, such as gasoline stations, auto body shops and dry cleaners. The program also includes enforcement of State Airborne Toxic Control Measures for sources that generate asbestos and diesel particulate matter. Beyond routine inspections to ensure that equipment, emissions monitoring, abatement and controls operate in compliance with regulatory requirements, the program involves responding to major incidents and potential air emission releases of hazardous chemicals and pollutants. Facilities discovered to be in violation are required to initiate timely corrective actions, minimize offsite community impacts and take steps to resolve air quality violations. Enforcement actions may require enhanced communications and coordination with other local agencies and first responders that result in joint investigations and enforcement case development.

Justification of Change Request:

Not Applicable

Activities
Refinery Inspection Program for Regulatory and Title 5 Permit Compliance.
Title V Inspections Program / EPA Grant / Aerometric Information Retrieval System (AIRS) and audits.
Synthetic Minor Inspection Program.
Initiate response to major air pollution incidents as soon as possible, and within minutes of notification, provide technical assistance and support to first response agencies during and after incidents; prepare incident reports.
Asbestos, Grant, diesel PM, and Refrigeration Management Inspections Program.
Conduct targeted auto body painting facility inspections.
State Portable Equipment Inspection Program.
Gasoline Dispensing Facilities (GDFs) Inspections Program.
Inspection Communications / Computer Programs.
Conduct targeted prescribed burns Title 17/ Regulation 5 Open Burning inspections.
Perform analysis as required to track and analyze existing process safety management (PSM) programs, Federal and State risk management programs (RMP/RMPP); work with other agencies to improve programs.
Participate in interagency activities, such as County environmental task forces, incident response teams, and other activities relating to prevention, preparedness and emergency response.
Conduct targeted inspections at refinery/chemical plants and general facilities.
Staff air quality related community meetings to provide information on District Programs

Major Objectives	Delivery Date
Refinery Inspection Program: Conduct compliance inspections and program audits of refineries and determine if Title V Permit Compliance are being met.	Annually
Prepare and submit required reports to EPA, Negotiation of EPA 105 Grant Program Outputs.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		34.86	36.11	35.31	(0.80)	(2.2)%
Personnel Expenditures						
Permanent Salaries	51100	3,859,877	4,150,687	4,470,612	319,925	7.7%
Overtime Salaries	51150	12,738	8,000	8,000		
Temporary Salaries	51200	23,002				
Payroll Taxes	51300	58,053	58,883	63,138	4,255	7.2%
Pension Benefits	51400	833,756	966,135	1,029,185	63,050	6.5%
FICA Replacement Benefits	51500	41,831	68,811	69,005	194	0.3%
Group Insurance Benefits	51600	511,410	678,884	709,917	31,033	4.6%
Employee Transportation Subsidy	51700	37,702	51,999	52,451	452	0.9%
Workers' Compensation	51800	12,483	18,833	18,250	(583)	(3.1)%
Other Post Employment Benefits	51850	307,284	327,530	317,386	(10,144)	(3.1)%
Board Stipends	51900					
Total Personnel Expenditures		5,698,136	6,329,762	6,737,944	408,182	6.4%
Services & Supplies Expenditures						
Travel In-State	52200	4,682	10,000	10,000		
Travel Out-of-State	52220		2,550	2,550		
Training & Education	52300	5,014	5,168	5,168		
Repair & Maintenance (Equipment)	52400	9,939	60,000	60,000		
Communications	52500	71,907	65,000	33,500	(31,500)	(48.5)%
Building Maintenance	52600		4,000	4,000		
Utilities	52700	9,054	3,000	3,000		
Postage	52800					
Printing & Reproduction	52900		1,000	1,000		
Equipment Rental	53100					
Rents & Leases	53200	99,502	89,100	89,100		
Professional Services & Contracts	53300	98	15,500	15,500		
General Insurance	53400					
Shop & Field Supplies	53500	59,601	26,000	26,000		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700	193				
Computer Hardware & Software	53800	6,297	23,000	23,000		
Stationery & Office Supplies	53900	1,618	2,300	2,300		
Books & Journals	54100					
Minor Office Equipment	54200					
Non-Capital Assets	54600	30,078				
Total Services & Supplies Expenditures		297,983	306,618	275,118	(31,500)	(10.3)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125	112,311	100,000	100,000		
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures		112,311	100,000	100,000		
Transfer In/Out						
Total Expenditures		6,108,430	6,736,380	7,113,062	376,682	5.6%

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Engineering Division

Engineering Division (Division) gives high priority to the timely review of New Source Review permit applications and permit renewals. The typical application evaluation includes analyzing emissions impacts and determining compliance with applicable air quality requirements, including Best Available Control Technology (BACT), 'No Net Increase' offset requirements, New Source Review (NSR) of Toxic Air Contaminants (TACs) and California Environmental Quality Act (CEQA). There are about 10,000 facilities with about 26,000 devices and operations that have Air District permits. The Division processes, reviews, issues, and renews Title V (Major Facility Review) permits for about 83 facilities.

The Division is working on projects associated with the petroleum refineries, including developing improved emission factors for fugitive emission leaks from heavy liquid service components and implementing Regulation 12, Rule 15.

The Division implements Regulation 11, Rule 18, Reduction of Risk from Air Toxic Emissions at Existing Facilities. The Division expects to refine toxic emissions and prioritization scores for approximately 350 facilities and expects to conduct refined site-wide health risk assessments (HRAs) for about 200 facilities. HRA results will determine if the facilities are subject to the risk reduction requirements of this rule. Risk reduction plans will be reviewed, approved, and tracked. The toxics programs also support Community Health Protection Program goals to eliminate health disparities in overburdened communities.

The Division implements the State Air Toxics "Hot Spots" Program, which applies to existing facilities that emit Toxic Air Contaminants (TACs). Based on the annual TACs emissions inventory, the Division calculates prioritization scores for facilities, conducts HRAs for high priority facilities, and reports HRA results to CARB.

The Division will implement the permit reforms adopted on December 15, 2021. Regulations 2-1 and 2-5 were amended to increase health protections in overburdened communities by: (1) defining overburdened communities, (2) establishing a more stringent cancer risk limit in overburdened communities, (3) enhancing public notifications in the overburdened communities, (4) updating gasoline station health risk screening guidelines, and (5) amending permit review timelines.

The Division continues to implement the Criteria Air Pollutants and Toxic Air Contaminants Reporting (CTR) Regulation. The latest amendments to the rule became effective on January 1, 2022. The purpose of the regulation is to establish a uniform statewide system of annual reporting of emissions of criteria air pollutants and toxic air contaminants for permitted facilities. The Division has been actively working with other agencies and CAPCOA in the development of uniform emissions inventory guidelines for different source categories.

Due to PG&E Public Safety Power Shutoffs (PSPS), there is a large increase in the number of applications for backup generators.

The Division is participating in the Air District's Assembly Bill 617 (AB 617) implementation, which includes a Community Health Protection Program to benefit communities most directly affected by air pollution. The Division participates in the workgroups for the CARB BARCT/BACT Technology Clearinghouse, CARB Permitting FAQs for Environmental Justice Workgroup, Technical Assessment Coordination, Emissions Inventory with CARB and other air districts, and the community workgroups.

The Division continues to help develop and to transition to the Production System, which includes an online system for the regulated community. These tools will increase consistency, efficiency, and accuracy by allowing customers to submit applications, report data for the emissions inventory, pay invoices and renew permits through an online interface.

The Division provides technical support to other divisions, agencies, and programs, including rule development, emissions inventory, compliance and enforcement, planning, monitoring and measurement, the Technology Implementation Office, and the Air District's Regional Climate Action Plan. Key rule development efforts include amendments to Regulation 3 (Fees), and amendments to rules to implement Expedited Best Available Retrofit Control Technology (BARCT) for AB617.

Managing Division:

Engineering Division

Contact Person:

Nicolas Maiden

Program Purpose:

Evaluate all Non-Title V permit applications. Review and process data updates and permit renewals.

Description of Program:

The Permit Evaluation Program involves activities related to the evaluation of permit applications submitted to the District (except Title V permit applications, which are covered under Program 506). This includes applications for: (1) new/modified sources subject to District New Source Review requirements, (2) emissions banking, (3) Interchangeable Emission Reduction Credits (IERCs), and (4) Prevention of Significant Deterioration (PSD) & Acid Rain permits. Staff calculates emissions and evaluates compliance with regulatory requirements, including case-by-case Best Available Control Technology (BACT) and offset determinations. The program includes California Environmental Quality Act (CEQA) review and Climate Protection activities related to permitted sources.

The Permit Renewal Program involves activities related to the annual renewal of District permits. The permit renewal process involves collection of data needed to update the Air District's emissions inventory, review of permit conditions, preparation of permit fee invoices, reconciliation of discrepancies and issuance of permit documents. Information gathered during this process is used for planning and rule development may also result in enforcement action or additional permitting.

Justification of Change Request:

Not Applicable

Activities

Evaluate all non-Title V permit applications (1,500 estimated).
Complete CEQA-review functions.
Provide technical support to all divisions including estimating emissions, rule/condition interpretations and rule development.
Assist other agencies, industry and the public.
Participate in cross-agency committees such as California Air Pollution Controls Officers Association (CAPCOA). Engineering Managers' Subcommittee and National Association of Clean Air Agencies (NACAA).
Support implementation of rules (e.g., Refinery Regulations, GHG Regulations).
Request, enter and review annual data update requests. Review and maintain permit conditions. Review permit renewal invoice program.

Major Objectives	Delivery Date
Ensure the timely workflow of the permit renewal program	Ongoing
Implement Regulation 12-15 Petroleum Refining Emissions Tracking Emission Inventory Guidelines	June 2022

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		40.11	44.91	42.42	(2.49)	(5.5)%
Personnel Expenditures						
Permanent Salaries	51100	5,046,102	5,648,632	5,593,547	(55,085)	(1.0)%
Overtime Salaries	51150	56,780	40,000	40,000		
Temporary Salaries	51200	26,788				
Payroll Taxes	51300	76,247	80,183	78,920	(1,263)	(1.6)%
Pension Benefits	51400	1,074,549	1,310,784	1,283,358	(27,426)	(2.1)%
FICA Replacement Benefits	51500	54,935	85,544	82,886	(2,658)	(3.1)%
Group Insurance Benefits	51600	671,775	826,937	777,335	(49,602)	(6.0)%
Employee Transportation Subsidy	51700	49,678	64,643	63,002	(1,641)	(2.5)%
Workers' Compensation	51800	16,340	23,413	21,921	(1,492)	(6.4)%
Other Post Employment Benefits	51850	403,140	407,177	381,230	(25,947)	(6.4)%
Board Stipends	51900					
Total Personnel Expenditures		7,476,334	8,487,313	8,322,199	(165,114)	(1.9)%
Services & Supplies Expenditures						
Travel In-State	52200	212	13,000	13,000		
Travel Out-of-State	52220					
Training & Education	52300		2,464	2,464		
Repair & Maintenance (Equipment)	52400					
Communications	52500		110	110		
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	247,322	401,059	401,059		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	255	2,000	2,000		
Stationery & Office Supplies	53900					
Books & Journals	54100		200	200		
Minor Office Equipment	54200		368	368		
Total Services & Supplies Expenditures		247,789	419,201	419,201		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		7,724,123	8,906,514	8,741,400	(165,114)	(1.9)%

Managing Division:

Engineering Division

Contact Person:

Carol Allen

Program Purpose:

To develop and implement an effective air toxics control strategy that integrates Federal, State, and local requirements.

Description of Program:

The Air Toxics Program involves the integration of Federal and State air toxics mandates with local goals established by the Air District's Board of Directors. The program includes air toxics new source review (NSR), reduction of risk from existing facilities (Regulation 11, Rule 18), air toxics control measures, and the Air Toxics "Hot Spots" Program (AB2588). The Air Toxics Program also provides support to other Community Health Protection programs that seek to eliminate air quality disparities in overburden communities. Staff provides guidance on toxic emission calculations, controls, and impacts, maintains the toxic emission inventory, assists with incident and compliance evaluation, conducts health risk assessments (HRAs) for stationary sources, and approves risk reduction plans for existing facilities.

Justification of Change Request:

Not applicable.

Activities

Perform HRAs for permit applications involving new or modified sources (estimated 300 HRAs per year).
Prepare facility-wide HRAs for facilities subject to Rule 11-18 (about 185 HRAs over 4 years). Conduct HRAs for alternative scenarios and proposed revisions to support implementation and verification of risk reduction measures.
Support implementation of amendments to Rule 2-1 and 2-5. Update health effects values and add new TACs to databases. Develop updated procedures for gas dispensing facility (GDF) HRAs.
Maintain and improve air toxics emissions inventory. Support implementation of new CARB toxics emissions reporting requirements. Support District and TARMAC efforts to improve toxic emission factors for various source categories.
Complete annual air toxics prioritization for Hot Spots Program and conduct or review new HRAs required for high-priority sites that are exempt from Rule 11-18. Coordinate public notification and risk reduction audits.
Review HRAs and Prevention of Significant Deterioration (PSD) modeling analyses for major permit applications.
Support rule development efforts for reducing PM2.5 once health effect values for PM2.5 become available from Office of Environmental Health Hazard Assessment (OEHHA).
Review and approve Rule 11-18 risk reduction plans and TBARCT determinations and support emission reduction permitting activities.

Major Objectives	Delivery Date
Conduct HRAs and other modeling analyses for NSR projects that trigger Rule 2-5 or PSD.	Ongoing
Conduct preliminary, draft, and final HRAs for Phase 1 Rule 11-18 facilities.	Ongoing
Create and implement updated HRA procedures for GDFs based on approved Rule 2-5 amendments.	July 2022
Continue updating Toxic Emission Factor Guidelines including 1-hour guidance.	December 2022
Support AIM's preparation of annual stationary source toxic inventories and HRA results for CARB and EPA.	October 2022
Publish periodic Air Toxic Emissions and Air Toxics Control Program reports.	Ongoing
Develop procedures for review and approval of Rule 11-18 risk reduction plans.	August 2022

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		7.07	6.44	7.86	1.42	22.0%
Personnel Expenditures						
Permanent Salaries	51100	1,000,940	970,113	1,186,479	216,366	22.3%
Overtime Salaries	51150	5,605	8,000	8,000		
Temporary Salaries	51200					
Payroll Taxes	51300	15,219	13,825	16,815	2,990	21.6%
Pension Benefits	51400	218,204	227,104	277,930	50,826	22.4%
FICA Replacement Benefits	51500	10,970	12,277	15,351	3,074	25.0%
Group Insurance Benefits	51600	134,295	130,924	160,961	30,037	22.9%
Employee Transportation Subsidy	51700	9,891	9,277	11,669	2,392	25.8%
Workers' Compensation	51800	3,253	3,360	4,060	700	20.8%
Other Post Employment Benefits	51850	78,768	58,434	70,609	12,175	20.8%
Board Stipends	51900					
Total Personnel Expenditures		1,477,145	1,433,314	1,751,874	318,560	22.2%
Services & Supplies Expenditures						
Travel In-State	52200		1,300	1,300		
Travel Out-of-State	52220		750	750		
Training & Education	52300		4,600	4,600		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800		39,940	39,940		
Printing & Reproduction	52900	1,642	7,000	7,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	18,751	1,000	1,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	152	4,000	4,000		
Stationery & Office Supplies	53900		300	300		
Books & Journals	54100					
Minor Office Equipment	54200		400	400		
Total Services & Supplies Expenditures		20,545	59,290	59,290		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,497,690	1,492,604	1,811,164	318,560	21.3%

Managing Division:

Engineering Division

Contact Person:

Fred Tanaka

Program Purpose:

Develop and maintain permit systems & provide administrative services

Description of Program:

The Permit Operations program involves the collection, updating and maintenance of data from permitted sources of air pollution, and the development and maintenance of systems to manage these data. Data include source/device locations, operational data, emission factors, emissions inventory, emissions banking and "no net increase" tracking. Additional program activities include maintaining procedures, coordination & tracking of permit-related activities, general administrative activities and customer support.

Justification of Change Request:

Not applicable

Activities
Process and maintain data from permitted facilities.
Update and correct data from permitted facilities.
Maintain and update database systems.
Maintain program forms.
Manage and improve data quality.
Provide administrative support.
Maintain permit tracking and management programs.
Maintain emissions bank and small facility bank.
Maintain division pages on website.
Manage division records including metadata and documents.
Provide customer support.

Major Objectives	Delivery Date
Produce annual stationary source emissions inventory to California Air Resources Board (CARB) and EPA	July 2022

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		4.55	4.46	4.61	0.15	3.4%
Personnel Expenditures						
Permanent Salaries	51100	593,473	626,872	610,417	(16,455)	(2.6)%
Overtime Salaries	51150	1,164	5,000	5,000		
Temporary Salaries	51200	63,522				
Payroll Taxes	51300	8,920	8,917	8,616	(301)	(3.4)%
Pension Benefits	51400	120,553	146,559	142,723	(3,836)	(2.6)%
FICA Replacement Benefits	51500	6,419	8,499	9,014	515	6.1%
Group Insurance Benefits	51600	78,869	89,936	99,638	9,702	10.8%
Employee Transportation Subsidy	51700	5,778	6,422	6,851	429	6.7%
Workers' Compensation	51800	1,919	2,326	2,384	58	2.5%
Other Post Employment Benefits	51850	44,910	40,454	41,456	1,002	2.5%
Board Stipends	51900					
Total Personnel Expenditures		925,527	934,985	926,099	(8,886)	(1.0)%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900	9,339	75,166	75,166		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	1,935	12,255	12,255		
General Insurance	53400					
Shop & Field Supplies	53500		4,151	4,151		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	2,343	1,021	1,021		
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		13,617	92,593	92,593		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		939,144	1,027,578	1,018,692	(8,886)	(0.9)%

Managing Division:

Engineering Division

Contact Person:

Sanjeev Kamboj

Program Purpose:

Implementation of Federal Operating Permit Program for Major Facilities.

Description of Program:

The Title V program involves activities related to Title V of the Federal Clean Air Act (CAA), which requires the Air District to issue federally enforceable permits to major and other designated facilities. The program is intended to enhance compliance with the CAA via permits that explicitly include all Federal, State, and Air District requirements applicable to sources of air pollution at subject facilities.

Justification of Change Request:

Not applicable.

Activities
Evaluate and process Title V applications (initial, renewal, revision, administrative amendment and reopening).
Conduct Title V outreach activities and public hearings, as needed.
Provide Title V training to the Air District staff.
Track EPA rulemaking related to Title V, Section 112, compliance monitoring and acid rain.

Major Objectives	Delivery Date
Implement streamlining measures and ensure timely issuance of the Title V applications.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.22	3.00	2.51	(0.49)	(16.3)%
Personnel Expenditures						
Permanent Salaries	51100	268,803	386,939	334,681	(52,258)	(13.5)%
Overtime Salaries	51150	1,096	66,330	66,330		
Temporary Salaries	51200		8,006	8,006		
Payroll Taxes	51300	4,058	5,501	4,738	(763)	(13.9)%
Pension Benefits	51400	69,789	90,307	78,142	(12,165)	(13.5)%
FICA Replacement Benefits	51500	2,912	5,707	4,905	(802)	(14.1)%
Group Insurance Benefits	51600	35,741	55,078	42,269	(12,809)	(23.3)%
Employee Transportation Subsidy	51700	2,680	4,313	3,729	(584)	(13.5)%
Workers' Compensation	51800	863	1,562	1,297	(265)	(17.0)%
Other Post Employment Benefits	51850	21,000	27,166	22,562	(4,604)	(16.9)%
Board Stipends	51900					
Total Personnel Expenditures		406,942	650,909	566,659	(84,250)	(12.9)%
Services & Supplies Expenditures						
Travel In-State	52200		378	378		
Travel Out-of-State	52220					
Training & Education	52300		907	907		
Repair & Maintenance (Equipment)	52400					
Communications	52500		530	530		
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900	1,025	28,873	28,873		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		402,723	402,723		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	125	919	919		
Stationery & Office Supplies	53900					
Books & Journals	54100		613	613		
Minor Office Equipment	54200		185	185		
Total Services & Supplies Expenditures		1,150	435,128	435,128		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		408,092	1,086,037	1,001,787	(84,250)	(7.8)%

Managing Division:

Engineering Division

Contact Person:

Fred Tanaka

Program Purpose:

Develop the infrastructure for consistent and efficient permit evaluation and processing, and complete projects intended to develop and improve programs within the Engineering Division.

Description of Program:

The Engineering Special Projects program involves activities that are intended to ensure consistent, efficient, and high-quality, permit evaluation and processing. This includes the development of permit rules, policies, procedures, training and tools within the division. The program involves the deployment of the Production System and other tools including an online portal for customer to submit information electronically. Goals of the program include the reduction of time and effort needed to evaluate and issue permit applications, and the improvement of the quality of permit services provided such as training and tools for internal and external customers. In addition, new programs or changes to existing programs are developed and implemented.

The program also implements public noticing, public records fulfillment and other projects not specified in other Division programs. Planning and implementation of AB 617 activities for permitted facilities are also handled in this program, including Criteria Air Pollutants and Toxic Air Contaminants Reporting (CTR).

Justification of Change Request:

Not Applicable

Activities
Develop and maintain District permit rules, policies and procedures.
Update permitting tools such as Permit Handbook, Best Available Control Technology (BACT) and Toxic Best Available Control Technology (TBACT) Workbook documents.
Review and improve the point source emissions inventory.
Manage training program.
Coordinate Public Noticing activities.
Process Public Records Requests for division records.
Develop/update permitting programs including emissions factors, standard permit conditions, permit handbook chapters, BACT workbook and other manuals to streamline permitting and increase consistency.
Develop and implement AB 617 work including inventory, rule development, reporting, technology clearinghouse development, community risk reduction and re-envisioning of permitting in impacted communities.

Major Objectives	Delivery Date
Complete and submit Interchangeable Emission Reduction Credit (IERC) report to California Air Resources Board (CARB).	March 2023
Complete and submit Offset Equivalence report for EPA.	March 2023

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		5.05	6.07	6.66	0.59	9.7%
Personnel Expenditures						
Permanent Salaries	51100	709,746	842,226	969,272	127,046	15.1%
Overtime Salaries	51150	3,261	5,000	5,000		
Temporary Salaries	51200	1,496				
Payroll Taxes	51300	10,685	12,022	13,767	1,745	14.5%
Pension Benefits	51400	143,855	196,858	226,253	29,395	14.9%
FICA Replacement Benefits	51500	7,675	11,562	13,019	1,457	12.6%
Group Insurance Benefits	51600	93,671	117,582	133,959	16,377	13.9%
Employee Transportation Subsidy	51700	6,939	8,737	9,895	1,158	13.3%
Workers' Compensation	51800	2,296	3,164	3,443	279	8.8%
Other Post Employment Benefits	51850	57,773	55,033	59,878	4,845	8.8%
Board Stipends	51900					
Total Personnel Expenditures		1,037,397	1,252,184	1,434,486	182,302	14.6%
Services & Supplies Expenditures						
Travel In-State	52200	116	5,000	5,000		
Travel Out-of-State	52220					
Training & Education	52300	6,800	65,000	65,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500	5,201	5,000	5,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800	15				
Printing & Reproduction	52900	806	52,100	52,100		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		50,000	50,000		
General Insurance	53400					
Shop & Field Supplies	53500	10,902	10,000	10,000		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	3,965	60,000	60,000		
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		27,805	247,100	247,100		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,065,202	1,499,284	1,681,586	182,302	12.2%

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Assessment, Inventory & Model Division

The Assessment, Inventory, and Modeling (AIM) Division prepares comprehensive source emission inventories for the Bay Area and conducts air quality modeling at both regional and community scales. AIM prepares technical assessments that evaluate equity in air pollution exposures and health impacts in support of District programs. AIM coordinates and implements programs to improve and report estimates of emissions of criteria pollutants, toxic air contaminants, and climate forcing pollutants. AIM assesses emissions, concentrations, and exposures of toxic air contaminants, particulate matter, ozone and their precursors, to support targeted strategies that reduce impacts of air pollution both regionally and within communities, especially where Assembly Bill (AB) 617 community action plans are being developed. AIM reviews and provides guidance on environmental health risk assessments within environmental review documents prepared pursuant to California Environmental Quality Act (CEQA).

In FYE 2023, AIM will continue to implement the multi-pollutant Bay Area 2017 Clean Air Plan (2017 Plan), which addresses ozone, particulate matter, toxic air contaminants and greenhouse gases (GHGs). The 2017 Plan includes goals to attain all ambient air quality standards, eliminate disparities in health risk from air pollution, and reduce regional GHG emissions 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. To meet the requirements of AB 617, AIM will work to produce technical assessments to support community air quality action plans, including: identifying and prioritizing impacted communities, coordinating with community co-leads Steering Committees to reduce emissions and exposures, and providing tools and products that inform local strategies.

In FYE 2023, in partnership with other Divisions, AIM will analyze aerometric data, conduct regional modeling, and apply statistical analyses to support the District's grant programs, rule development, permitting, climate protection, and planning activities. AIM will conduct source apportionment analyses and hybrid photochemical and dispersion modeling, characterize emissions and air quality, and assess air quality health impacts to support AB 617. AIM will conduct equity assessments in support of AB 617 and rule develop activities. AIM will continue to work with CARB, U.S. EPA, NOAA, NASA, Northern California air districts, and other stakeholders on the regional modeling, focused mainly on ozone, air toxics and PM. These studies emissions inventory development, modeling, and analysis of air quality and pollutant transport in North Central California. AIM will further improve modeling emissions estimates and continue conducting data analysis and modeling to better understand formation of fine PM, ozone and air toxics, and their health impacts in the Bay Area. AIM will investigate transport of pollutants between the Bay Area and neighboring regions and intercontinental transport of pollutants.

In FYE 2023, AIM will continue work with other Divisions on the technical analysis, outreach, and risk reduction components of the CARE Program. AB 617 will require an expansion of the CARE program's technical work, including: updates to regional-scale air toxics emissions estimates and modeling; an expanded program focused on local-scale emissions inventory development and modeling of air toxics and fine particulate matter; assessment via measurements and analyses in impacted communities of fine particulate matter and air toxic emissions and modeling; identifying impacted communities; and working with State agencies, cities, counties, local stakeholders and others to develop and implement community action plans. AIM supports the work of other Divisions in reviewing health risk assessments within CEQA documents to provide comments where assessments are inconsistent with Air District guidance.

Many District programs are supported by updating and reporting inventories of air pollutant emissions. In FYE 2023, AIM will work with other Divisions to review emissions inventory products and develop a quality assurance plan for them. Updated emissions methods and databases are needed for assessing impacts of pollution sources and to meet reporting and rule development requirements of the District. New requirements from CARB, posed by AB 617 and the Criteria and Toxic Report Rule, require annual emissions reports for toxics and criteria pollutants for major emitters and improved consistency in methods for estimating emissions across California's air districts. In FYE 2023, AIM will conduct modeling studies to evaluate the impacts of residential wood burning on outdoor air quality and health.

Managing Division:

Assessment, Inventory & Model Division

Contact Person:

Song Bai

Program Purpose:

Compile source inventories for criteria pollutants, toxic air contaminants (TACs) and greenhouse gases (GHGs) for planning, rule development, modeling and exposure assessments, and public information; assess emissions estimates to support programs to reduce health risks from air pollution and to reduce levels of climate-forcing pollutants.

Description of Program:

Staff assigned to this program compiles inventories of air pollution emissions (criteria pollutants, TAC, and GHGs) from industrial sources, motor vehicles, commercial and agricultural activities, consumer products, and natural sources, which are used for air quality planning, rules development, and air quality progress tracking. To meet State requirements, the Source Inventories Program reports permitted source emissions to the California Air Resources Board (CARB) annually; CARB's newly adopted Criteria and Toxics Reporting (CTR) Regulation requires additional staff time and resources to report emissions from permitted facilities using methods standardized across California air districts. Staff estimates emissions for local-scale exposure assessments and Community Action Plans required by Assembly Bill (AB) 617. Staff also prepares and maintains GHG emission inventories and forecasts for the region, with near-term focus on particulate matter (PM), volatile organic compounds (VOC), and methane emissions from permitted facilities.

Justification of Change Request:

Emissions inventory is fundamental for air quality source apportionment analysis, as well as planning, rule development, modeling and exposure assessments, and public information sharing. AB 617 continues to impose major new requirements, such as meeting CTR Regulation requirements and developing quality-assured, hyper-local emissions estimates in AB 617 communities, which demand additional resources from the Source Inventories Program.

Activities

Develop emissions inventories and improve the District's ability to assess emissions estimates.

Prepare and improve emissions estimates to report to CARB; coordinate with Engineering Division to ensure consistent reporting under state requirements and the new CTR regulation.

Refine and evaluate emissions estimates to support Air District programs, with emphasis on methane, TAC, and fine particulate matter and incorporation of new measurement and analysis techniques.

Provide inventory information to support Air District staff in various programs, including assessment of AB 617 communities and development of local air quality Action Plans.

Provide inventory information and emissions estimates under public record request.

Major Objectives	Delivery Date
Develop activity datasets and methods for hyper-local emissions estimates to support AB 617.	June 2023
Prepare and transmit source emissions estimates to meet State annual reporting requirements.	June 2023
Improve emissions methods by incorporating measurements and/or new models to develop PM, VOC, and methane emissions estimates for Bay Area refinery sector and waste sector.	June 2023

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		6.41	7.20	6.82	(0.38)	(5.3)%
Personnel Expenditures						
Permanent Salaries	51100	921,683	1,072,916	1,051,250	(21,666)	(2.0)%
Overtime Salaries	51150		5,000	5,000		
Temporary Salaries	51200					
Payroll Taxes	51300	13,929	15,297	14,905	(392)	(2.6)%
Pension Benefits	51400	197,339	251,119	240,664	(10,455)	(4.2)%
FICA Replacement Benefits	51500	10,025	13,729	13,338	(391)	(2.8)%
Group Insurance Benefits	51600	122,803	169,623	163,643	(5,980)	(3.5)%
Employee Transportation Subsidy	51700	9,155	10,374	10,138	(236)	(2.3)%
Workers' Compensation	51800	2,981	3,757	3,527	(230)	(6.1)%
Other Post Employment Benefits	51850	70,880	65,346	61,343	(4,003)	(6.1)%
Board Stipends	51900					
Total Personnel Expenditures		1,348,795	1,607,161	1,563,808	(43,353)	(2.7)%
Services & Supplies Expenditures						
Travel In-State	52200		3,900	2,400	(1,500)	(38.5)%
Travel Out-of-State	52220		3,100	2,600	(500)	(16.1)%
Training & Education	52300	7,339	23,000	23,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	215,125	121,000	121,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	1,870	22,000	22,000		
Stationery & Office Supplies	53900	574	200	200		
Books & Journals	54100		600	600		
Minor Office Equipment	54200		1,000	1,000		
Total Services & Supplies Expenditures		224,908	174,800	172,800	(2,000)	(1.1)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,573,703	1,781,961	1,736,608	(45,353)	(2.5)%

Air Quality Modeling Support 603

Managing Division:

Assessment, Inventory & Model Division

Contact Person:

Saffet Tanrikulu

Program Purpose:

Provide technical support to the District's initiatives and collaborative activities through modeling and air quality analyses.

Description of Program:

This program provides technical support to various District activities, including: Assembly Bill 617 related programs, the Air Quality Planning Program, Strategic Incentives Division programs, the Climate Protection Program, the Spare the Air Program, the ambient data Quality Assurance (QA)/Quality Control (QC) Program, the Central California Air Quality Studies (CCAQS), and the California Baseline Ozone Transport Study (CABOTS). It also manages the District's modeling- and data analysis-related contracts; participates in the District's rule development, permit modeling, air monitoring and emissions inventory/exposure assessment activities; and responds to requests from District staff and the public for ambient data. It also collaborates with federal and state agencies to assess pollutant exposure, health impacts and international pollutant transport.

Justification of Change Request:

Not Applicable

Activities
Support Assembly Bill 617: perform PM and air toxics modeling; assess air quality and health impacts.
Perform air quality modeling and data analysis to support the District's rulemaking activities.
Support District's Air Quality Planning Program: conduct data analysis and modeling.
Support permitting activities: Prepare meteorological inputs for AERMOD to support permit modeling.
Support the Strategic Incentives Division: create and update pollutant concentration maps.
Perform quality assurance and quality control on District's meteorological data.
Manage the District's data analysis and modeling-related contracts.
Participate in CARB's Central California Air Quality Study programs.
Participate in NASA's effort to estimate wildfire ambient and health impacts.

Major Objectives	Delivery Date
Perform air quality dispersion modeling for selected AB 617 communities.	Ongoing
Perform regional and local air quality modeling and analyses to support the District's rule development efforts.	Ongoing
Perform regional PM and air toxics modeling and analyses to assess pollutant formation in the Bay Area.	Ongoing
Perform source apportionment analyses to quantify the contribution of various emission sources.	Ongoing
Update emissions modeling data, e.g., conduct modeling with improved condensable PM emissions estimates.	Ongoing
Update health impact analyses of ozone and PM; update health risk analyses for air toxics and other pollutants.	Ongoing
Update assessment of regional and local pollutant transport and impacts of primary vs secondary PM.	Ongoing
Assess contribution of locally generated vs transported as well as primary vs secondary PM exposure.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.91	3.84	3.71	(0.13)	(3.4)%
Personnel Expenditures						
Permanent Salaries	51100	566,878	571,691	577,183	5,492	1.0%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	8,499	8,180	8,212	32	0.4%
Pension Benefits	51400	108,146	133,803	133,122	(681)	(0.5)%
FICA Replacement Benefits	51500	6,095	7,324	7,251	(73)	(1.0)%
Group Insurance Benefits	51600	74,585	78,081	76,317	(1,764)	(2.3)%
Employee Transportation Subsidy	51700	5,493	5,535	5,511	(24)	(0.4)%
Workers' Compensation	51800	1,829	2,005	1,918	(87)	(4.3)%
Other Post Employment Benefits	51850	44,750	34,863	33,348	(1,515)	(4.3)%
Board Stipends	51900					
Total Personnel Expenditures		816,275	841,482	842,862	1,380	0.2%
Services & Supplies Expenditures						
Travel In-State	52200		1,380	1,400	20	1.4%
Travel Out-of-State	52220		3,780	3,900	120	3.2%
Training & Education	52300	300	7,000	6,500	(500)	(7.1)%
Repair & Maintenance (Equipment)	52400	414	8,000	8,000		
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	200,767	320,000	320,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900	17	500	500		
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		201,498	340,660	340,300	(360)	(0.1)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Transfer In/Out						
Total Expenditures		1,017,773	1,182,142	1,183,162	1,020	0.1%

Air Quality Modeling & Research 604

Managing Division:

Assessment, Inventory & Model Division

Contact Person:

Saffet Tanrikulu

Program Purpose:

Perform air quality modeling and data analyses to evaluate emission control strategies to attain and maintain air quality standards.

Description of Program:

This program maintains and applies state-of-the-science meteorological, emissions inventory and air quality models to investigate the formation of ozone, fine and ultrafine particulate matter (PM2.5 and PM0.1), and toxic air contaminants in the Bay Area; assesses the attainment status of the Bay Area with respect to Federal and State standards; supports Federal and State air quality plan development activities; quantifies the transport of ozone, PM and toxic air contaminants and their precursors within the Bay Area as well as between the Bay Area and neighboring districts; and quantifies the health impacts of ozone, PM, and toxic air contaminants. This program also includes analyses of ambient data, preparation of model inputs, monetary valuation of air pollution impacts in the Bay Area, maintenance of the District's cluster computer system, development of graphics and statistical programs to evaluate model inputs and outputs, and collaboration with modeling and air quality planning staff of CARB, U.S. EPA, NOAA, NASA, neighboring districts, industry, academia and other stakeholders.

Justification of Change Request:

Not applicable.

Activities
Analyze the Bay Area's status relative to national and state ambient air quality standards.
Conduct ambient data analyses for ozone, PM2.5, PM0.1 and toxic air contaminants.
Evaluate and improve model performance for multi-pollutant applications.
Maintain and apply air pollution health impacts and monetary valuation models.
Maintain and apply emissions inventory models to prepare inputs to air quality models.
Conduct source apportionment studies and trend analyses.
Prepare ambient data for model inputs and evaluation of model outputs.
Maintain the District's cluster computer system on which models are run.
Develop in-house staff expertise related to modeling and air quality analysis.

Major Objectives	Delivery Date
Evaluate and improve regional air quality model performance.	Ongoing
Maintain and evaluate air quality dispersion models.	Ongoing
Evaluate and improve WRF meteorological model performance.	Ongoing
Evaluate and update BenMAP for assessing health impacts of pollutants.	Ongoing
Maintain the meteorological and air quality database for modeling.	Ongoing
Update analysis of regional air quality model sensitivity to emission reductions for PM and toxics.	Ongoing
Update and improve emissions estimates for modeling.	Ongoing
Maintain modeling computers, update modeling software and computer libraries.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.37	3.50	3.50		
Personnel Expenditures						
Permanent Salaries	51100	485,326	516,642	543,478	26,836	5.2%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	7,301	7,353	7,695	342	4.7%
Pension Benefits	51400	112,905	120,901	125,667	4,766	3.9%
FICA Replacement Benefits	51500	5,254	6,670	6,840	170	2.5%
Group Insurance Benefits	51600	64,340	80,480	79,827	(653)	(0.8)%
Employee Transportation Subsidy	51700	4,737	5,040	5,199	159	3.2%
Workers' Compensation	51800	1,563	1,825	1,809	(16)	(0.9)%
Other Post Employment Benefits	51850	38,177	31,746	31,461	(285)	(0.9)%
Board Stipends	51900					
Total Personnel Expenditures		719,603	770,657	801,976	31,319	4.1%
Services & Supplies Expenditures						
Travel In-State	52200		1,600	1,600		
Travel Out-of-State	52220		2,080	2,100	20	1.0%
Training & Education	52300		2,000	2,000		
Repair & Maintenance (Equipment)	52400	8,672	12,000	12,000		
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		3,500	4,000	500	14.3%
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		10,000	10,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		8,000	8,000		
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		8,672	39,180	39,700	520	1.3%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		728,275	809,837	841,676	31,839	3.9%

Managing Division:

Assessment, Inventory & Model Division

Contact Person:

Song Bai

Program Purpose:

Evaluate community health risks from ambient toxic air contaminants (TACs), fine particulate matter (PM) and other pollutants. Develop mitigation strategies and measures for local sources and locations with higher exposures and risk levels and vulnerable populations.

Description of Program:

The District's CARE program targets community risk reduction activities and actively supports the development of local air quality Action Plans required by Assembly Bill 617. The CARE program coordinates emissions estimation, air modeling and monitoring, analysis of health records and socio-economic datasets, and exposure and health assessments to identify areas with vulnerable populations and relatively high air pollution. Information derived from these activities is used for risk reduction activities, such as rulemaking, grant and incentive programs, local air quality plans, collaboration with public health professionals, advocacy of State and local regulatory programs, and community engagement processes.

Justification of Change Request:

AB 617 continues to impose major new requirements, which demand additional products and resources from the CARE Program on a specified timeline to assess community-scale air quality, engage with communities, and provide technical support to local Community Action Plans.

Activities

Conduct local-scale modeling and analyses to support assessment of AB 617 communities and development of action plans.

Develop and improve modeling methods to identify emission sources affecting impacted communities and improve data analysis.

Compile demographic, business, and activity data; enhance data visualization/analysis for community partnerships and local planning guidance.

Develop mitigation strategies for development near busy roadways and other air pollution sources.

Participate in outreach and assist in evaluating community risks and hazards, through measurement and modeling programs.

Major Objectives	Delivery Date
Conduct community-scale assessments in Richmond/San Pablo and other communities; collaborate with other District Divisions to develop community prioritization methods.	June 2023
Develop and document improved methodology/tools for community-scale modeling to support AB 617 Community Emission Reduction Plan (CERP) development.	June 2023
Work collaboratively across Air District Divisions to build Technical Assessments Teams and perform community-level technical assessment work.	June 2023

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.23	3.46	3.92	0.46	13.3%
Personnel Expenditures						
Permanent Salaries	51100	567,638	590,874	701,171	110,297	18.7%
Overtime Salaries	51150		5,000	5,000		
Temporary Salaries	51200					
Payroll Taxes	51300	8,623	8,488	10,084	1,596	18.8%
Pension Benefits	51400	124,805	138,627	159,217	20,590	14.9%
FICA Replacement Benefits	51500	6,214	6,589	7,652	1,063	16.1%
Group Insurance Benefits	51600	76,188	73,118	81,886	8,768	12.0%
Employee Transportation Subsidy	51700	5,607	4,979	5,816	837	16.8%
Workers' Compensation	51800	1,836	1,803	2,024	221	12.3%
Other Post Employment Benefits	51850	45,008	31,361	35,196	3,835	12.2%
Board Stipends	51900					
Total Personnel Expenditures		835,919	860,839	1,008,046	147,207	17.1%
Services & Supplies Expenditures						
Travel In-State	52200		2,300	2,300		
Travel Out-of-State	52220		2,600	2,600		
Training & Education	52300		8,500	8,500		
Repair & Maintenance (Equipment)	52400	1,581	5,000	5,000		
Communications	52500	2,137	3,000	3,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		2,000	2,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	148,415	250,500	250,500		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	9,502	19,000	19,000		
Stationery & Office Supplies	53900		200	200		
Books & Journals	54100		500	500		
Minor Office Equipment	54200		100	100		
Total Services & Supplies Expenditures		161,635	293,700	293,700		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		997,554	1,154,539	1,301,746	147,207	12.8%

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Planning & Climate Protection Division

The Planning and Climate Protection Division develops and implements local community emissions reduction plans per AB 617, prepares plans to meet State and Federal air quality standards, and coordinates and implements climate protection activities. Division staff analyze ambient conditions and local and regional toxic air contaminants, particulate matter, ozone and their precursors, and greenhouse gas emissions to develop and implement programs to reduce impacts on people and the planet. Division staff works with cities, counties and other agencies to encourage transportation and land use decisions that improve air quality and protect the climate, and prepares, reviews and provides guidance on environmental documents prepared pursuant to California Environmental Quality Act (CEQA).

In FYE 2023, staff will continue to implement the multi-pollutant Bay Area 2017 Clean Air Plan (2017 Plan), which addresses ozone, particulate matter, toxic air contaminants and greenhouse gases (GHGs). To meet the requirements of AB 617 staff will work in close coordination with community partners and steering committees in West Oakland, Richmond-North Richmond-San Pablo Area, and East Oakland to identify and prioritize pollution and exposure reduction strategies, implement measures to reduce emissions and exposure, and provide support and assistance to local and regional partner agencies on taking action. Staff will update and continue implementing the CEQA Thresholds and Guidelines in consultation with local lead agencies, regional agencies, and others. Staff will provide assistance to cities and counties on advancing local plans and policies that improve air quality, address health disparities, and recognize environmental injustices, including General Plan updates and EJ elements per SB 1000. Staff will track the development of new national ambient air quality standards and address any associated planning requirements as needed. Staff will continue to work with Cal EPA, the California Air Resources Board (CARB), and Federal, State, regional and local agencies to reduce emissions associated with ports and goods movement and implement other mobile source programs.

In FYE 2023, staff will implement GHG emission reduction measures identified in the 2017 Plan. Staff will: expand the Bay Area Healthy Home Initiative in Contra Costa and Alameda counties; continue to lead and expand a regional Building Decarbonization Program; elevate and expand best practices resulting from the Climate Protection Grant Program; support the Diesel Free by '33 initiative; complete an update to CEQA Thresholds for GHGs; work with local governments and community choice energy programs to develop low-carbon alternatives for emergency back-up power and use of battery storage and microgrids; support the development of rules and rule amendments to reduce GHGs, including improving the GHG emissions inventory; work with CARB to develop a robust Scoping Plan Update; assist local governments with the development and implementation of climate action plans and local GHG reduction strategies; develop model ordinances and best practices to accelerate local policy adoption for reducing GHGs; collaborate with regional agency partners to develop a strong Plan Bay Area 2050; work with partner agencies to implement regional GHG reduction strategies through the Bay Area Regional Collaborative.

Managing Division:

Planning & Climate Protection Division

Contact Person:

Wendy Goodfriend

Program Purpose:

Prepare and track regional plans to attain and maintain State and National ambient air quality standards and lead development of community emission reduction plans per AB 617.

Description of Program:

Historically, this program has focused on preparing regional air quality plans to attain or maintain State and National air quality standards. This work has included preparation and submission of State Triennial Updates (i.e., Clean Air Plan) and SIP related documents. Currently, this program is working closely with the most overburdened communities and impacted neighborhoods across the region to implement Assembly Bill 617 through the Air District's Community Health Protection Program. District staff are working closely with community co-leads, Steering Committees and community members to develop community emission reduction plans that incorporate local scale emissions and exposure analyses and diverse and varied strategies to improve community health by reducing exposure to air pollutants. Preparing regional and local air quality plan requires collaboration across the Air District, and trusted partnerships with local, regional and State agencies, community groups and community members. As part of this program, District staff prepare and obtain certification of CEQA documents as necessary; track the effectiveness of air quality plans; track, comment and ensure compliance with State and National air quality planning requirements; and report to CARB and EPA on status and progress.

Justification of Change Request:

Not Applicable

Activities

Lead the development of community emission reduction plans in AB 617 communities (Richmond-North Richmond-San Pablo and East Oakland).

Support capacity building in high priority AB 617 communities, including the development of Getting Started/Starter Kits, and supporting local planning efforts.

Support local government planning and policy development efforts to improve air quality in overburdened communities, including SB1000 support.

Create and disseminate accessible and relevant information on air quality planning, CEQA Thresholds and Guidelines, and planning to achieve State and Federal ambient air quality standards.

Lead updates of the regional Clean Air Plan in collaboration with all Divisions, track progress, adjust implementation as necessary.

Track development of new or amended State or Federal ambient air quality standards, and prepare documents or analyses to meet new or amended standards.

Major Objectives	Delivery Date
Lead the development of a community emission reduction plan for the Path to Clean Air Richmond-North Richmond-San Pablo area.	August 2022
Lead the development of a community emission reduction plan for the East Oakland area.	Ongoing
Coordinate the development of Getting Started/Starter Kits for select high priority AB 617 communities.	Ongoing
Work with cities and counties to implement SB 1000, incorporate EJ and health equity into plans and programs.	Ongoing
Develop an easy to use virtual repository of air quality planning, CEQA, local land use policy tools, and information to support local and community action.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		7.80	7.98	9.30	1.32	16.5%
Personnel Expenditures						
Permanent Salaries	51100	1,122,447	1,128,590	1,349,150	220,560	19.5%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	16,932	16,108	19,173	3,065	19.0%
Pension Benefits	51400	257,229	263,891	312,469	48,578	18.4%
FICA Replacement Benefits	51500	12,113	15,201	18,166	2,965	19.5%
Group Insurance Benefits	51600	148,554	143,655	163,998	20,343	14.2%
Employee Transportation Subsidy	51700	10,916	11,487	13,808	2,321	20.2%
Workers' Compensation	51800	3,631	4,160	4,804	644	15.5%
Other Post Employment Benefits	51850	86,839	72,353	83,553	11,200	15.5%
Board Stipends	51900					
Total Personnel Expenditures		1,658,661	1,655,445	1,965,121	309,676	18.7%
Services & Supplies Expenditures						
Travel In-State	52200	130	2,100	2,100		
Travel Out-of-State	52220		2,000	2,000		
Training & Education	52300		3,000	3,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500	6,701				
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900	471	11,000	11,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	15,604	200,000	200,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900	76	500	500		
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		22,982	218,600	218,600		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,681,643	1,874,045	2,183,721	309,676	16.5%

Managing Division:

Planning & Climate Protection Division

Contact Person:

Wendy Goodfriend

Program Purpose:

Implement regional and local air quality, land use, mobile source and transportation plans, policies and measures.

Description of Program:

This program focuses on working with state, regional and local agencies and community partners to facilitate implementation of land use and transportation measures to attain and maintain ambient air quality standards and reduce emissions and exposure to fine particulate matter and toxic air contaminants in overburdened communities. On an ongoing basis, potential air quality and greenhouse gas impacts of land use and transportation plans and projects disclosed through CEQA are reviewed and comments provided to lead agencies. The program works closely with community partners, state, regional and local agencies, and the private sector to reduce emissions and exposure through implementation of clean air plans and projects, including AB617 Community Emissions Reductions Plans, projects to address ports and goods movement operations, relevant CARB rulemaking, guidelines, plans and programs.

Justification of Change Request:

Not Applicable

Activities

Lead AB617 plan implementation, e.g., Owning our Air: West Oakland Community Action Plan, in partnership with community co-leads, steering committee, community members and state, local and regional agencies.

Update CEQA Thresholds of Significance and maintain easy to use Guidelines with current best practice methods and mitigation measures.

Track and review priority CEQA projects, provide comments to lead agencies, support lead agencies with tools, data and methods.

Implement transportation, building and energy measures in the 2017 Clean Air Plan in collaboration with MTC, ABAG, BARC and other regional and local entities.

Work with EPA, CARB, and Federal, State, regional and local agencies to reduce impacts from mobile sources, e.g., ports, goods movement, railroads, shipping.

Collaborate with MTC to implement Plan Bay Area 2050 to encourage TDM, TOD and smart growth strategies that have air quality improvement co-benefits.

Participate in Transportation Conformity and provide consultation to Federal agencies regarding general conformity review of non-transportation projects.

Major Objectives	Delivery Date
Update the Air District's CEQA Thresholds of Significance and Guidelines, disseminate and support lead agencies in their use.	June 2022
Continue to provide technical support and assistance to lead agencies and local governments on air quality and greenhouse gas analysis and mitigation.	Ongoing
Lead the implementation of Owning our Air: The West Oakland Community Action Plan.	Ongoing
Continue to track and prioritize CEQA projects for review and provide outcome oriented comments to lead agencies.	Ongoing
Lead the implementation of the Path to Clean Air Richmond-North Richmond-San Pablo CERP once adopted.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		6.24	5.68	5.36	(0.32)	(5.6)%
Personnel Expenditures						
Permanent Salaries	51100	874,679	813,467	795,518	(17,949)	(2.2)%
Overtime Salaries	51150	3,712		4,000	4,000	
Temporary Salaries	51200		46,000		(46,000)	(100.0)%
Payroll Taxes	51300	13,035	11,595	11,271	(324)	(2.8)%
Pension Benefits	51400	127,832	190,252	183,761	(6,491)	(3.4)%
FICA Replacement Benefits	51500	9,374	10,827	10,484	(343)	(3.2)%
Group Insurance Benefits	51600	114,713	111,579	103,575	(8,004)	(7.2)%
Employee Transportation Subsidy	51700	8,445	8,182	7,969	(213)	(2.6)%
Workers' Compensation	51800	2,808	2,963	2,773	(190)	(6.4)%
Other Post Employment Benefits	51850	68,508	51,536	48,221	(3,315)	(6.4)%
Board Stipends	51900					
Total Personnel Expenditures		1,223,106	1,246,401	1,167,572	(78,829)	(6.3)%
Services & Supplies Expenditures						
Travel In-State	52200		2,100	2,100		
Travel Out-of-State	52220		1,700	1,700		
Training & Education	52300	7,215	5,000	5,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500	732				
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		600	600		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	228,644	185,000	185,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		1,000	1,000		
Stationery & Office Supplies	53900		500	500		
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		236,591	195,900	195,900		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,459,697	1,442,301	1,363,472	(78,829)	(5.5)%

Managing Division:

Planning & Climate Protection Division

Contact Person:

Abby Young

Program Purpose:

Set the strategic direction for and coordinate agency-wide efforts to accelerate the reduction of climate pollutants and integrate climate protection into Air District programs to reduce criteria and toxic air pollutants.

Description of Program:

Air District climate protection activities for FYE 2023 coordinated by the Climate Protection Section will include: supporting the development of proposed rules to reduce GHGs, including coordinating a Working Group to support implementation of indoor appliance rules; implementing and continuing to expand the Bay Area Healthy Homes Initiative; finalizing an update and supporting use of the GHG CEQA thresholds of significance; continuing to lead and expand a regional campaign to decarbonize new and existing buildings, including supporting local initiatives, building upon Climate Protection Grant projects and coordinating efforts among community choice energy (CCE) programs; supporting local implementation of GHG reductions by developing model policies, best practices and toolkits through efforts such as the Building Decarbonization Program and Diesel Free By '33 initiative; working with local governments and CCEs to develop low-carbon alternatives for emergency back-up power and use of battery storage and microgrids; implementing priority actions to reduce F-gas emissions; collaborating with the CA Air Resources Board and other State agencies on the 2022 Scoping Plan Update; collaborating with MTC to implement Plan Bay Area; continued collaboration with local, regional, state, and national agencies on climate protection efforts; and continued integration of climate protection strategies in existing Air District programs, such as AB 617.

Justification of Change Request:

Not Applicable

Activities
Coordinate the integration of climate protection strategies into existing Air District programs.
Provide local governments with policy resources to accelerate local building decarbonization efforts.
Expand the Bay Area Healthy Homes Initiative in Contra Costa and Alameda counties.
Update and provide outreach and support for local government implementation of GHG CEQA thresholds.
Lead the implementation of the Diesel Free By '33 initiative.
Collaborate with CARB and other State agencies on the 2022 Scoping Plan Update.
Work with community choice energy programs and others in developing low-carbon emergency power alternatives.
Provide leadership through convening events, providing networking and information-sharing for local governments and stakeholders.
Participate in Statewide and regional climate protection programs with BARC, MTC, ABAG, and BCDC.

Major Objectives	Delivery Date
Implement GHG reduction strategies identified in the 2017 Clean Air Plan.	June 2023
Expand the Building Decarbonization Program by focusing regional action on vulnerable communities.	June 2023
Finalize GHG thresholds of significance for CEQA and develop supporting guidance and tools.	June 2023
Redesign and strengthen approach to delivering support to local climate planning and implementation efforts.	June 2023
Work with state agencies to strengthen GHG reduction from the Scoping Plan and other key policies.	June 2023
Support all divisions by tracking and assessing the latest GHG science and studies.	June 2023
Develop methods to evaluate the efficacy of Air District climate programs.	June 2023

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		6.11	7.46	6.37	(1.09)	(14.6)%
Personnel Expenditures						
Permanent Salaries	51100	936,798	1,121,882	1,025,049	(96,833)	(8.6)%
Overtime Salaries	51150	4,208				
Temporary Salaries	51200					
Payroll Taxes	51300	14,272	16,014	14,589	(1,425)	(8.9)%
Pension Benefits	51400	225,226	262,627	232,573	(30,054)	(11.4)%
FICA Replacement Benefits	51500	10,291	14,215	12,447	(1,768)	(12.4)%
Group Insurance Benefits	51600	125,789	146,922	138,850	(8,072)	(5.5)%
Employee Transportation Subsidy	51700	9,284	10,742	9,461	(1,281)	(11.9)%
Workers' Compensation	51800	3,051	3,890	3,292	(598)	(15.4)%
Other Post Employment Benefits	51850	76,298	67,661	57,249	(10,412)	(15.4)%
Board Stipends	51900					
Total Personnel Expenditures		1,405,217	1,643,953	1,493,510	(150,443)	(9.2)%
Services & Supplies Expenditures						
Travel In-State	52200	817	5,160	3,660	(1,500)	(29.1)%
Travel Out-of-State	52220		6,750	6,750		
Training & Education	52300	300	6,600	6,900	300	4.5%
Repair & Maintenance (Equipment)	52400					
Communications	52500	1,783				
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		1,200	1,200		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	1,108,370	340,000	340,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900	131	500	500		
Books & Journals	54100		100	100		
Minor Office Equipment	54200		200	200		
Total Services & Supplies Expenditures		1,111,401	360,510	359,310	(1,200)	(0.3)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		2,516,618	2,004,463	1,852,820	(151,643)	(7.6)%

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Rules Division

The Rules Division is responsible for the development of regulations to implement Air District plans to attain federal and State air quality standards, and to protect public health. In addition to development of rules derived from planning documents, staff assists with the preparation of air quality plans. Other measures are developed under the direction of the Board of Directors to further protect public health and safety and reduce emissions of greenhouse gases. In addition, staff reviews existing regulations and develops revisions to improve clarity, efficiency and effectiveness. For each control measure, staff assesses potential emission reductions, technological feasibility, socioeconomic impacts, cost-effectiveness, and environmental impacts under CEQA. Staff conducts public workshops and other public involvement processes, prepares staff reports, and makes presentations and recommendations to the Board of Directors at public hearings and committee meetings. Staff also manages and coordinates the rule development process for other Divisions. In this fiscal year, the program will continue to develop rules pursuant to the 2017 Clean Air Plan, AB 617 BARCT Schedule, Methane and PM Strategies as directed by the Board of Directors.

Managing Division:

Rules Division

Contact Person:

Victor Douglas

Program Purpose:

The primary purpose of this program is to develop and propose emissions reductions strategies to reduce air pollutant emissions in the Bay Area.

Description of Program:

The Rule Development Program is responsible for evaluating sources for potential emissions control strategies and the development of regulations to attain Federal and State air quality standards, and to protect public health. In addition, staff reviews existing regulations and develops revisions to improve clarity, efficiency and effectiveness.

Justification of Change Request:

Not Applicable

Activities
Continue creating a new Rule 13-5: Refinery Hydrogen Systems to reduce methane and volatile organic compounds
Continue to develop amendments to Rule 9-4 and 9-6 Building Appliances to reduce NOx emissions
Create Prioritization Framework to align source evaluation priorities with the priorities of the Air District Board and the Community
Analyze potential for additional emissions reductions from amendments to Rule 9-13: Portland Cement Manufacturing to reduce particulate matter
Analyze potential for additional emissions reductions from amendments to Rule 9-14: Petroleum Coke Calcining Operations to reduce NOx emissions
Continue supporting the Richmond/North Richmond/San Pablo Community Emission Reduction Planning process by providing staff resources to help the Steering Committee develop and prioritize emissions reduction measures
Continue to develop amendments to Rule 8-8: Wastewater Collection and Separation Systems to reduce organic compounds
Continue to develop amendments to Rule 8-5: Storage of Organic Liquids to reduce organic compounds from storage tanks
Continue to develop amendments to 8-18: Equipment Leaks to reduce organic compounds
Perform new source evaluations as resources allow

Major Objectives	Delivery Date
Finalize new Rule 13-5: Refinery Hydrogen Systems to reduce methane and volatile organic compounds	April 2022
Finalize amendments to Rule 9-4 and 9-6 Building Appliances to reduce NOx emissions	June 2022
Finish analysis of amendments to Rule 9-14: Petroleum Coke Calcining Operations to reduce NOx emissions	July 2022
Finish analysis of amendments to Rule 9-13: Portland Cement Manufacturing to reduce particulate matter	July 2022
Finalize Prioritization Framework to align source evaluation priorities with the priorities of the Air District Board and the Community	December 2022
Finalize amendments on at least one of the following AB 617 BARCT Schedule rules: 8-5 (Storage of Organic Liquids), 8-8 (Wastewater Collection and Separation Systems), or 8-18 (Equipment Leaks)	December 2022

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		9.68	12.14	10.99	(1.15)	(9.5)%
Personnel Expenditures						
Permanent Salaries	51100	1,454,267	1,445,904	1,711,544	265,640	18.4%
Overtime Salaries	51150	5,949	12,000	5,000	(7,000)	(58.3)%
Temporary Salaries	51200					
Payroll Taxes	51300	21,822	20,593	24,423	3,830	18.6%
Pension Benefits	51400	301,087	338,135	394,186	56,051	16.6%
FICA Replacement Benefits	51500	15,718	19,331	21,485	2,154	11.1%
Group Insurance Benefits	51600	192,937	174,108	200,275	26,167	15.0%
Employee Transportation Subsidy	51700	14,178	14,608	16,330	1,722	11.8%
Workers' Compensation	51800	4,704	5,291	5,682	391	7.4%
Other Post Employment Benefits	51850	112,258	92,011	98,817	6,806	7.4%
Board Stipends	51900					
Total Personnel Expenditures		2,122,920	2,121,981	2,477,742	355,761	16.8%
Services & Supplies Expenditures						
Travel In-State	52200	30	8,250	4,000	(4,250)	(51.5)%
Travel Out-of-State	52220		3,650		(3,650)	(100.0)%
Training & Education	52300		8,200	8,700	500	6.1%
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900	471	35,000	22,000	(13,000)	(37.1)%
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	55,718	221,000	441,000	220,000	99.5%
General Insurance	53400					
Shop & Field Supplies	53500		500	500		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	298	3,000	3,000		
Stationery & Office Supplies	53900		750	500	(250)	(33.3)%
Books & Journals	54100		300	300		
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		56,517	280,650	480,000	199,350	71.0%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		2,179,437	2,402,631	2,957,742	555,111	23.1%

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Community Engagement Division

The Community Engagement Office is the Air District's main point of contact with the public and engages the public in Air District programs and policies. Community Engagement staff collaborate with diverse communities and other partners to advance public health, equity, and environmental justice in the Bay Area. To that end, staff work with community members and other partners to increase community awareness and transparency of air quality issues, build capacity, implement community-identified solutions, and increase opportunities for the public to participate in Air District decision-making. Community Engagement staff particularly seek opportunities for communities that have been historically excluded, discriminated against, under-represented, or under-resourced to participate and shape Air District decisions.

Community Engagement Office 302

Managing Division:

Community Engagement Division

Contact Person:

Anna Lee

Program Purpose:

The Community Engagement Office is committed to providing meaningful engagement, reducing disparities in air quality impacts, and improving air quality for all Bay Area communities. To do that, we connect with community members, develop and maintain lasting partnerships to understand community needs and desired solutions, and work alongside communities toward positive change. The Office is the Air District's main point of contact with the public to increase awareness, foster relationships, and ensure stakeholder participation to guide Air District planning and decision-making.

Description of Program:

The Office is specially tasked with coordinating engagement across departments and with the community to ensure we meet our shared mission to create a healthy breathing environment for every Bay Area resident. The Office seeks opportunities for those that have been historically excluded, discriminated against, under-represented, or under-resourced to participate and shape Air District decisions. The Office co-leads efforts with communities to enable policy solutions that bolster community power, promote public health and equity, and improve regional conditions. The Office coordinates and facilitates stakeholder engagement in programs; supports the Community Advisory Council; leads the implementation of the District's AB 617 program; develops and implements an agency-wide Environmental Justice policy; plays a key role in convening Community-Agency partnerships; develops and deploys community engagement best practices; administers various equity-focused grant programs that support community-led initiatives to improve air quality in impacted communities.

Justification of Change Request:

The Board nominated East Oakland as the new AB 617 CERP Community for 2022 and expanded the Community Grant Program. The Office is supporting an agency-wide Environmental Justice Policy and has been tasked with providing expanded capacity-building support for pollution-burdened communities. Expanded engagement requires increased language access and increased staff overtime for new staff. The FYE 2023 budget assumes 5th year of funding (CAPP21) in the amount of $9M to support AB617 program activities.

Activities
Environmental Justice Policy: Launch an agency-wide policy that implements environmental justice principles.
Community Advisory Council: Provide staffing support to Council to increase community leadership in District decisions.
AB 617: Partner with community groups and Air District divisions to implement AB 617.
Community Grant Program: Administer grants to build community capacity and foster community participation
Administer Title VI of the Civil Rights Act of 1964.
Training: Develop curriculum and train Air District staff on Community Engagement and Environmental Justice.
Youth Engagement: Develop and implement a youth engagement plan.
Air Filtration: Develop and administer air filtration programs to impacted communities.
Spare the Air: Provide direction and support to the Air District's Spare the Air Resource teams.
General Engagement: Community workshops, events, and other engagement opportunities.

Major Objectives	Delivery Date
Support an agency-wide Environmental Justice Policy and community engagement guidelines	Ongoing
Support Community Advisory Council and inclusive, transparent, accessible community engagement	Ongoing
Launch new AB 617 community collaboration, continue to implement AB 617 and track progress.	Ongoing
Support community capacity building through a Community Grant Program	Ongoing
Increase Air District Staff trained in community engagement and environmental justice	Ongoing
Support ongoing engagement of communities, including impacted communities and hard-to reach populations, in Air District activities and the reduction of disparities of air pollution impacts.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		9.27	13.84	16.05	2.21	16.0%
Personnel Expenditures						
Permanent Salaries	51100	1,026,925	2,091,289	2,200,979	109,690	5.2%
Overtime Salaries	51150	13,591	15,000	22,500	7,500	50.0%
Temporary Salaries	51200					
Payroll Taxes	51300	15,229	29,794	31,130	1,336	4.5%
Pension Benefits	51400	210,451	488,305	494,251	5,946	1.2%
FICA Replacement Benefits	51500	10,972	30,188	31,360	1,172	3.9%
Group Insurance Benefits	51600	134,729	309,813	287,848	(21,965)	(7.1)%
Employee Transportation Subsidy	51700	9,879	22,812	23,837	1,025	4.5%
Workers' Compensation	51800	3,294	8,262	8,294	32	0.4%
Other Post Employment Benefits	51850	77,375	143,689	144,238	549	0.4%
Board Stipends	51900					
Total Personnel Expenditures		1,502,445	3,139,152	3,244,437	105,285	3.4%
Services & Supplies Expenditures						
Travel In-State	52200		5,500	5,500		
Travel Out-of-State	52220		4,800	4,800		
Training & Education	52300	28,648	16,500	16,700	200	1.2%
Repair & Maintenance (Equipment)	52400					
Communications	52500	13,737	13,000	13,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		3,500	3,500		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	1,002,163	1,665,000	5,441,500	3,776,500	226.8%
General Insurance	53400					
Shop & Field Supplies	53500		2,000	2,000		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900	110	1,500	1,500		
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		1,044,658	1,711,800	5,488,500	3,776,700	220.6%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		(66,282)				
Total Expenditures		2,480,821	4,850,952	8,732,937	3,881,985	80.0%

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Information Services Division

The Information Services Division focuses on Information technology operations, engineering, user support and the management of District records.

Under this Division, Engineering and Operations Program staff provide design, implementation, security and maintenance of all computer server infrastructures including but not limited to email, telecommunications, network, file storage, business continuity/disaster recovery, and remote connectivity. The support team in this program provides user support to District staff for all technologies and user support to outside members of the regulated community that utilize on-line District technologies.

Records Management Program Staff (RM) are responsible for storing, maintaining, securing, and providing copies of Air District official documents. These documents are made available for public, regulated community and internal request in accordance with Policy and Procedures.

In FY2021, the RM program procured Hyland OnBase software and is working to implement and deploy the system to meet the needs and requirements of the District. RM provides assistance for staff from each Division individually as official records are migrated to OnBase. RM digitizes paper documents as needed for all Divisions.

Information Management Records & Content 712

Managing Division:

Information Services Division

Contact Person:

Magen Holloway

Program Purpose:

To provide archival and retrieval services for the District's records produced by various Divisions.

Description of Program:

The Records Management Program (RM) is responsible for maintaining the Air District official records for each Division. These documents are made available for public, industry and internal request in accordance to the APCO Policy and Procedures.

Justification of Change Request:

Not Applicable

Activities

Manage and Support of Physical and Electronic Storage of District Records.

RM is configuring and implementing the new OB software with the assistance of consultants from Xerox. The Xerox is contracted to configure Air District records and corresponding Record Retention in OB. Xerox will also migrate historic records from AppXtender software and the Air District shared drives.

Train Division Records Custodians on new OB software.

Major Objectives	Delivery Date
Configure new OB software.	June 2023
Train staff on use of OB software.	June 2023
Migrate records from shared drives to OB software	June 2023

Information Management Records & Content 712

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		1.98	2.00	2.00		
Personnel Expenditures						
Permanent Salaries	51100	265,556	276,991	299,098	22,107	8.0%
Overtime Salaries	51150	1,730				
Temporary Salaries	51200					
Payroll Taxes	51300	3,848	3,937	4,231	294	7.5%
Pension Benefits	51400	57,327	64,740	66,528	1,788	2.8%
FICA Replacement Benefits	51500	2,762	3,811	3,909	98	2.6%
Group Insurance Benefits	51600	33,840	34,445	35,567	1,122	3.3%
Employee Transportation Subsidy	51700	2,489	2,880	2,971	91	3.2%
Workers' Compensation	51800	828	1,043	1,034	(9)	(0.9)%
Other Post Employment Benefits	51850	19,680	18,141	17,978	(163)	(0.9)%
Board Stipends	51900					
Total Personnel Expenditures		388,060	405,988	431,316	25,328	6.2%
Services & Supplies Expenditures						
Travel In-State	52200		3,000	3,000		
Travel Out-of-State	52220					
Training & Education	52300	3,397	15,100	10,000	(5,100)	(33.8)%
Repair & Maintenance (Equipment)	52400					
Communications	52500	11,330	7,800	4,000	(3,800)	(48.7)%
Building Maintenance	52600		10,200		(10,200)	(100.0)%
Utilities	52700	4,709	3,800		(3,800)	(100.0)%
Postage	52800					
Printing & Reproduction	52900	1,998	69,800	90,000	20,200	28.9%
Equipment Rental	53100					
Rents & Leases	53200	88,673	110,000	245,000	135,000	122.7%
Professional Services & Contracts	53300		195,000	270,000	75,000	38.5%
General Insurance	53400					
Shop & Field Supplies	53500	1,404	10,000	10,000		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	990	65,000	65,000		
Stationery & Office Supplies	53900		6,000	6,000		
Books & Journals	54100					
Minor Office Equipment	54200					
Non-Capital Assets	54600	147,623				
Total Services & Supplies Expenditures		260,124	495,700	703,000	207,300	41.8%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115	(127,390)				
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures		(127,390)				
Transfer In/Out		(12,217)				
Total Expenditures		508,577	901,688	1,134,316	232,628	25.8%

Managing Division:

Information Services Division

Contact Person:

Derek Klein

Program Purpose:

Provide computer, networking and telecommunications infrastructure. Provide second tier service and support for escalated user support issues.

Description of Program:

Operate, engineer, purchase, install, upgrade, secure, monitor, maintain, and repair new software systems, computer networks, network servers, telephone systems, voicemail systems, firewalls, personal computers, workstations, file and database server hardware, and operating system and application software.

Justification of Change Request:

Not applicable.

Activities
Operation and system administration of HP-3000 servers.
Administration of Cisco telephone and voice mail system.
Administration of Simplivity and other VMWare servers.
Configuration and administration of network routers, switches, firewalls and internet access.
Operation and system administration of HP-9000 servers.
Support and administer DNS servers.
Administration of desktop operating system and applications software.
Administration of Windows Active Directory and servers.
Administration of NetApp SAN storage system.
Purchase, installation, upgrade, maintenance, and repair of desktop workstations and printers.
Administration of MS Exchange-Online, Internet and remote access systems.
Administration of Multi-Agency Shared Services Printing and Scanning systems

Major Objectives	Delivery Date
Maintain computer operations availability for 10 hours/day, 5 days/week.	Daily
Provide communications availability for 10 hours/day, 5 days/week.	Daily
Maintain LAN operations availability for 10 hours/day, 5 days/week.	Daily
Maintain network routers and firewall.	Weekly
Provide system connectivity support for JD Edwards.	Monthly
Support, troubleshoot and maintain desktop workstations.	Weekly
Support and upgrade remote access capabilities.	Monthly
Maintain voice messaging system, including menus and changes for field staff.	Monthly

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		8.06	6.00	9.00	3.00	50.0%
Personnel Expenditures						
Permanent Salaries	51100	979,835	897,519	1,296,285	398,766	44.4%
Overtime Salaries	51150	14,397				
Temporary Salaries	51200					
Payroll Taxes	51300	14,702	12,900	18,507	5,607	43.5%
Pension Benefits	51400	234,399	210,084	303,004	92,920	44.2%
FICA Replacement Benefits	51500	10,577	11,434	17,589	6,155	53.8%
Group Insurance Benefits	51600	129,416	129,256	175,796	46,540	36.0%
Employee Transportation Subsidy	51700	9,528	8,640	13,369	4,729	54.7%
Workers' Compensation	51800	3,169	3,129	4,652	1,523	48.7%
Other Post Employment Benefits	51850	76,501	54,422	80,899	26,477	48.7%
Board Stipends	51900					
Total Personnel Expenditures		1,472,524	1,327,384	1,910,101	582,717	43.9%
Services & Supplies Expenditures						
Travel In-State	52200	22	10,000	11,700	1,700	17.0%
Travel Out-of-State	52220					
Training & Education	52300		50,000	60,000	10,000	20.0%
Repair & Maintenance (Equipment)	52400	675,929	689,000	735,000	46,000	6.7%
Communications	52500	30,156	17,000	21,600	4,600	27.1%
Building Maintenance	52600					
Utilities	52700					
Postage	52800	72				
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	224,468	555,000	575,000	20,000	3.6%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	285,153	251,300	509,800	258,500	102.9%
Stationery & Office Supplies	53900	227				
Books & Journals	54100					
Minor Office Equipment	54200					
Non-Capital Assets	54600	399,550				
Total Services & Supplies Expenditures		1,615,577	1,572,300	1,913,100	340,800	21.7%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115		400,000	900,000	500,000	125.0%
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130		400,000	200,000	(200,000)	(50.0)%
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures			800,000	1,100,000	300,000	37.5%
Transfer In/Out		(98,555)				
Total Expenditures		2,989,546	3,699,684	4,923,201	1,223,517	33.1%

Managing Division:

Information Services Division

Contact Person:

Duane Vazquez

Program Purpose:

Provide end user support and manage the procurement of computer workstations and telecommunications systems.

Description of Program:

Operate, engineer, procure, install, configure, upgrade, maintain, repair and manage inventory for software and hardware computers, telephone systems, voicemail systems, wireless/cellular, printers and misc. peripheral devices . Provide technical assistance for computer systems, telephone systems, voicemail systems, hardware, and software. Assist in developing user training curriculum. Track and optimize user support metrics.

Justification of Change Request:

Activities
Administration of desktop operating system and applications software.
Administration of Cisco telephone and voice mail system.
Configuration and administration of MFC printers, voip handsets, cellular devices, misc handheld & peripheral devices
Purchase, installation, upgrade, maintenance, and repair of desktop workstations and printers.

Major Objectives	Delivery Date
Maintain computer operations availability for 10 hours/day, 5 days/week.	Daily
Support, troubleshoot and maintain desktop workstations.	Weekly
Maintain voice messaging system, including menus and changes for field staff.	Monthly

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)			4.00	1.00	(3.00)	(75.00)%
Personnel Expenditures						
Permanent Salaries	51100		472,398	159,285	(313,113)	(66.28)%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300		6,692	2,257	(4,435)	(66.3)%
Pension Benefits	51400		110,029	35,484	(74,545)	(67.8)%
FICA Replacement Benefits	51500		7,622	1,954	(5,668)	(74.4)%
Group Insurance Benefits	51600		70,706	18,210	(52,496)	(74.2)%
Employee Transportation Subsidy	51700		5,760	1,485	(4,275)	(74.2)%
Workers' Compensation	51800		2,086	517	(1,569)	(75.2)%
Other Post Employment Benefits	51850		36,281	8,989	(27,292)	(75.2)%
Board Stipends	51900					
Total Personnel Expenditures			711,574	228,181	(483,393)	(67.9)%
Services & Supplies Expenditures						
Travel In-State	52200		2,000	2,000		
Travel Out-of-State	52220					
Training & Education	52300		35,000	35,000		
Repair & Maintenance (Equipment)	52400		10,000	10,000		
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300					
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		160,000	185,000	25,000	15.6%
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures			207,000	232,000	25,000	12.1%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures			918,574	460,181	(458,393)	(49.90)%

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My Air Online

The Office of My Air Online supports three major District objectives. First is software development for legacy system deprecation. This objective is focused on modernize permitting, compliance and enforcement including optimization via business process reengineering. The second objective is to maintain the Districts public web presence including secure and reliable information access, proactive digital notification, and equity through access to information, 508 compliance, and language translation. The third objective is to create and support a unified digital payment customer experience, grow online adoption, and ultimately expand to include outbound digital payments to enhance business continuity.

Managing Division:

My Air Online

Contact Person:

Joy Chen

Program Purpose:

This program provides design, development, quality assurance and implementation support for the District's new permitting and compliance system.

Description of Program:

This program is responsible for software development for permitting, compliance and enforcement as well as online payment integration.

Justification of Change Request:

Supports a roughly $50 million dollar District revenue stream derived from the regulated community.

Activities

Permitting and compliance development and implementation.

Major Objectives	Delivery Date
Legacy System Deprecation via: Permitting and Compliance, Business Process Re-engineering, In-Sourced Support Model	Daily
Unified Digital Payments via: Grow Online Payment Adoption, Payment Reconciliation Governance, Expand from Inbound to Outbound	Daily

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		5.14	5.00	6.00	1.00	20.0%
Personnel Expenditures						
Permanent Salaries	51100	880,062	857,671	1,027,255	169,584	19.8%
Overtime Salaries	51150	1,608				
Temporary Salaries	51200					
Payroll Taxes	51300	13,185	12,362	14,766	2,404	19.4%
Pension Benefits	51400	196,583	201,233	231,907	30,674	15.2%
FICA Replacement Benefits	51500	9,485	9,528	11,726	2,198	23.1%
Group Insurance Benefits	51600	116,254	91,341	107,755	16,414	18.0%
Employee Transportation Subsidy	51700	8,544	7,200	8,913	1,713	23.8%
Workers' Compensation	51800	2,846	2,608	3,101	493	18.9%
Other Post Employment Benefits	51850	67,383	45,351	53,933	8,582	18.9%
Board Stipends	51900					
Total Personnel Expenditures		1,295,950	1,227,294	1,459,356	232,062	18.9%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300		15,000	16,022	1,022	6.8%
Repair & Maintenance (Equipment)	52400					
Communications	52500	3,081	2,500	2,670	170	6.8%
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		150,000	160,215	10,215	6.8%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	2,536	100,000	106,810	6,810	6.8%
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		5,617	267,500	285,717	18,217	6.8%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115	2,952,425	2,853,347	3,047,660	194,313	6.8%
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures		2,952,425	2,853,347	3,047,660	194,313	6.8%
Transfer In/Out						
Total Expenditures		4,253,992	4,348,141	4,792,733	444,592	10.2%

Website Development & Maintenance 309

Managing Division:

My Air Online

Contact Person:

Anja Page

Program Purpose:

The Air District Websites support and maintain the agency's web presence to provide the public with information about air quality, including health alerts and real-time air quality data, plans and technical information, as well as access to registrations, permits, regulations and other information for business and industry constituents.

Description of Program:

Development, support, and maintenance of the Air District's web content management system (Sitecore) and websites, including BAAQMD.gov and SparetheAir.org.

Justification of Change Request:

Supports Diversity, Equity and Inclusion by allowing 24/7 access to 508 compliant information in five languages English, Spanish, Tagalog, Vietnamese and Chinese.

Activities	
Collaborate on efforts to increase multilingual translation, accessibility, and legal compliance for Air District websites	
Support, assist, and train Division Content Editors in the use of the web content management system	
Ensure content meets grammatical conventions, reading-level standards, and consistency requirements	
Develop, test, and implement new features and website components while providing technical support for online services	
Maintain and manage website systems with ongoing upgrades and improvements	
Monitor visitor usage through statistics and logs to inform priorities and decisions on feature development	
Document website processes, issue resolution, and functionality	
Major Objectives	**Delivery Date**
Public Web Presence via: Secure, Reliable Information (Pull), Proactive Digital Notifications (Push), Equity (i.e. 508, Languages, Data Access)	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.01	2.00	2.04	0.04	2.0%
Personnel Expenditures						
Permanent Salaries	51100	313,675	303,270	320,907	17,637	5.8%
Overtime Salaries	51150	178				
Temporary Salaries	51200					
Payroll Taxes	51300	4,716	4,319	4,545	226	5.2%
Pension Benefits	51400	69,386	71,005	74,446	3,441	4.8%
FICA Replacement Benefits	51500	3,390	3,811	3,992	181	4.7%
Group Insurance Benefits	51600	41,591	42,060	43,900	1,840	4.4%
Employee Transportation Subsidy	51700	3,056	2,880	3,035	155	5.4%
Workers' Compensation	51800	1,014	1,043	1,056	13	1.2%
Other Post Employment Benefits	51850	24,677	18,141	18,363	222	1.2%
Board Stipends	51900					
Total Personnel Expenditures		461,683	446,529	470,244	23,715	5.3%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500	1,645		1,757	1,757	
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900	2,901		3,099	3,099	
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	1,156,928	917,581	980,068	62,487	6.8%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		142,000	151,670	9,670	6.8%
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		1,161,474	1,059,581	1,136,594	77,013	7.3%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		(30,622)				
Total Expenditures		1,592,535	1,506,110	1,606,838	100,728	6.7%

Legacy Systems Support 725

Managing Division:

My Air Online

Contact Person:

Blair Adams

Program Purpose:

Legacy system data management.

Description of Program:

This program provides legacy system data maintenance include extract, transform and load services.

Justification of Change Request:

Not applicable.

Activities

Major Objectives	Delivery Date
Data Maintenance: Extract, transform and load of legacy data into new system.	Daily

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		5.49	5.58	5.81	0.23	4.1%
Personnel Expenditures						
Permanent Salaries	51100	765,338	797,445	868,253	70,808	8.9%
Overtime Salaries	51150	13,098				
Temporary Salaries	51200					
Payroll Taxes	51300	11,539	11,343	12,281	938	8.3%
Pension Benefits	51400	155,428	186,498	204,318	17,820	9.6%
FICA Replacement Benefits	51500	8,331	10,633	11,358	725	6.8%
Group Insurance Benefits	51600	101,967	119,250	122,314	3,064	2.6%
Employee Transportation Subsidy	51700	7,879	8,035	8,633	598	7.4%
Workers' Compensation	51800	2,475	2,910	3,004	94	3.2%
Other Post Employment Benefits	51850	61,818	50,612	52,241	1,629	3.2%
Board Stipends	51900					
Total Personnel Expenditures		1,127,873	1,186,726	1,282,402	95,676	8.1%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300		15,000	16,022	1,022	6.8%
Repair & Maintenance (Equipment)	52400					
Communications	52500	732	1,500		(1,500)	(100.0)%
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		55,000		(55,000)	(100.0)%
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		24,500	13,351	(11,149)	(45.5)%
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		732	96,000	29,373	(66,627)	(69.4)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,128,605	1,282,726	1,311,775	29,049	2.3%

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Meteorology & Measurement Division

The Meteorology and Measurement Division provides emissions, air quality, and meteorological data; chemical analysis; forecasting; and data analysis to support the activities of the Compliance & Enforcement, Engineering, Planning, Legal, Rules, Assessment, Inventory & Modeling, Communications, and Community Engagement Divisions. The data is used to

- determine if the Air District is in attainment with state and federal standards,
- determine if facilities are in compliance with Air District regulations,
- provide a scientific basis for Air District programmatic decisions, and
- to communicate about air quality with the public.

Air Monitoring – Operations 802

Managing Division:

Meteorology & Measurement Division

Contact Person:

Ila perkins

Program Purpose:

Provide the data required to determine and measure progress towards the Bay Area's attainment of National and State ambient air quality standards, community monitoring, as well as determine and measure progress of other Air District programs.

Description of Program:

The primary function of the Air Monitoring - Operations Section is to operate and maintain a network of air quality and meteorological measurement sites that provide data required to determine attainment status of both National and State ambient air quality standards, new and modified regulations, National and State sampling strategies, as well as provide more targeted community level air quality assessment monitoring in support of AB617 activities and refinery (Schedule X funded) communities. Additionally, a network of toxics gaseous and particulate monitors collect data to develop trends and help define risk, and for National and State programs. Air monitoring and meteorological data, as well as sampling projects such as the Photochemical Assessment Monitoring Stations (PAMS) and PM2.5 speciation sampling, are also used for Air Quality Index (AQI) forecasts, Clean Air Plan (CAP) modeling, Prevention of Significant Deterioration (PSD) modeling, Refinery Community Monitoring, AB 617 monitoring and Environmental Impact Reports (EIRs).

Justification of Change Request:

Program Code 802 was previously for all Air Monitoring activities. Effective FYE 2022, Air Monitoring is separated into Operations (Program Code 802) and Projects & Technology (Program Code 810).

Activities

Operate and maintain the air monitoring network to provide a minimum of 90% valid data each quarter to determine the attainment status for National and State ambient air quality standards.
Operate and maintain non-criteria pollutant monitors to provide data on ozone precursors, data for ozone forecasting, and data for fine particulate forecasting.
Operate a Photochemical Assessment Monitoring Station (PAMS) network that meets EPA requirements.
Operate a gaseous toxics network to provide data for State and Air District programs.
Operate a network of fine particulate (PM2.5), black carbon, and particulate matter speciation samplers and analyzers in support of the determination of compliance with the National Ambient Air Quality Standards for PM2.5, wood smoke trends, and other area wide particulate matter studies.
Operate two Near Road monitoring stations as mandated by EPA; two in the San Francisco-Oakland-Fremont CBSA, and one in the San Jose-Sunnyvale-Santa Clara CBSA; Operate an additional near road site positioned along the Interstate 580 corridor.
Aid in the development and evaluation of existing technologies for air quality measurements.
Implement community level air quality monitoring in support of AB617 and Schedule X (communities near refineries)

Major Objectives	Delivery Date
Collect and process data that has been subjected to rigorous Quality Control (QC) as part of National, State and Air District programs.	Ongoing
Implementation of community level monitoring and air quality assessment in support of AB 617 and Schedule X	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		26.00	22.00	20.00	(2.00)	(9.10)%
Personnel Expenditures						
Permanent Salaries	51100	2,889,710	2,419,104	2,421,787	2,683	0.1%
Overtime Salaries	51150	525	8,500		(8,500)	(100.0)%
Temporary Salaries	51200					
Payroll Taxes	51300	43,626	34,237	34,087	(150)	(0.4)%
Pension Benefits	51400	620,294	562,425	548,458	(13,967)	(2.5)%
FICA Replacement Benefits	51500	31,462	42,036	39,255	(2,781)	(6.6)%
Group Insurance Benefits	51600	384,360	387,326	387,599	273	0.1%
Employee Transportation Subsidy	51700	28,380	31,765	29,837	(1,928)	(6.1)%
Workers' Compensation	51800	9,345	11,505	10,382	(1,123)	(9.8)%
Other Post Employment Benefits	51850	236,273	200,084	180,548	(19,536)	(9.8)%
Board Stipends	51900					
Total Personnel Expenditures		4,243,975	3,696,982	3,651,953	(45,029)	(1.2)%
Services & Supplies Expenditures						
Travel In-State	52200	5,842	20,000	22,700	2,700	13.5%
Travel Out-of-State	52220		10,000	20,000	10,000	100.0%
Training & Education	52300		5,000	34,500	29,500	590.0%
Repair & Maintenance (Equipment)	52400	36,974	78,196	81,841	3,645	4.7%
Communications	52500	4,465		73,685	73,685	
Building Maintenance	52600	3,007	59,820	221,244	161,424	269.8%
Utilities	52700	83,613	120,151	132,166	12,015	10.0%
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200	418,885	487,549	507,051	19,502	4.0%
Professional Services & Contracts	53300	92,159	415,000	415,000		
General Insurance	53400					
Shop & Field Supplies	53500	156,381	310,927	311,980	1,053	0.3%
Laboratory Supplies	53600	18,460	76,361	87,815	11,454	15.0%
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Non-Capital Assets	54600	5,944				
Total Services & Supplies Expenditures		825,730	1,583,004	1,907,982	324,978	20.5%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125	304,013	666,711	1,234,517	567,806	85.2%
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures		304,013	666,711	1,234,517	567,806	85.2%
Transfer In/Out						
Total Expenditures		5,373,718	5,946,697	6,794,452	847,755	14.3%

Managing Division:

Meteorology & Measurement Division

Contact Person:

Mairi Beacon

Program Purpose:

Provide laboratory, analytical, and technical services and support to other Air District Divisions and Sections.

Description of Program:

The primary function of the Laboratory Program is to provide laboratory analyses, analytical services and technical support to other Divisions, Sections and special programs in completing their objectives. The Laboratory Program evaluates and implements analytical methods as required by new, analytical capabilities or amendments and additions to Air District regulations. The analytical services of the program provide technical information for enforcement action, permit evaluation, and regulatory standard development. Close liaison is maintained with other air pollution agencies and technical groups.

Justification of Change Request:

Not Applicable

Activities

Perform gravimetric analyses on various filter media for BAAQMD and other agencies.
Perform speciation analyses on various filter media including ion, carbon, and metals.
Perform analyses associated with the Air District's toxics network.
Perform analyses in support of Compliance and Enforcement and Source Test actions.
Perform analyses of incident samples collected by the Air District.
Perform analyses to provide comparative data for new and proposed field instrumentation.
Identify and recommend analytical methods to support various Air District actions.
Provide information on suitability of analyses proposed by outside laboratories.
Participate in internal and external laboratory audits.

Major Objectives	Delivery Date
Provide gravimetric and speciation data to MQA and AAQA.	Ongoing
Provide analytical data in support of Compliance and Enforcement actions.	Ongoing
Provide analytical data in support of the Source Test section.	Ongoing
Provide Air Monitoring Special Projects group and other agencies comparative data for the evaluation of new instrumentation.	Ongoing
Participate in internal and external safety evaluations and reporting.	Ongoing
Participate in internal and external laboratory audits.	Ongoing
Provide technical expertise and advice to other Air District divisions regarding laboratory methods and capabilities.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		8.00	12.00	9.00	(3.00)	(25.00)%
Personnel Expenditures						
Permanent Salaries	51100	963,918	1,438,580	1,242,489	(196,091)	(13.6)%
Overtime Salaries	51150	1	5,000	5,000		
Temporary Salaries	51200	3,280				
Payroll Taxes	51300	14,477	20,412	17,551	(2,861)	(14.0)%
Pension Benefits	51400	202,272	340,638	287,527	(53,111)	(15.6)%
FICA Replacement Benefits	51500	10,405	22,397	18,004	(4,393)	(19.6)%
Group Insurance Benefits	51600	127,323	229,991	180,345	(49,646)	(21.6)%
Employee Transportation Subsidy	51700	10,425	16,925	13,685	(3,240)	(19.1)%
Workers' Compensation	51800	3,118	6,130	4,761	(1,369)	(22.3)%
Other Post Employment Benefits	51850	75,662	106,608	82,808	(23,800)	(22.3)%
Board Stipends	51900					
Total Personnel Expenditures		1,410,881	2,186,681	1,852,170	(334,511)	(15.3)%
Services & Supplies Expenditures						
Travel In-State	52200		200	200		
Travel Out-of-State	52220		5,000	5,000		
Training & Education	52300	4,020	7,000	7,000		
Repair & Maintenance (Equipment)	52400	67,518	82,000	90,000	8,000	9.8%
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	11,407	26,400	26,400		
General Insurance	53400					
Shop & Field Supplies	53500	360	3,000		(3,000)	(100.0)%
Laboratory Supplies	53600	45,036	100,000	100,000		
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	1,767	2,000	2,000		
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		130,108	225,600	230,600	5,000	2.2%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Transfer In/Out						
Total Expenditures		1,540,989	2,412,281	2,082,770	(329,511)	(13.7)%

Managing Division:

Meteorology & Measurement Division

Contact Person:

Jerry Bovee

Program Purpose:

Provide source testing and technical expertise to Air District Divisions.

Description of Program:

The primary functions of the Source Test Section are to: conduct analytical source tests; conduct performance audits on Continuous Emissions Monitors (CEMs); review third party source tests; research and develop new analytical source test procedures: and, provide technical expertise and advice to other Divisions. These data are used to produce engineering studies to determine compliance status for specific source categories, determine whether to issue Permits to Operate, update the emissions inventory, determine actual abatement control effectiveness, provide data & technical assistance for Air District studies including AB 617, and develop applicable standards and produce emissions data for new or revised regulations.

Justification of Change Request:

Not Applicable

Activities
Evaluate up to 400 facility submitted source test reports
Conduct up to 45 particulate or gaseous toxics source tests.
Conduct at least 90 instrumental gaseous source tests.
Conduct up to 24 source tests at gasoline bulk terminals and bulk plants.
Conduct up to 400 source tests on gasoline cargo tanks.
Conduct up to 30 Enhanced Vapor Recovery source tests at Gasoline Distribution Facilities (GDF)
Conduct up to 150 Field Accuracy Tests (FATs) on CEM systems.
Evaluate up to 450 indicated excesses and other CEM-related call-ins.
Maintain an electronic list of all source tests conducted at Title V facilities.
Provide source testing to support rule development and implementation efforts.
Manage South Bay Odor Study contracts and deliverables
Provide Rule 12-15 refinery fence line monitoring program oversight

Major Objectives	Delivery Date
Prepare reports on emissions from various source categories.	Ongoing
Prepare reports on particulate/gaseous toxic emissions from specific sources.	Ongoing
Prepare quarterly and annual summary of CEM data from specific sources.	Ongoing
Prepare reports on VOC emissions from gasoline bulk terminals and plants.	Ongoing
Prepare reports on VOC emissions from gasoline cargo tanks.	Ongoing
Provide monthly reports on indicated excesses from CEM systems.	Ongoing
Prepare reports on compliance rates and emissions, based on outside contractor tests.	Ongoing
Participate in source attribution studies associated with AB 617	Ongoing
Implement new emission testing methods and technologies	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		12.88	14.09	14.19	0.10	0.7%
Personnel Expenditures						
Permanent Salaries	51100	1,611,204	1,821,529	1,936,627	115,098	6.3%
Overtime Salaries	51150	625	7,500	6,000	(1,500)	(20.0)%
Temporary Salaries	51200					
Payroll Taxes	51300	24,122	25,873	27,365	1,492	5.8%
Pension Benefits	51400	328,852	419,155	444,035	24,880	5.9%
FICA Replacement Benefits	51500	17,280	26,853	27,737	884	3.3%
Group Insurance Benefits	51600	211,741	311,490	322,614	11,124	3.6%
Employee Transportation Subsidy	51700	15,569	20,292	21,083	791	3.9%
Workers' Compensation	51800	5,181	7,349	7,336	(13)	(0.2)%
Other Post Employment Benefits	51850	125,788	127,815	127,575	(240)	(0.2)%
Board Stipends	51900					
Total Personnel Expenditures		2,340,362	2,767,856	2,920,372	152,516	5.5%
Services & Supplies Expenditures						
Travel In-State	52200		3,000	3,000		
Travel Out-of-State	52220		4,000	4,000		
Training & Education	52300	7,725	11,850	10,850	(1,000)	(8.4)%
Repair & Maintenance (Equipment)	52400	389	5,000	3,000	(2,000)	(40.0)%
Communications	52500	1,774		1,800	1,800	
Building Maintenance	52600	820	8,800	8,800		
Utilities	52700	21,765	17,250	22,000	4,750	27.5%
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200	290,636	288,750	295,000	6,250	2.2%
Professional Services & Contracts	53300	225,167	55,500	45,500	(10,000)	(18.0)%
General Insurance	53400					
Shop & Field Supplies	53500	46,201	54,000	49,650	(4,350)	(8.1)%
Laboratory Supplies	53600	5,341	10,400	10,400		
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Non-Capital Assets	54600	2,623				
Total Services & Supplies Expenditures		602,441	458,550	454,000	(4,550)	(1.0)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120		60,000	100,000	40,000	66.7%
Lab & Monitoring Equipment	60125	27,731	80,000	60,000	(20,000)	(25.0)%
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures		27,731	140,000	160,000	20,000	14.3%
Transfer In/Out						
Total Expenditures		2,970,534	3,366,406	3,534,372	167,966	5.0%

Managing Division:

Meteorology & Measurement Division

Contact Person:

Charles Knoderer

Program Purpose:

Provide air quality and open burning forecasts, support for wildfire impacts, and collect, validate, analyze, and disseminate aerometric and meteorological data.

Description of Program:

The primary function of the Meteorological Section is to provide air quality forecasts, including open burn, and mandated Air Quality Index (AQI) forecasts, special forecasts for programs such as mandatory curtailment of wood burning, forecasts for wildfire smoke impacts, and episode/alert forecasts. Data analysis objectives include the validation, compilation and interpretation of meteorological and air quality data, and distribution of data to various data systems, including EPA's AQS database. Other objectives include evaluation for legal actions and determination of long-term air quality trends.

Justification of Change Request:

The Overtime Budget (51155) was increased to account for inflation. This includes additional meetings to coordinate open burning with other agencies (such as CalFire and ARB) and additional forecast responsibilities due to increased wildfire impacts on local air quality.

Activities

Provide support for tracking and forecasting smoke plume impacts during wildfire events.

Provide reliable and timely Air Quality forecasts to the Air District and the public on weekdays, weekends and holidays.

Review prescribed and marsh burn plans. Issue the daily open burn decision to Regional, State, and National Fire Agencies and the public. Allocate and distribute burn acreage for prescribed, marsh, and Sonoma County stubble burning.

Quality assure EPA mandated air quality data and provide to EPA within 90 days of the end of a quarter.

Develop forecasting techniques for winter particulate and summer ozone seasons, including statistical regression equations and develop and maintain the databases these methods are based upon.

Review air quality and meteorological data from the five oil refinery Ground Level Monitoring (GLM) Networks and evaluate Excess Reports for the Compliance & Enforcement Division regarding compliance with Air District Regulations 1 & 9.

Respond to record requests for information on air quality and meteorological data from the public. Provide presentations for Air District functions including Board and Committee meetings, and community outreach and public information meetings.

Major Objectives	Delivery Date
Provide daily air quality forecasts and burn acreage allocations to meet Air District needs. Provide additional support during wildfire impacts.	Ongoing
Submit quality assured air quality data to EPA's AQS Database.	Quarterly
Provide air quality, meteorological, and GLM data in electronic format to requestors.	Monthly
Continue improvements to databases for air quality and meteorological data.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		4.37	4.40	3.98	(0.42)	(9.5)%
Personnel Expenditures						
Permanent Salaries	51100	663,439	621,628	586,338	(35,290)	(5.7)%
Overtime Salaries	51150	7,872		5,000	5,000	
Temporary Salaries	51200					
Payroll Taxes	51300	10,024	8,876	8,311	(565)	(6.4)%
Pension Benefits	51400	200,833	145,346	132,495	(12,851)	(8.8)%
FICA Replacement Benefits	51500	7,241	8,388	7,786	(602)	(7.2)%
Group Insurance Benefits	51600	88,641	77,127	74,486	(2,641)	(3.4)%
Employee Transportation Subsidy	51700	6,533	6,338	5,918	(420)	(6.6)%
Workers' Compensation	51800	2,144	2,296	2,059	(237)	(10.3)%
Other Post Employment Benefits	51850	53,762	39,923	35,809	(4,114)	(10.3)%
Board Stipends	51900					
Total Personnel Expenditures		1,040,489	909,922	858,202	(51,720)	(5.7)%
Services & Supplies Expenditures						
Travel In-State	52200		2,100	2,100		
Travel Out-of-State	52220		15,000	15,000		
Training & Education	52300	805				
Repair & Maintenance (Equipment)	52400		12,000	12,000		
Communications	52500			3,500	3,500	
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200	1,940				
Professional Services & Contracts	53300	98,535	34,000	34,000		
General Insurance	53400					
Shop & Field Supplies	53500		4,000	4,000		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	820	20,000	20,000		
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		102,100	87,100	90,600	3,500	4.0%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,142,589	997,022	948,802	(48,220)	(4.8)%

Air Monitoring Instrument Performance Evaluation 807

Managing Division:

Meteorology & Measurement Division

Contact Person:

Charles Knoderer

Program Purpose:

Provide independent performance evaluation services for the Air Monitoring Section and evaluate equipment and siting for air quality monitoring performed by industry and/or their consultants within the Air District's boundaries.

Description of Program:

The primary function of the Performance Evaluation (PE) Section is to ensure the accuracy of data collected throughout the Air District's air monitoring network. The PE Section is also responsible for audits and data evaluation of the H2S and SO2 ground level monitors (GLMs) and operation of H2S and SO2 mobile sampling units for odor complaint investigations and episodic sampling. Provide episodic ambient air-sampling after incidents at local refineries and chemical plants. Measure pollutants significant enough to cause wide-spread complaints.

Justification of Change Request:

Not Applicable

Activities

Conduct performance evaluation audits on ambient air monitoring equipment as required by EPA and California Air Resources Board (CARB) regulations, and create accuracy records for reporting to EPA.
Conduct performance evaluation audits on industry SO2 and H2S GLMs and prepare summary reports of the audits.
Conduct performance evaluation audits on non-criteria pollutant monitors and prepare summary reports of the audits.
Participate in inter-agency performance evaluation program conducted by EPA and CARB at Air District sites.
Perform source-oriented sampling and mobile monitoring during complaint, odor, and episode conditions to provide data required for enforcement action. Between incidents, maintain the instruments and vehicles, as needed.
Participate in interdivisional teams working on improving Air District regulations and the Manual of Procedures, special studies and customer service.

Major Objectives	Delivery Date
Maintain the directory of information on network drives for Air District access to all Quality Assurance (QA) data and activities.	Ongoing
Maintain criteria pollutant calibration standards and calibrators to meet EPA requirements.	Ongoing
Revise Standard Operating Procedures (SOPs) to reflect changes in procedures.	Ongoing

Air Monitoring Instrument Performance Evaluation 807

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		4.00	3.00	4.00	1.00	33.30%
Personnel Expenditures						
Permanent Salaries	51100	364,351	360,478	495,178	134,700	37.4%
Overtime Salaries	51150	985				
Temporary Salaries	51200					
Payroll Taxes	51300	5,478	5,107	7,010	1,903	37.3%
Pension Benefits	51400	78,813	83,974	114,540	30,566	36.4%
FICA Replacement Benefits	51500	3,932	5,780	6,964	1,184	20.5%
Group Insurance Benefits	51600	48,230	70,113	69,987	(126)	(0.2)%
Employee Transportation Subsidy	51700	3,542	4,368	5,293	925	21.2%
Workers' Compensation	51800	1,179	1,582	1,842	260	16.4%
Other Post Employment Benefits	51850	28,141	27,512	32,028	4,516	16.4%
Board Stipends	51900					
Total Personnel Expenditures		534,651	558,914	732,842	173,928	31.1%
Services & Supplies Expenditures						
Travel In-State	52200		455	455		
Travel Out-of-State	52220		2,500	3,750	1,250	50.0%
Training & Education	52300					
Repair & Maintenance (Equipment)	52400		6,400	6,400		
Communications	52500					
Building Maintenance	52600		11,250	11,250		
Utilities	52700	530				
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	929	2,550	2,550		
General Insurance	53400					
Shop & Field Supplies	53500	9,537	16,535	16,535		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100		160	160		
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		10,996	39,850	41,100	1,250	3.1%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125	15,295	20,400	90,000	69,600	341.2%
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures		15,295	20,400	90,000	69,600	341.2%
Transfer In/Out						
Total Expenditures		560,942	619,164	863,942	244,778	39.5%

Managing Division:

Meteorology & Measurement Division

Contact Person:

Charles Knoderer

Program Purpose:

Operate and maintain the Bay Area BioWatch network for the Federal Department of Homeland Security (DHS) in cooperation with the EPA.

Description of Program:

The BioWatch Monitoring Program consists of a network of sample collection units located throughout the Bay Area. Filter media are collected and replaced on a daily basis. Exposed filter housing are delivered to an outside laboratory for analysis. The network operates 24-hours a day, 365 days a year. This program is fully funded by a Department of Homeland Security grant and any budgetary changes were made to more accurately reflect the grant request.

Justification of Change Request:

All funding changes are covered by the DHS grant award.

Activities

Operate and maintain BioWatch collection sites to provide exposed filter media for laboratory analysis.

Provide training and contract oversight for the BioWatch program.

Implement Consequence Management Plan for the BioWatch program.

Major Objectives	Delivery Date
Provide oversight of facilities and equipment.	Ongoing
Assure program requirements for computer entry, sampling, and filter delivery are met.	Ongoing
Assure impacted Air Monitoring and contractor staff are notified in the event of positive results.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.08	0.06	0.10	0.04	66.7%
Personnel Expenditures						
Permanent Salaries	51100	7,859	5,370	12,548	7,178	133.7%
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	115	75	177	102	136.0%
Pension Benefits	51400	1,922	1,239	2,859	1,620	130.8%
FICA Replacement Benefits	51500	84	119	189	70	58.8%
Group Insurance Benefits	51600	1,038	962	1,755	793	82.4%
Employee Transportation Subsidy	51700	75	91	144	53	58.2%
Workers' Compensation	51800	25	33	50	17	51.5%
Other Post Employment Benefits	51850	451	571	872	301	52.7%
Board Stipends	51900					
Total Personnel Expenditures		11,569	8,460	18,594	10,134	119.8%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700		37,014		(37,014)	(100.0)%
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200	40,189	66,654		(66,654)	(100.0)%
Professional Services & Contracts	53300	1,126,201	1,302,521	1,485,825	183,304	14.1%
General Insurance	53400					
Shop & Field Supplies	53500		9,851	10,000	149	1.5%
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		2,000	2,000		
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		1,166,390	1,418,040	1,497,825	79,785	5.6%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		1,177,959	1,426,500	1,516,419	89,919	6.3%

Air Monitoring - Projects & Technology 810

Managing Division:

Meteorology & Measurement Division

Contact Person:

Jonathan P. Bower

Program Purpose:

Provide mobile, portable, and short-term air monitoring, develop and manage the Division's quality and data systems, and support the development of required analytical and operational tools.

Description of Program:

The Air Monitoring - Projects & Technology (AMPT) Section performs mobile, portable, and short-term air monitoring and sampling in support of various air monitoring projects. The section researches and develops tools, protocols, and procedures for testing and implementing air monitoring approaches to address a dynamic and growing list of uses cases, particularly at the community scale. AMPT is also responsible for oversight, maintenance, and development of regulatory and other data quality and data management systems. Major expenditures include air monitoring equipment and infrastructure, software development, hardware purchases and support, and telecommunications for remote air monitoring. This Section also supports and maintains data export facilities from the Data Management System.

Justification of Change Request:

Activities
Maintain and develop regulatory and other air monitoring data management systems.
Perform mobile, portable, and short term air monitoring in support of various projects and programs.
Oversee and develop regulatory and other data quality systems.
Research, develop, and evaluate emerging technologies, approaches, and procedures for air quality measurements.
Provide technical feedback and project management of external air monitoring projects as needed.

Major Objectives	Delivery Date
Maintain a robust Quality Assurance program for the Division.	Ongoing
Manage Data Management System(s) for data collected by the Division.	Ongoing
Implementation of community level screening and other monitoring projects in support of District programs, including AB 617.	Ongoing
Support the Air District's real-time air quality and meteorology web page.	Ongoing

Air Monitoring - Projects & Technology 810

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.84	8.00	9.35	1.35	16.9%
Personnel Expenditures						
Permanent Salaries	51100	146,413	974,972	1,278,107	303,135	31.1%
Overtime Salaries	51150	2,500	5,000	5,000		
Temporary Salaries	51200					
Payroll Taxes	51300	2,117	13,821	18,059	4,238	30.7%
Pension Benefits	51400	18,977	227,252	283,615	56,363	24.8%
FICA Replacement Benefits	51500	1,479	15,245	18,278	3,033	19.9%
Group Insurance Benefits	51600	18,262	135,183	165,598	30,415	22.5%
Employee Transportation Subsidy	51700	1,318	11,520	13,893	2,373	20.6%
Workers' Compensation	51800	474	4,172	4,834	662	15.9%
Other Post Employment Benefits	51850	8,303	72,562	84,070	11,508	15.9%
Board Stipends	51900					
Total Personnel Expenditures		199,843	1,459,727	1,871,454	411,727	28.2%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220		5,000	5,000		
Training & Education	52300		5,000	5,000		
Repair & Maintenance (Equipment)	52400					
Communications	52500	102,124	97,891	14,950	(82,941)	(84.7)%
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200	97,473				
Professional Services & Contracts	53300	1,514,817	2,459,641	300,500	(2,159,141)	(87.8)%
General Insurance	53400					
Shop & Field Supplies	53500	13,812	117,303	92,500	(24,803)	(21.1)%
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	12,504	52,975	52,975		
Stationery & Office Supplies	53900		500	500		
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		1,740,730	2,738,310	471,425	(2,266,885)	(82.8)%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125		57,000	280,000	223,000	391.2%
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures			57,000	280,000	223,000	391.2%
Transfer In/Out						
Total Expenditures		1,940,573	4,255,037	2,622,879	(1,632,158)	(38.4)%

Managing Division:

Meteorology & Measurement Division

Contact Person:

Katherine Hoag

Program Purpose:

Summarize, analyze, and interpret air quality measurement data, evaluate monitoring networks and approaches, and provide technical support to Air District Divisions and the public.

Description of Program:

The Air Quality Analysis Section's primary objective is to characterize regional and local air quality using observed meteorological and air quality data, including preparing air quality summaries, determining compliance with National or State standards, and analyzing long-term trends to assess progress. District air monitoring program support includes developing an annual summary of the Air District's fixed-site air monitoring network, and a long-term assessment of the network's effectiveness every five years. This section is also responsible for reviewing or designing studies to characterize local air quality and providing analyses to assist developing air quality improvement strategies. This section also provides technical support to community-led air quality measurement and data analysis efforts.

Justification of Change Request:

Activities

Analyze measurement data to improve understanding of regional and local-scale air quality for routine reports or in support of Air District programs and the public.

Evaluate regulatory ambient air monitoring network with respect to meeting Federal and State requirements or other Air District priorities, coordinate with US EPA on monitoring network modifications.

Develop or review internal and external monitoring plans and/or air quality reports, including for NOA and DTSC mitigation projects.

Provide technical support for community projects, including providing context to monitoring data and assisting community-based participatory research projects using air sensors.

Air District coordinator for the Bay Air Center.

Major Objectives	Delivery Date
Prepare Air Quality Data reports summarizing regional compliance with standards long-term trends, and community-level air quality assessments.	Ongoing
Prepare and submit Annual Air Monitoring Network Plan to EPA, CARB and the public.	Annually
Evaluate ambient monitoring network and seek EPA approval for changes as needed.	Ongoing
Complete exceptional event notifications or justification packages as needed, in coordination with CARB and EPA.	Ongoing
Oversight of Bay Air Center's technical support for community-led monitoring projects funded by CARB Community Air Grants	Ongoing
Complete Richmond-San Pablo AB 617 Monitoring Plan implementation by analyzing data, preparing reports, and working with the Monitoring Outreach Team to communicate insights to the public.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.69	4.19	5.15	0.96	22.9%
Personnel Expenditures						
Permanent Salaries	51100	533,826	634,652	796,906	162,254	25.6%
Overtime Salaries	51150		10,000	1,000	(9,000)	(90.0)%
Temporary Salaries	51200					
Payroll Taxes	51300	8,036	9,061	11,310	2,249	24.8%
Pension Benefits	51400	45,444	148,586	177,407	28,821	19.4%
FICA Replacement Benefits	51500	5,779	7,993	10,059	2,066	25.8%
Group Insurance Benefits	51600	70,574	72,880	88,332	15,452	21.2%
Employee Transportation Subsidy	51700	5,211	6,040	7,646	1,606	26.6%
Workers' Compensation	51800	1,725	2,188	2,660	472	21.6%
Other Post Employment Benefits	51850	42,942	38,046	46,266	8,220	21.6%
Board Stipends	51900					
Total Personnel Expenditures		713,537	929,446	1,141,586	212,140	22.8%
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300		10,000	20,000	10,000	100.0%
Repair & Maintenance (Equipment)	52400					
Communications	52500	582	500	1,500	1,000	200.0%
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300		108,000	550,000	442,000	409.3%
General Insurance	53400					
Shop & Field Supplies	53500	6,488				
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		1,500	20,000	18,500	1,233.3%
Stationery & Office Supplies	53900		2,500	2,500		
Books & Journals	54100		1,000	1,000		
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		7,070	123,500	595,000	471,500	381.8%
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out						
Total Expenditures		720,607	1,052,946	1,736,586	683,640	64.9%

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Special Revenue Fund
Program Narratives and Expenditure Details

SPECIAL REVENUE FUND

The Air District's Special Revenue also works to support the Air District's mission of improving air quality, protecting public health, and protecting the global climate. The Special Fund revenue is principally derived from state and federal agency grants (e.g., from the California Air Resources Board and US Environmental Protection Agency), Department of Motor Vehicle Registration fees, settlement agreements, environmental mitigation fees, bond-sales, and the Bay Area Clean Air Foundation.

The Air District uses monies from these revenue sources to fund a variety of programs and projects that complement its regulatory and enforcement actives: grant and incentive programs for public agencies businesses, community groups, and residents, community outreach and engagement efforts, air quality monitoring and analysis, commuter benefits and Spare the Air programs, mobile source and anti-idling enforcement activities, and others. Air District staff administrative costs related to the implementation of Air District sponsored projects and programs are mainly provided for by the revenue source. A list of the main sources of revenue is listed below and a description of the programs funded by these sources is found in the section that follows:

- Transportation Fund for Clean Air (TFCA)
- Mobile Source Incentive Fund (MSIF)
- Carl Moyer Program (CMP)
- Community Air Protection Program (CAPP)
- Volkswagen Environmental Mitigation Trust (VW Trust)
- Funding Agricultural Replacement Measures for Emission Reductions (FARMER)
- US Environmental Protection Agency
- California Air Resources Board
- CALTRANS/ Congestion Mitigation and Air Quality Improvement (CMAQ)
- Funding Agricultural Replacement Measures for Emission Reductions (FARMER)
- California Goods Movement I-Bond (CGMB)

Special Revenue Fund

Communications Office

The Communications Office coordinates all agency media outreach, Air District messaging, crisis communications, media relations as well as print, digital and social media outreach for the Air District. The Office provides media and public outreach about the Air District's programs, operations and emergency response.

The Office manages advertising and outreach for Spare the Air, the Employer Program, and the Commuter Benefits Program. The Office oversees the Air District and Spare the Air social media sites, strategies and programs. The Office maintains the Spare the Air website and related sites and the Spare the Air mobile apps. The Office represents the Air District at community events for Spare the Air throughout the region.

Office functions include production of publications and digital collateral for the general public and target audiences. This includes publishing newsletters, the annual report, videos and collateral materials. The Office also provides and oversees graphic design services, social media content creation, translation services and videography. The Office also provides Air District presentations and tours for international delegations, organizations and school groups.

Managing Division:

Communications Office

Contact Person:

Kristina Chu

Program Purpose:

The Spare the Air program encourages the public to reduce their driving, a major source of Bay Area air pollution, and promotes the use of remote work, public transit, biking, walking, carpooling, trip reduction and other behavior changes that reduce pollution from automobiles. The program provides outreach to employers/employees for the Spare the Air Employer and Commuter Benefits Programs. Employers are targeted specifically due to their significant influence on the commute behaviors of their employees.

Description of Program:

The Spare the Air program works with the public to reduce air pollution by promoting employer commute programs and making clean air choices including remote work, taking public transportation, using electric vehicles, ridesharing and trip linking; this program complements Program 305. Funds will be used for electronic notification systems, employer outreach, partnerships and Commuter Benefits Program outreach, as well as staff time associated with the Spare the Air programs and grass roots education.

Justification of Change Request:

Budget increase to cover costs of streamlining Spare the Air program, app re-design and website updates.

Activities

Prepare and issue media releases, respond to media inquiries and plan employer workshops and events.

Promote employer transportation programs to reduce the number of single occupancy vehicles commuting to work.

Support Resource Team activities, projects and promotions.

Manage and update program websites as well as social media sites such as Twitter, Pinterest and Facebook.

Provide public outreach at employer events throughout the Bay Area.

Notify the media and employers of Spare the Air Alerts through AirAlerts, press releases, websites, apps and social media sites.

Manage employer outreach & advertising campaign.

Provide outreach to employers, in concert with MTC, for the Commuter Benefits Program.

Conduct employer opinion surveys to evaluate Spare the Air program and measure behavior change.

Inform employees about commuter incentive programs and individual choices to reduce air pollution.

Provide overview of campaign to the Administrative Committee and Board of Directors.

Major Objectives	Delivery Date
Coordinate Air District presence at public events and employer events, including community events and fairs.	Ongoing
Develop video podcasts, video news releases / statements, displays and infographics for Employer Program and Commuter Benefits Program / events.	Ongoing
Add new visualization, app integration and other features to improve user experience on sparetheair.org website	Ongoing
Manage Spare the Air Employer Program.	Ongoing
Conduct employer workshops and develop employer outreach materials, webinars and website information for new employer commute incentives rule.	Ongoing
Support Air Quality Resource Teams.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		2.37	3.72	3.26	(0.46)	(12.37)
Personnel Expenditures						
Permanent Salaries	51100	256,530	436,960	418,044	(18,916)	(4.33)
Overtime Salaries	51150	10,371				
Temporary Salaries	51200					
Payroll Taxes	51300	3,940	6,191	5,901	(290)	(4.68)
Pension Benefits	51400	66,921	101,798	96,155	(5,643)	(5.54)
FICA Replacement Benefits	51500	2,839	6,984	6,368	(616)	(8.82)
Group Insurance Benefits	51600	34,631	66,144	61,344	(4,800)	(7.26)
Employee Transportation Subsidy	51700	2,564	5,277	4,840	(437)	(8.28)
Workers' Compensation	51800	830	1,911	1,684	(227)	(11.88)
Other Post Employment Benefits	51850	18,149	33,242	29,288	(3,954)	(11.89)
Board Stipends	51900					
Total Personnel Expenditures		396,775	658,507	623,624	(34,883)	(5.30)
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800		5,000	5,000		
Printing & Reproduction	52900	165	15,000	15,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	899,876	1,338,000	1,338,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		900,041	1,358,000	1,358,000		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		205,084	296,328	278,719	(17,609)	(5.94)
Total Expenditures		1,501,900	2,312,835	2,260,343	(52,492)	(2.27)

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Special Revenue Fund

Strategic Incentive Division

The Strategic Incentives Division administers grant programs to facilitate the execution of projects and programs focused primarily on the reduction of emissions from mobile sources in the Bay Area. The primary grant programs include the Transportation Fund for Clean Air (TFCA), the Carl Moyer Program (CMP), the Mobile Source Incentive Fund (MSIF), the Lower-Emission School Bus Program (LESBP), in addition to other miscellaneous grant programs. These programs support the implementation of transportation and mobile source measures, as well as other incentive-based initiatives that improve air quality in the region.

Managing Division:

Stragetic Incentives Division

Contact Person:

Alona Davis

Program Purpose:

Administration of the Carl Moyer Program (CMP) and other State funds, which provide grants to businesses and public agencies for projects that reduce emissions from primarily heavy-duty engines.

Description of Program:

The Air District has participated in the CMP, in cooperation with the California Air Resources Board (CARB), since the program began in 1999. The CMP provides grants to public and private entities to reduce emissions of oxides of nitrogen (NOx), reactive organic gases (ROG) and particulate matter (PM) from existing heavy-duty engines by either replacing or retrofitting them. Eligible projects include trucks, buses, agricultural equipment, marine vessels, locomotives, off-road construction and industrial equipment, and infrastructure that supports clean technologies. The program prioritizes projects that benefit the most impacted communities. Air District staff conducts outreach and solicits grant applications, evaluates grant applications according to established criteria, recommends allocation of the funding, prepares contracts with grantees, monitors progress in implementing funded projects, and reports on the use of funds.

This program is funded by State sources including the CMP, the Community Air Protection (CAP) Program, and the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program.

Justification of Change Request:

Increased expenditure to address the program administrative needs for managing increased revenue.

Activities

Develop policies and procedures for the administration of the CMP.
Conduct outreach to interested parties and provide application assistance.
Evaluate grant applications for eligibility with CMP guidelines.
Prepare grant award recommendations and coordinate the execution of funding agreements for the selected projects.
Monitor, inspect, and audit current and previously funded programs and projects to assure compliance with State and District guidelines, policies, and statutory and regulatory requirements.
Prepare and submit reports to CARB on the implementation of the CMP.
Prepare technical, financial, and staff reports.

Major Objectives	Delivery Date
Finalize policies and procedures for the new CMP funding cycle, consistent with CARB guidelines.	March 2023
Open a solicitation for the new CMP/FARMER/CAP funding cycle.	April 2023
Meet funding source disbursement and liquidation deadlines.	June 2023
Submit annual reports to CARB on the District's implementation of the CMP (annually) and CAP and FARMER (semi-annually).	Annually
Meet funding source requirements to fund projects benefitting priority areas.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		14.35	18.82	16.62	(2.20)	(11.7)
Personnel Expenditures						
Permanent Salaries	51100	1,266,634	2,271,087	2,172,379	(98,708)	(4.35)
Overtime Salaries	51150	665				
Temporary Salaries	51200					
Payroll Taxes	51300	18,868	32,272	30,677	(1,595)	(4.94)
Pension Benefits	51400	227,206	529,237	492,245	(36,992)	(6.99)
FICA Replacement Benefits	51500	13,495	35,867	32,486	(3,381)	(9.43)
Group Insurance Benefits	51600	165,597	353,206	290,841	(62,365)	(17.66)
Employee Transportation Subsidy	51700	12,145	27,104	24,692	(2,412)	(8.90)
Workers' Compensation	51800	4,084	9,816	8,591	(1,225)	(12.48)
Other Post Employment Benefits	51850	96,071	170,720	149,415	(21,305)	(12.48)
Board Stipends	51900					
Total Personnel Expenditures		1,804,765	3,429,309	3,201,326	(227,983)	(6.65)
Services & Supplies Expenditures						
Travel In-State	52200		12,000	12,500	500	4.17
Travel Out-of-State	52220		9,000	7,500	(1,500)	(16.67)
Training & Education	52300		10,000	22,000	12,000	120.00
Repair & Maintenance (Equipment)	52400					
Communications	52500			5,000	5,000	
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		2,000	3,000	1,000	50.00
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	67,460	285,477	400,000	114,523	40.12
General Insurance	53400					
Shop & Field Supplies	53500		2,000	2,000		
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		10,000	22,000	12,000	120.00
Stationery & Office Supplies	53900		600	1,000	400	66.67
Books & Journals	54100	36	200	500	300	150.00
Minor Office Equipment	54200			5,000	5,000	
Total Services & Supplies Expenditures		67,496	331,277	480,500	149,223	45.04
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out	70005	51,643				
Total Expenditures		1,923,904	3,760,586	3,681,826	(78,760)	(2.09)

Transportation Fund for Clean Air Administration (TFCA) 308

Managing Division:

Stragetic Incentives Division

Contact Person:

Minda Berbeco

Program Purpose:

Administer motor vehicle registration fee surcharge revenues to reduce on-road vehicle emissions.

Description of Program:

In 1991, the California State Legislature authorized the Air District to impose a $4 surcharge on motor vehicles registered within its jurisdiction to fund projects that reduce on-road motor vehicle emissions. The Air District allocates these funds to eligible projects through its Transportation Fund for Clean Air (TFCA) program and a portion of the funds collected are expended for administrative purposes. The statutory authority for the TFCA and requirements of the program are set forth in California Health and Safety Code Sections 44241 and 44242. Sixty percent of the funds are awarded directly by the Air District for eligible Air District programs (e.g., Spare the Air) and through the TFCA Regional Fund program. The remaining 40% are forwarded to the nine designated Bay Area county transportation agencies and distributed through the County Program Manager Fund program.

The TFCA provides grants to reduce emissions of criteria pollutants through trip reduction projects and clean-air vehicle-based projects.

Justification of Change Request:

Not applicable.

Activities

Prepare recommendations for updates to program policies for consideration by the Board of Directors; update program guidance and administrative operating procedures; and develop solicitation packages and conduct outreach.

Review and evaluate project applications to determine their eligibility, and prepare recommendations for award of eligible projects for approval by the Board of Directors.

Prepare contracts, amendments, and correspondence; review progress reports, inspect, and audit programs and projects to assure compliance with District policies and statutory requirements; process reimbursement requests; and ensure project files are complete and up to date.

Prepare technical, financial, and staff reports and attend meetings.

Major Objectives	Delivery Date
Open solicitations for FYE 2023 Regional Fund; conduct outreach, review applications, and obtain Board of Directors approval for eligible projects; and execute agreements with grantees.	Ongoing
Complete updates to the FYE 2024 County Program Manager policies for Board of Directors consideration and distribute guidance and application package to Program Managers	December 2022
Prepare FYE 2022 TFCA Report on Regional Fund Expenditures and Effectiveness.	December 2022
Conduct audit of TFCA funded projects and programs completed by 6/30/21	December 2022
Obtain Board of Director approval of proposed FYE 2024 expenditure reports and execute funding agreements with the nine County Program Managers.	June 2023

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.82	3.65	5.08	1.43	39.2
Personnel Expenditures						
Permanent Salaries	51100	521,879	443,393	710,934	267,541	60.34
Overtime Salaries	51150	1,044				
Temporary Salaries	51200	231				
Payroll Taxes	51300	8,165	6,319	10,099	3,780	59.82
Pension Benefits	51400	166,278	103,340	161,951	58,611	56.72
FICA Replacement Benefits	51500	5,972	6,959	9,926	2,967	42.64
Group Insurance Benefits	51600	72,668	64,698	95,568	30,870	47.71
Employee Transportation Subsidy	51700	5,414	5,259	7,545	2,286	43.47
Workers' Compensation	51800	1,688	1,905	2,625	720	37.80
Other Post Employment Benefits	51850	45,254	33,123	45,653	12,530	37.83
Board Stipends	51900					
Total Personnel Expenditures		828,593	664,996	1,044,301	379,305	57.04
Services & Supplies Expenditures						
Travel In-State	52200		22,000	8,000	(14,000)	(63.64)
Travel Out-of-State	52220		75,000	8,000	(67,000)	(89.33)
Training & Education	52300	5,000	16,500	11,000	(5,500)	(33.33)
Repair & Maintenance (Equipment)	52400					
Communications	52500	2,022	2,000	3,000	1,000	50.00
Building Maintenance	52600					
Utilities	52700					
Postage	52800	9				
Printing & Reproduction	52900	1,404	2,000	1,000	(1,000)	(50.00)
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	42,017	371,597	376,349	4,752	1.28
General Insurance	53400					
Shop & Field Supplies	53500		3,500	1,500	(2,000)	(57.14)
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	2,970	24,000	20,000	(4,000)	(16.67)
Stationery & Office Supplies	53900	550	3,000	1,000	(2,000)	(66.67)
Books & Journals	54100	40	440	440		
Minor Office Equipment	54200		400	5,000	4,600	1,150.00
Total Services & Supplies Expenditures		54,012	520,437	435,289	(85,148)	(16.36)
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out	70005	392,389	504,252	170,409	(333,843)	(66.21)
Total Expenditures		1,274,994	1,689,685	1,649,999	(39,686)	(2.35)

Mobile Source Incentive Fund (MSIF) 310

Managing Division:

Stragetic Incentives Division

Contact Person:

Minda Berbeco

Program Purpose:

Administer funding from motor vehicle surcharge revenues, authorized by AB 923, for emission reduction projects.

Description of Program:

Assembly Bill 923 (AB 923 - Firebaugh), enacted in 2004 (codified as Health and Safety Code Section 44225), authorized local air districts to increase their motor vehicle registration surcharge for motor vehicles within the Air District's jurisdiction up to an additional $2 per vehicle. The revenues from the additional $2 surcharge are deposited in the Air District's Mobile Source Incentive Fund (MSIF).

MSIF funds can be allocated to the following eligible projects and programs, according to established criteria: the Lower-Emission School Bus Program, a passenger vehicle retirement program, projects eligible for Carl Moyer Program funds, and eligible agricultural projects. Staff recommends funding allocations to eligible projects and programs for approval by the Board of Directors, monitors progress in implementing funded projects, reports on the use of the funds, and coordinates verification of requirements compliance. This program also includes assessment of mobile source and transportation technologies and programs in support of the grant-making function.

Justification of Change Request:

Increased expenditure to address the program administrative needs for updating databases and systems.

Activities
Recommend funding allocations to the Board of Directors.
Conduct outreach to interested parties and provide application assistance.
Evaluate grant applications for eligibility with applicable guidelines.
Conduct inspections of the baseline and funded project equipment.
Prepare grant award recommendations and coordinate the execution of funding agreements for the selected projects.
Administer and monitor projects that have been awarded grants.
Prepare and submit reports to the California Air Resources Board (CARB) on the expenditure of MSIF funds.
Monitor, inspect, and audit current and previously funded programs and projects to assure compliance with State and District guidelines, policies, and statutory and regulatory requirements.
Prepare technical, financial, and staff reports.

Major Objectives	Delivery Date
Report MSIF expenditures and project data to CARB.	August 2022
Obtain Board of Directors approval of project recommendations.	Ongoing
Manage updates to the grants management system.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.65	1.85	3.16	1.31	70.8
Personnel Expenditures						
Permanent Salaries	51100	354,603	245,063	407,980	162,917	66.48
Overtime Salaries	51150	60				
Temporary Salaries	51200	74				
Payroll Taxes	51300	5,300	3,493	5,767	2,274	65.10
Pension Benefits	51400	71,885	57,225	92,400	35,175	61.47
FICA Replacement Benefits	51500	3,817	3,525	6,173	2,648	75.12
Group Insurance Benefits	51600	46,858	33,887	55,946	22,059	65.10
Employee Transportation Subsidy	51700	3,439	2,664	4,692	2,028	76.13
Workers' Compensation	51800	1,144	965	1,632	667	69.12
Other Post Employment Benefits	51850	26,726	16,780	28,391	11,611	69.20
Board Stipends	51900					
Total Personnel Expenditures		513,906	363,602	602,981	239,379	65.84
Services & Supplies Expenditures						
Travel In-State	52200		8,000	8,000		
Travel Out-of-State	52220			2,500	2,500	
Training & Education	52300	725	5,000	23,500	18,500	370.00
Repair & Maintenance (Equipment)	52400					
Communications	52500			2,000	2,000	
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900		3,000	3,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	13,023	38,301	150,000	111,699	291.63
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		4,000	30,000	26,000	650.00
Stationery & Office Supplies	53900		500	800	300	60.00
Books & Journals	54100		200	200		
Minor Office Equipment	54200		1,000	5,000	4,000	400.00
Total Services & Supplies Expenditures		13,748	60,001	225,000	164,999	274.99
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		244,135	163,626	271,341	107,715	65.83
Total Expenditures		771,789	587,229	1,099,322	512,093	87.20

Vehicle Buy Back (MSIF) 312

Managing Division:

Stragetic Incentives Division

Contact Person:

Minda Berbeco

Program Purpose:

Accelerate the removal of high-emitting vehicles from the on-road motor vehicle fleet within the District's jurisdiction.

Description of Program:

The program removes high-emitting motor vehicles from the region's roadways by purchasing and scrapping eligible vehicles from registered owners on a voluntary basis.

Justification of Change Request:

No change.

Activities
Implement procurement process for vehicle scrapping services.
Oversee contractor's purchase and scrappage of vehicles.
Respond to inquiries regarding Vehicle Buy-Back Program.
Implement procurement process for direct mail campaign services.
Oversee contractor's direct mailings.
Acquire and update Department of Motor Vehicles (DMV) database used for direct mail annually.
Develop and update Vehicle Buy-Back outreach materials.
Conduct site visits of dismantling yards and dismantler offices.
Manage suppression list and update DMV database.
Review and approve scrapping contractor invoices.
Review and approve direct mail contractor invoices.

Major Objectives	Delivery Date
Implement the Vehicle Buy-Back program, monitor contractor performance, review/ pay program invoices.	Ongoing
Report program expenditures to the California Air Resources Board (CARB)	June 2023

Vehicle Buy Back (MSIF) 312

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.07	0.90	0.56	(0.34)	(37.8)
Personnel Expenditures						
Permanent Salaries	51100	3,126	85,994	66,261	(19,733)	(22.95)
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	48	1,211	933	(278)	(22.96)
Pension Benefits	51400	717	19,918	15,266	(4,652)	(23.36)
FICA Replacement Benefits	51500	31	1,715	1,095	(620)	(36.15)
Group Insurance Benefits	51600	394	14,048	11,765	(2,283)	(16.25)
Employee Transportation Subsidy	51700	28	1,296	832	(464)	(35.80)
Workers' Compensation	51800	10	469	289	(180)	(38.38)
Other Post Employment Benefits	51850	159	8,163	5,034	(3,129)	(38.33)
Board Stipends	51900					
Total Personnel Expenditures		4,513	132,814	101,475	(31,339)	(23.60)
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	3,363,092	7,200,000	7,200,000		
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		3,363,092	7,200,000	7,200,000		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		2,144	49,125	35,024	(14,101)	(28.70)
Total Expenditures		3,369,749	7,381,939	7,336,499	(45,440)	(0.62)

Miscellaneous Incentive Program (Other Grant) 316

Managing Division:

Stragetic Incentives Division

Contact Person:

Chengfeng Wang

Program Purpose:

Administer one-time pass through funding to implement emissions reductions projects

Description of Program:

This program is used to manage grant revenues the Air District receives from sources such as the Bay Area Clean Air Foundation, State of California, Federal government, and settlement agreements. Grant funding from these sources is used to administer "one-off" or single-cycle of funding for projects and programs that have a limited duration, e.g., 1 to 5 years.

These funding sources may also be used to augment and complement funding from other Air District sources of funding.

Justification of Change Request:

None.

Activities

Develop policies and guidelines, issue calls for projects, conduct workshops, attend meetings, and outreach to potential project sponsors.

Review, evaluate and rank project applications to determine their eligibility and award amount, and prepare associated project documents (contracts, letters, reports, and communications).

Prepare recommendations for award of eligible projects for approval by the Air District's Board of Directors.

Monitor, inspect, and audit funded programs and projects to assure compliance of applicable grant agreements, guidelines, policies, and statutory and regulatory requirements.

Review progress reports, process reimbursement requests, and ensure project files are complete and up to date.

Prepare technical, financial, and staff reports.

Major Objectives	Delivery Date
Meet all funding source requirements including project obligation/encumbrance and liquidation deadlines	Ongoing
Submit required reports to funding source agencies	Ongoing

Miscellaneous Incentive Program (Other Grant) 316

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.36	0.12		(0.12)	(100.0)
Personnel Expenditures						
Permanent Salaries	51100	44,556	13,731		(13,731)	(100.00)
Overtime Salaries	51150	2,665				
Temporary Salaries	51200					
Payroll Taxes	51300	724	194		(194)	(100.00)
Pension Benefits	51400	18,488	3,194		(3,194)	(100.00)
FICA Replacement Benefits	51500	543	233		(233)	(100.00)
Group Insurance Benefits	51600	6,546	2,580		(2,580)	(100.00)
Employee Transportation Subsidy	51700	495	176		(176)	(100.00)
Workers' Compensation	51800	144	64		(64)	(100.00)
Other Post Employment Benefits	51850	4,188	1,110		(1,110)	(100.00)
Board Stipends	51900					
Total Personnel Expenditures		78,349	21,282		(21,282)	(100.00)
Services & Supplies Expenditures						
Travel In-State	52200		6,300	6,300		
Travel Out-of-State	52220		6,300		(6,300)	(100.00)
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	43,137				
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		43,137	12,600	6,300	(6,300)	(50.00)
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		(41,923)				
Total Expenditures		79,563	33,882	6,300	(27,582)	(81.41)

Managing Division:

Stragetic Incentives Division

Contact Person:

Minda Berbeco

Program Purpose:

Administration of the Proposition 1B: Goods Movement Emission Reduction Program to reduce air pollution by replacing diesel equipment associated with goods movement activities.

Description of Program:

In 2007, the California State Legislature enacted Senate Bill 88 authorizing $1 billion in bond funding for projects to protect public health from emissions associated with goods movement activities along California trade corridors. The Proposition 1B: Goods Movement Emission Reduction Program is a partnership between the California Air Resources Board and local agencies and Air District administers this Program for the Bay Area.

The Program funds replacement of old diesel on- and off-road vehicles, equipment, and locomotives with near- and zero-emission technologies. The Program also provides funding for shorepower electrification project for ocean-going vessel at berth.

Air District staff conducts outreach and solicits grant applications, evaluates grant applications according to established criteria, recommends allocation of the funding, prepares contracts with grantees, monitors progress in implementing funded projects, and reports on the use of funds.

Justification of Change Request:

Not applicable.

Activities
Develop/update policies and procedures for the administration of the Goods Movement Bond Program (GMP).
Conduct outreach to interested parties and provide application assistance.
Evaluate grant applications for eligibility with GMP guidelines.
Conduct inspections of the baseline and funded project equipment.
Prepare grant award recommendations and coordinate the execution of funding agreements for the selected projects.
Administer and monitor projects that have been awarded GMP grants.
Prepare and submit reports to the California Air Resources Board (CARB) on the implementation of the GMP.
Monitor, inspect, and audit current and previously funded programs and projects to assure compliance with State and Air District guidelines, policies, and statutory and regulatory requirements.
Prepare technical, financial, and staff reports.

Major Objectives	Delivery Date
Meet all funding source requirements including project obligation/encumbrance and liquidation deadlines	Ongoing
Submit required reports to funding source agencies	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.88	0.94	1.11	0.17	18.1
Personnel Expenditures						
Permanent Salaries	51100	122,435	123,006	153,527	30,521	24.81
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	1,838	1,761	2,171	410	23.28
Pension Benefits	51400	14,513	28,713	34,970	6,257	21.79
FICA Replacement Benefits	51500	1,307	1,799	2,169	370	20.57
Group Insurance Benefits	51600	16,143	18,345	17,373	(972)	(5.30)
Employee Transportation Subsidy	51700	1,174	1,359	1,649	290	21.34
Workers' Compensation	51800	396	492	574	82	16.67
Other Post Employment Benefits	51850	8,693	8,562	9,978	1,416	16.54
Board Stipends	51900					
Total Personnel Expenditures		166,499	184,037	222,411	38,374	20.85
Services & Supplies Expenditures						
Travel In-State	52200		2,000	2,000		
Travel Out-of-State	52220					
Training & Education	52300		1,500	1,500		
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700	244				
Postage	52800					
Printing & Reproduction	52900	1,217	500	1,000	500	100.00
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	13,860	30,000	45,000	15,000	50.00
General Insurance	53400					
Shop & Field Supplies	53500		3,000	1,000	(2,000)	(66.67)
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800		1,500		(1,500)	(100.00)
Stationery & Office Supplies	53900	21	1,000		(1,000)	(100.00)
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		15,342	39,500	50,500	11,000	27.85
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		(165,030)				
Total Expenditures		16,811	223,537	272,911	49,374	22.09

Vehicle Mitigation (VW Trust) 324

Managing Division:

Stragetic Incentives Division

Contact Person:

Chengfeng Wang

Program Purpose:

The purpose of this program is to administer the Volkswagen Environmental Mitigation Trust funds to mitigate the lifetime excess oxides of nitrogen (NOx) emissions caused by VW's use of an illegal defeat device in the State of California.

Description of Program:

California Air Resources Board (CARB) is the designated Lead Agency acting on the State's behalf as beneficiary to implement California's $423 million in VW Trust funds for eligible project categories, including. On May 25, 2018, CARB approved the Volkswagen Environmental Mitigation Trust (VW Trust) Beneficiary Mitigation Plan and approved the selection of the Bay Area Air District to administer Trust funding on a statewide-basis for two of the five project categories: 1) zero-emission freight and marine (ZEFM), and 2) light-duty zero emission vehicle infrastructure (LDI).

The ZEFM program will award $70 to eligible zero-emission freight and marine projects, such as forklifts and port cargo handling equipment, airport ground support equipment, oceangoing vessel shore power, zero-emission ferry, tugboat, and towboat repowers. And the LDI program will award $10 to eligible light-duty electric vehicle charging and hydrogen fueling infrastructure projects.

Air District staff works with CARB and other air districts to update the Implementation Manual, issue project solicitations, evaluate project applications, recommend award for funding, execute contracts with grantees, monitor project progress, and report the use of funds, conduct public outreach, maintain a Program website and a grants management system.

Justification of Change Request:

Activities
Develop program solicitation package and open the solicitation.
Conduct outreach, workgroup meetings, webinars.
Maintain grants management system.
Maintain program website and program hotline.
Evaluate applications and prepare recommendations for awards.
Contract with selected grantees.
Inspect and monitor projects.
Review project invoices and process payments.
Prepare and submit funding disbursement requests and reports to CARB.
Update Program Implementation Manual.

Major Objectives	Delivery Date
Award the remaining of	Ongoing
Maintain grants management system, program website and hotline	Ongoing
Evaluate project applications, recommend award for funding, execute contracts with grantees, monitor project progress, review reimbursement request and process payments	Ongoing
Submit required reports and funding disbursement requests to CARB	Ongoing

Vehicle Mitigation (VW Trust) 324

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		3.18	3.44	3.50	0.06	1.7
Personnel Expenditures						
Permanent Salaries	51100	366,698	450,222	469,816	19,594	4.35
Overtime Salaries	51150	448				
Temporary Salaries	51200					
Payroll Taxes	51300	5,442	6,449	6,645	196	3.04
Pension Benefits	51400	69,681	105,070	105,969	899	0.86
FICA Replacement Benefits	51500	3,901	6,658	6,840	182	2.73
Group Insurance Benefits	51600	47,977	66,071	63,488	(2,583)	(3.91)
Employee Transportation Subsidy	51700	3,508	5,031	5,199	168	3.34
Workers' Compensation	51800	1,186	1,822	1,809	(13)	(0.71)
Other Post Employment Benefits	51850	27,397	31,692	31,461	(231)	(0.73)
Board Stipends	51900					
Total Personnel Expenditures		526,238	673,015	691,227	18,212	2.71
Services & Supplies Expenditures						
Travel In-State	52200		27,600	13,000	(14,600)	(52.90)
Travel Out-of-State	52220					
Training & Education	52300			2,000	2,000	
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	81,973	147,400	100,000	(47,400)	(32.16)
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		81,973	175,000	115,000	(60,000)	(34.29)
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		272,001	302,857	311,052	8,195	2.71
Total Expenditures		880,212	1,150,872	1,117,279	(33,593)	(2.92)

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Special Revenue Fund

Technology Implementation Office (TIO)

The Technology Implementation Office (TIO) mission is to advance emerging, cost-effective solutions to achieve greenhouse gas emissions reductions for the transportation and industrial source sectors. TIO will connect climate technologies and customers by providing financial incentives (through grants and loans) as well as technical and matchmaking support. Climate technology areas include zero emissions vehicles and infrastructure, zero emissions energy storage and backup systems, composting, and waste-to-energy projects (co-digestion, waste treatment, anaerobic digestion, combined heat and power). By supporting the scale-up of climate technologies, TIO can help achieve state and regional greenhouse gas emissions targets, reduce emissions in impacted communities, while also making technologies cost-effective even in regions without strong climate policies.

Light Duty Electric Vehicle Program (Other Grant) 317

Managing Division:

Technology Implementation Office

Contact Person:

Anthony Fournier

Program Purpose:

Administer funding, outreach, and planning to accelerate the adoption of light-duty (passenger) electric vehicles (EVs) and EV infrastructure in the Bay Area.

Description of Program:

The Air District's 2017 Clean Air Plan established a goal of 90% of Bay Area vehicles being zero emissions by 2050. To support this goal, this program incentives publicly available charging infrastructure, vehicle fleets, and electric vehicles for low-income consumers. This program includes the Charge! program for EV infrastructure, Clean Fleets for light-duty vehicle fleets, and the Clean Cars For All program for income-eligible residents in impacted communities. To complement and increase utilization of the incentives programs, this program also includes outreach, regional coordination, and planning to remove potential barriers and accelerate EV deployment throughout the Bay Area.

Justification of Change Request:

Grant funding from the California Air Resources Board and Federal Highway Administration to expand incentives for income-eligible consumers (ARB) and support outreach, partnerships, and planning (FHWA).

Activities

Administer grant programs, including updating policies and guidelines, conducting outreach, preparing program documents and communications, processing reimbursement requests, tracking project status, and conducting audits, for Charge!, Clean Fleets, and Clean Cars For All.

Organize and participate in workgroups and events to increase awareness about EVs, support deployment, sharing best practices, and regional coordination.

Conduct analyses and planning to inform Air District strategy and programs.

Prepare technical, financial, and staff reports.

Major Objectives	Delivery Date
Complete awards for the Clean Cars For All program, including outreach to eligible communities and residents.	Ongoing
Complete cycle of Charge! Program on online grant management system.	Ongoing
Develop implementation tools based on Bay Area EV Acceleration Plan	Ongoing
Organize quarterly Bay Area EV Coordinating Council meetings	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		6.73	7.56	7.85	0.29	3.8
Personnel Expenditures						
Permanent Salaries	51100	701,969	895,463	1,001,684	106,221	11.86
Overtime Salaries	51150	4,728	2,000	5,000	3,000	150.00
Temporary Salaries	51200	46,814	15,000	15,000		
Payroll Taxes	51300	10,901	12,697	14,282	1,585	12.48
Pension Benefits	51400	143,469	208,582	227,454	18,872	9.05
FICA Replacement Benefits	51500	7,812	14,407	15,347	940	6.52
Group Insurance Benefits	51600	95,669	144,145	134,829	(9,316)	(6.46)
Employee Transportation Subsidy	51700	7,044	10,886	11,665	779	7.16
Workers' Compensation	51800	2,270	3,943	4,059	116	2.94
Other Post Employment Benefits	51850	54,915	68,571	70,584	2,013	2.94
Board Stipends	51900					
Total Personnel Expenditures		1,075,591	1,375,694	1,499,904	124,210	9.03
Services & Supplies Expenditures						
Travel In-State	52200		7,500	7,500		
Travel Out-of-State	52220		4,500	4,500		
Training & Education	52300	350	8,500	6,000	(2,500)	(29.41)
Repair & Maintenance (Equipment)	52400					
Communications	52500	2,175	2,000	2,500	500	25.00
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	366,180	650,000	800,000	150,000	23.08
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800	839	3,000	3,000		
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		369,544	675,500	823,500	148,000	21.91
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		289,725				
Total Expenditures		1,734,860	2,051,194	2,323,404	272,210	13.27

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Special Revenue Fund

Compliance and Enforcement

The Compliance & Enforcement Division ensures the Air District will realize the emission reductions achieved by the air quality regulations adopted by the Board of Directors, and permit conditions issued by the Executive Officer/APCO. Compliance with Air District, state, and federal regulations is achieved through a robust Compliance Assurance and Enforcement Program that includes comprehensive inspections and investigations and a complementary Compliance Assistance Program that supports compliance objectives of the Division by maintaining operations and assisting industry with air quality regulations and requirements. The Division works closely with local and state regulatory agencies, regulated industry and members of the community to provide the highest level of service to protect air quality and public health. The Division implements Air District strategies and enforces regulations that pertain to stationary sources, and has some mobile source enforcement authority in collaboration with the California Air Resources Board. Division priorities include conducting Title V and Synthetic Minor facility inspections, locating unpermitted sources of operations, resolving violations at facilities with ongoing non-compliance and responding to and investigating air quality complaints. Staff work collaboratively across Divisions to achieve the Air District's mission and apply the appropriate level of enforcement proportional to the level of non-compliance. The Division vigorously pursues violators who show a disregard for the law and well-being of the public and ensures corrective actions and measures to resolve violations are taken.

The Compliance and Enforcement Division continues to focus on activities that support the Air District's commitment to achieve clean air to protect public health and the environment as follows:

The Compliance Assurance and Enforcement Programs focus on announced and unannounced inspections of air pollution sources to ensure compliance. Targeted strategies are used to guide inspections to identify non-compliance and reduce excess emissions. Sources include: Title V and Synthetic Minors facilities, petroleum refineries, chemical plants, dry cleaners, gasoline dispensing facilities, autobody shops, asbestos renovations and demolitions, agricultural and prescribed burning, and other permitted sources. Other facets of the program requiring Division resources include investigations of Title V deviation reporting, Reportable Compliance Activities, and other inspections pertaining to the Portable Equipment Registration Program (PERP), Asbestos projects (renovations, demolitions and naturally occurring asbestos – NOA), compliance determinations for State Air Toxics Control Measures (ATCMs) and Federal Maximum Available Control Technology (MACTs) for air toxics. Air pollution complaints and incident response and investigations are a high priority in the Division that aim to address and resolve air quality concerns of local communities.

The Compliance Assistance Program develops outreach materials, advisories, policies and procedures and guidance information and implements compliance strategies that complement a wide range of enforcement efforts. The program aims to enhance industry and public understanding of compliance and enforcement programs and regulatory requirements, address compliance concerns and assist in resolving air quality violations. Key programs and projects in Compliance Assistance and Operations include the Air District's Wood Smoke Reduction Program, Air Quality Complaint Program, AB617 Community Health Protection Program in West Oakland and Richmond/San Pablo, Wildfire Air Quality Response Program, Commuter Benefits, Title V, Open Burning, Flare Monitoring, Naturally Occurring Asbestos, Inspector Training, Green Business Certifications, Variance and Hearing Board Activities, and many others involving state, federal and Air District regulations and requirements. The program also maintains online web information, the dispatch operating system and the compliance assistance and complaint phone lines which are all integral interfaces with the public.

Enhanced Mobile Source Inspections (TFCA) 318

Managing Division:

Compliance & Enforcement Division

Contact Person:

Tracy Lee & Edward Giacometti

Program Purpose:

Conduct enhanced inspection patrols to report smoking vehicles and to promote repair or retirement of these vehicles for the protection of public health. Conduct enhanced inspections to enforce drayage truck and related truck/mobile source regulations at, and adjacent to, the Port of Oakland.

Description of Program:

The enhanced mobile source inspection program is conducted to reduce particulate matter (PM) emissions throughout the Bay Area, and of PM and other emissions specifically at, and adjacent to, the Port of Oakland. Enhanced enforcement patrols are conducted for smoking vehicles. All Air District inspectors patrol for smoking vehicles on the road, between performing inspections and answering complaints. Smoking vehicles are reported to Air District dispatchers; owner information is extracted from Department of Motor Vehicles (DMV) records. Letters are sent to owners to request that they repair or retire the respective vehicles; compliance assistance materials are included. Enhanced enforcement of the State drayage truck regulation (DTR) and related truck/mobile source regulations is conducted at, and adjacent to, the Port of Oakland. Targeted enforcement includes ensuring compliance with required upgrades and modifications to engine model year 2010 and newer for drayage trucks. Enhanced patrols and enforcement are conducted to ensure that illegal dray-off activities and excess idling are not performed. Compliance checks of mobile source equipment and vehicles are conducted to verify adherence to State regulations. Compliance assistance materials are developed; outreach is conducted with truckers and other mobile source operators regarding regulation(s) requirements, compliance deadlines and the availability of Air District grants and incentives.

Justification of Change Request:

None.

Activities

Smoking Vehicles: Conduct inspection patrols for smoking vehicles. Vehicle owners are identified using DMV records. Notification letters are sent to vehicle owners to inform them of the vehicle's excess emissions and to request that they repair the vehicle or contact assistance programs to retire the vehicle.

Port Trucks Compliance Assurance: Conduct enhanced mobile source inspections at and adjacent to the Port of Oakland for compliance with the State DTR and related truck/mobile source regulations. Additional inspections are conducted and targeted at ensuring upgrades and modifications to engine model year 2010 and newer trucks in compliance with the requirements of Phase 1 and Phase 2 of the California Air Resources Board's DTR. Additional focused inspections are conducted for compliance with dray-off provisions of the regulation and to ensure that non-compliant trucks do not enter the Port. Air District staff also verify compliance with State mobile source regulations pursuant to the Air District's Mobile Source Compliance Plan.

Port Trucks Enforcement: Conduct investigations and inspections, issue and process Notice of Violations for trucks and other mobile sources found in non-compliance.

Port Trucks Compliance Assistance: Develop fact sheets, posters and other outreach materials to provide to Port operators and truckers on regulatory requirements, upcoming compliance dates and the availability of Air District grants. Develop compliance assistance materials for related mobile source regulatory requirements. Provide compliance assistance during inspections and following enforcement actions; provide bilingual assistance where needed. Identify and translate compliance assistance materials. Participate in Trucker Workgroup meetings at the Port, as needed.

Major Objectives	Delivery Date
Not applicable.	Ongoing

		Audited Program Actuals 2021	Approved Program Budget 2022	Proposed Program Budget 2023	FTE/Dollar Change $	Percent Change %
Number of Positions (FTE)						
Personnel Expenditures						
Permanent Salaries	51100					
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300					
Pension Benefits	51400					
FICA Replacement Benefits	51500					
Group Insurance Benefits	51600					
Employee Transportation Subsidy	51700					
Workers' Compensation	51800					
Other Post Employment Benefits	51850					
Board Stipends	51900					
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500	2,514	3,000	3,000		
Building Maintenance	52600					
Utilities	52700					
Postage	52800		4,000	4,000		
Printing & Reproduction	52900	7,645	8,000	8,000		
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300					
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		10,159	15,000	15,000		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		335				
Total Expenditures		10,494	15,000	15,000		

Commuter Benefits Program (TFCA) 319

Managing Division:

Compliance & Enforcement Division

Contact Person:

Tracy Lee & Edward Giacometti

Program Purpose:

Implementation of the Commuter Benefits Program, per the requirements of Air District Regulation 14-1.

Description of Program:

As part of the implementation of the Commuter Benefits Program, staff plans to continue performing education, outreach, monitoring and tracking of approximately 10,000 Bay Area employers subject to the Program. Enforcement actions will be taken as appropriate.

Justification of Change Request:

None.

Activities
Perform outreach to affected employers.
Continue education campaign for affected employers.
Perform tracking and monitoring of program.
Facilitate data reporting and storage for affected employers.
Coordinate activities with Metropolitan Transportation Commission's 511.org.
Prepare and implement a compliance and enforcement system.

Major Objectives	Delivery Date
Conduct outreach and education.	Ongoing
Prepare and implement a compliance and enforcement system.	Ongoing

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.37				
Personnel Expenditures						
Permanent Salaries	51100	41,885				
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	654				
Pension Benefits	51400	10,066				
FICA Replacement Benefits	51500	486				
Group Insurance Benefits	51600	5,878				
Employee Transportation Subsidy	51700	442				
Workers' Compensation	51800	135				
Other Post Employment Benefits	51850	4,686				
Board Stipends	51900					
Total Personnel Expenditures		64,232				
Services & Supplies Expenditures						
Travel In-State	52200		6,000	6,000		
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800		5,000	5,000		
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300					
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures			11,000	11,000		
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Total Capital Expenditures						
Transfer In/Out		32,866				
Total Expenditures		97,098	11,000	11,000		

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Special Revenue Fund

Community Engagement

The Community Engagement Office is the Air District's main point of contact with the public and engages the public in Air District programs and policies. Community Engagement staff collaborate with diverse communities and other partners to advance public health, equity, and environmental justice in the Bay Area. To that end, staff work with community members and other partners to increase community awareness and transparency of air quality issues, build capacity, implement community-identified solutions, and increase opportunities for the public to participate in Air District decision-making. Community Engagement staff particularly seek opportunities for communities that have been historically excluded, discriminated against, under-represented, or under-resourced to participate and shape Air District decisions.

Community Engagement - Special Project (Other Grant) 325

Managing Division:

Community Engagement Division

Contact Person:

Anna Lee

Program Purpose:

This program will implement a Supplemental Environmental Project (SEP) funded by the California Air Resources Board (CARB). The goal of the program is to provide high efficiency indoor air filtration systems in some of the most impacted communities in the Bay Area.

Description of Program:

In 2018 the Air District applied for a Supplemental Environmental Project grant from CARB and received $2,000,000 to provide air filtration systems at sensitive receptor facilities in disproportionately impacted and disadvantaged communities in the Bay Area. The program will focus on providing filtration to public elementary schools in priority communities identified through AB 617. The Air District will manage a contract to support installation and maintenance of air filtration systems.

Justification of Change Request:

Program not continued

Activities

Major Objectives	Delivery Date

Community Engagement - Special Project (Other Grant) 325

		Audited Program Actuals	Approved Program Budget	Proposed Program Budget	FTE/Dollar Change	Percent Change
		2021	2022	2023	$	%
Number of Positions (FTE)		0.61				
Personnel Expenditures						
Permanent Salaries	51100	73,469				
Overtime Salaries	51150					
Temporary Salaries	51200					
Payroll Taxes	51300	1,115				
Pension Benefits	51400	14,485				
FICA Replacement Benefits	51500	808				
Group Insurance Benefits	51600	9,908				
Employee Transportation Subsidy	51700	728				
Workers' Compensation	51800	238				
Other Post Employment Benefits	51850	5,921				
Board Stipends	51900					
Total Personnel Expenditures		106,672				
Services & Supplies Expenditures						
Travel In-State	52200					
Travel Out-of-State	52220					
Training & Education	52300					
Repair & Maintenance (Equipment)	52400					
Communications	52500					
Building Maintenance	52600					
Utilities	52700					
Postage	52800					
Printing & Reproduction	52900					
Equipment Rental	53100					
Rents & Leases	53200					
Professional Services & Contracts	53300	(16,297)				
General Insurance	53400					
Shop & Field Supplies	53500					
Laboratory Supplies	53600					
Gasoline & Variable Fuel	53700					
Computer Hardware & Software	53800					
Stationery & Office Supplies	53900					
Books & Journals	54100					
Minor Office Equipment	54200					
Total Services & Supplies Expenditures		(16,297)				
Capital Expenditures						
Leasehold Improvements	60100					
Building & Grounds	60105					
Office Equipment	60110					
Computer & Network Equipment	60115					
Motorized Equipment	60120					
Lab & Monitoring Equipment	60125					
Communications Equipment	60130					
General Equipment	60135					
PM 2.5 Equipment	60140					
Biotech Equipment	60145					
Total Capital Expenditures						
Transfer In/Out		13,329				
Total Expenditures		103,704				

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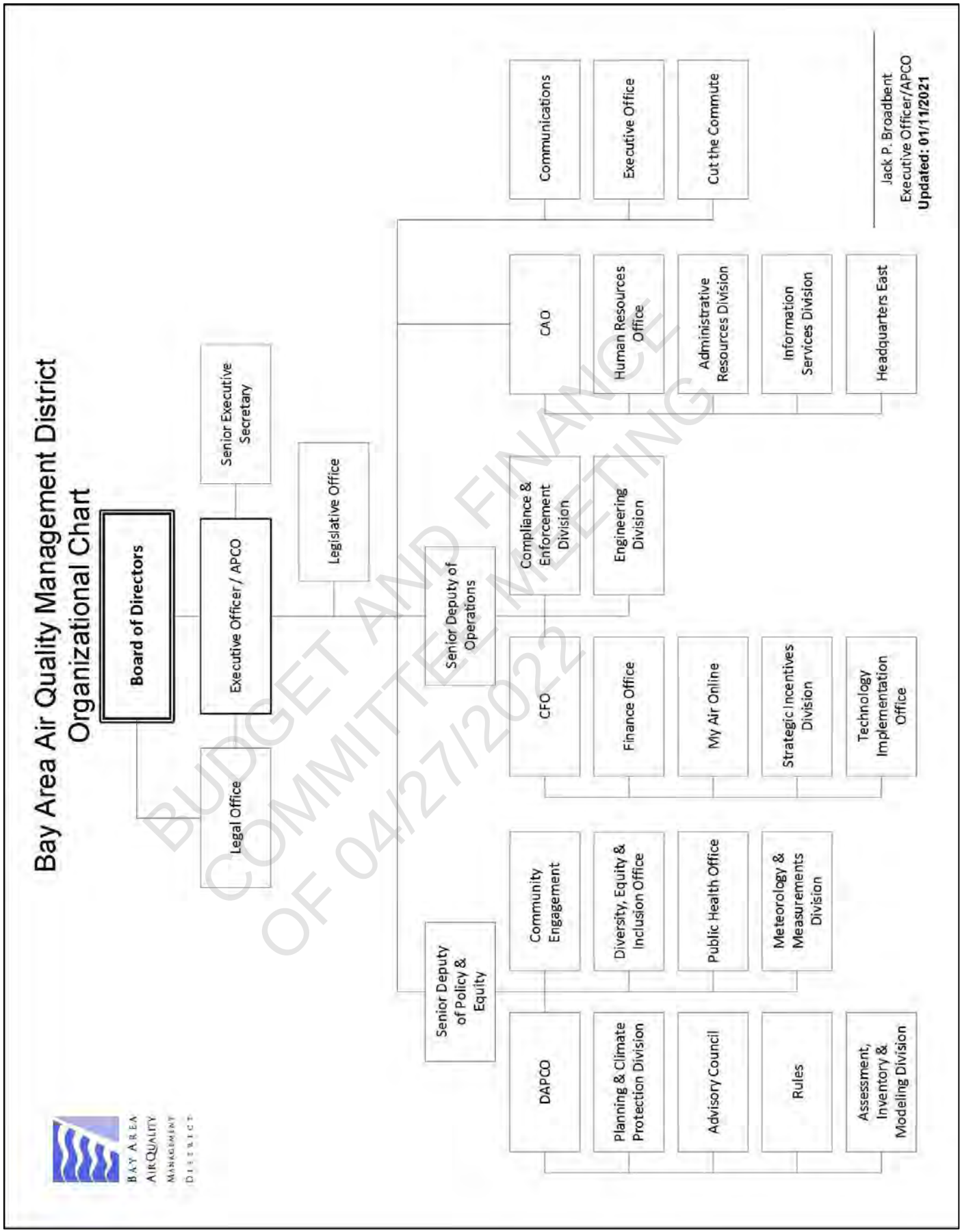
Appendices

APPENDIX A



APPENDIX B

SELECTED LEGAL REQUIREMENTS

The following highlights selected major legal requirements regarding the use and collection of funds that are considered when developing and reviewing the Air District's budget:

1. Federal law requires that the Air District collect fees from affected facilities to fund the implementation of Title V of the Federal Clean Air Act (42 U.S.C. Section 7401, et seq. and implementing regulations in 40 CFR Parts 60 and 70). Implementation of Title V includes all activities involved in the review, issuance, and enforcement of Title V Permits. "Affected facilities" include all major stationary sources as defined in the Federal Clean Air Act.
2. Revenue received by the Air District pursuant to *California Health and Safety Code* Section 44220, et seq. (Transportation Fund for Clean Air (TFCA)) may only be used to fund approved projects, and certain expenditures incurred for administration of the TFCA program, including audits. The expenditures for the administration of TFCA grants are contained in the Transportation Fund for Clean Air Administration.
3. Permit fee revenue may only be used to fund activities associated with the permitting, monitoring, and enforcement of regulations affecting permitted stationary sources. Past audits of District activities have shown that the Air District's programs meet this test.
4. Funding from several sources, including grants, is restricted, and thus may only be used to fund certain activities. Air District accounts are periodically audited to ensure that such funds are used appropriately.
5. *California Health and Safety Code* Section 40131(a)(3) requires that two public hearings be held regarding the adoption of the District budget. The first hearing is for the exclusive purpose of reviewing the budget and providing the public with the opportunity to comment upon the proposed budget. This hearing must be separate from the hearing at which the District adopts its budget. The adoption hearing may not be held any sooner than two weeks after the first hearing. Thirty (30) days public notice must be given before the first public hearing.
6. The Maintenance of Effort (MOE) level refers to a Federal EPA Section 105 grant condition. This condition states that, "No agency shall receive any grant under this section during any fiscal year when its expenditures of non-Federal funds for recurrent expenditures for air pollution control programs will be less than its expenditures were for such programs during the preceding fiscal year unless the Administrator, after notice and opportunity for public hearing, determines that a reduction in expenditures is attributable to a non-selective reduction in the expenditures in the programs of all Executive branch agencies of the applicable unit of Government." Depending on the expenditures reported on the Federal Status Report (FSR) at the conclusion of the federal FYE 2022, receipt of the Federal grant funds for FYE 2023 could be delayed or jeopardized because of this MOE requirement.

APPENDIX C

GENERAL FUND RESERVES AND LIABILITIES

FUND BALANCE	6/30/2021 Audited	6/30/2022 Projected	6/30/2023 Projected
DESIGNATED: *			
AB617 Staffing Contingency		6,000,000	7,679,746
Community Benefits		3,000,000	3,000,000
Economic Contingency	21,294,922	23,303,025	25,500,741
Litigation Contingency			3,000,000
Pandemic Contingency		7,000,000	4,000,000
Pension Liability	4,000,000	4,000,000	4,000,000
Richmond Improvements (HQE)			5,000,000
Technology Implementation Office	3,350,000	3,350,000	3,350,000
Wildfire Mitigation	1,000,000	2,000,000	2,000,000
	$29,644,922	**$48,653,025**	**$57,530,487**
UNDESIGNATED	34,385,565	14,877,462	1,330,000
TOTAL DESIGNATED & UNDESIGNATED	**$64,030,487**	**$63,530,487**	**$58,860,487**
TOTAL FUND BALANCE	**$64,030,487**	**$63,530,487**	**$58,860,487**

* Designated Fund Balances are subject to change at Board's discretion.

ESTIMATED OUTSTANDING LIABILITIES	
CalPERS Pension Retirement	101,305,734
Other Post-Employment Benefits	-
Certificate of Participation Notes	21,173,770
TOTAL ESTIMATED OUTSTANDING LIABILITIES	**$122,479,504**

APPENDIX C

GENERAL FUND RESERVES AND LIABILITIES

APPENDIX C depicts the actual unrestricted funds at the end of FY 2021, as well as the projected amount for FY 2022 and FY 2023. For FY 2022, a recommendation of $0.5 million is to continue building improvements for the Air District's Richmond Office. For FY 2023, a recommendation of $4.7 million transfer from General Fund reserves; of which $3.7 million will go towards funding the James Carey Smith grants program and $1.0 million for information technology improvements and build-out of space for Meteorology and Measurement staff at the Richmond Office. To remain fiscally prudent, the Air District established an economic contingency reserve policy (greater than 20% of General Fund operating expense) to ensure the stability of services for a period of time and the ability to set aside fund for anticipated projects and future obligations. Over the years, staff recommends reserve designations to be set aside for a specific purpose. The following is a brief description summarizing designated categories as shown in the table on the previous page. Any designated and undesignated funds is subject to change at Board's discretion.

- AB617 Staffing Contingency established in FY 2022 to allow staffing continuity for the AB617 program.
- Community Benefits established in FY 2022 to provide community benefits.
- Economic Contingency established in FY 2008 at the request of the Board for unplanned expenditures and/or unanticipated loss in revenues. In FY 2016, the Board approved a 20% reserve policy as a funding target.
- Litigation Contingency established in FY 2023 to address potential litigations.
- Pandemic Contingency established in FY 2022 to address potential operating revenue shortfall due to the COVID-19 pandemic.
- Pension Liability established in FY 2018 to reduce future rate increases to pension benefits over time.
- Richmond Improvements (HDE) established in FY 2023 to continue office space improvements.
- Technology Implementation Office established in FY 2019 to fund projects using a revolving loan arrangement to leverage funding.
- Wildfire Mitigation established in FY 2022 to fund the wildfire air quality response program.
- Undesignated is any remaining reserves not designated. These funds can be designated at any time.

Appendix C also includes a list of the Air District's Outstanding Liabilities:

- Pension Retirement – The Air District provides a retirement pension benefit plan through California Public Employee Retirement System (CalPERS). As of most recent valuation of the plan, that Air District's unfunded liability for the plan was $101.3 million.
- Other Post-Employment Benefits – The Air District provides continuation of medical, dental, vision and life insurance coverage to its retired employees through California Employers Retirement Benefit Trust (CERBT). As of the 2021 valuation of the plan, that Air District's has no funded unfunded liability, and the plan is fully funded.
- Certificate of Participation Notes (COP) – The Air District issued COPs to finance its headquarters at 375 Beale. As of June 2021, the estimated principal and interest outstanding were $21.2 million.

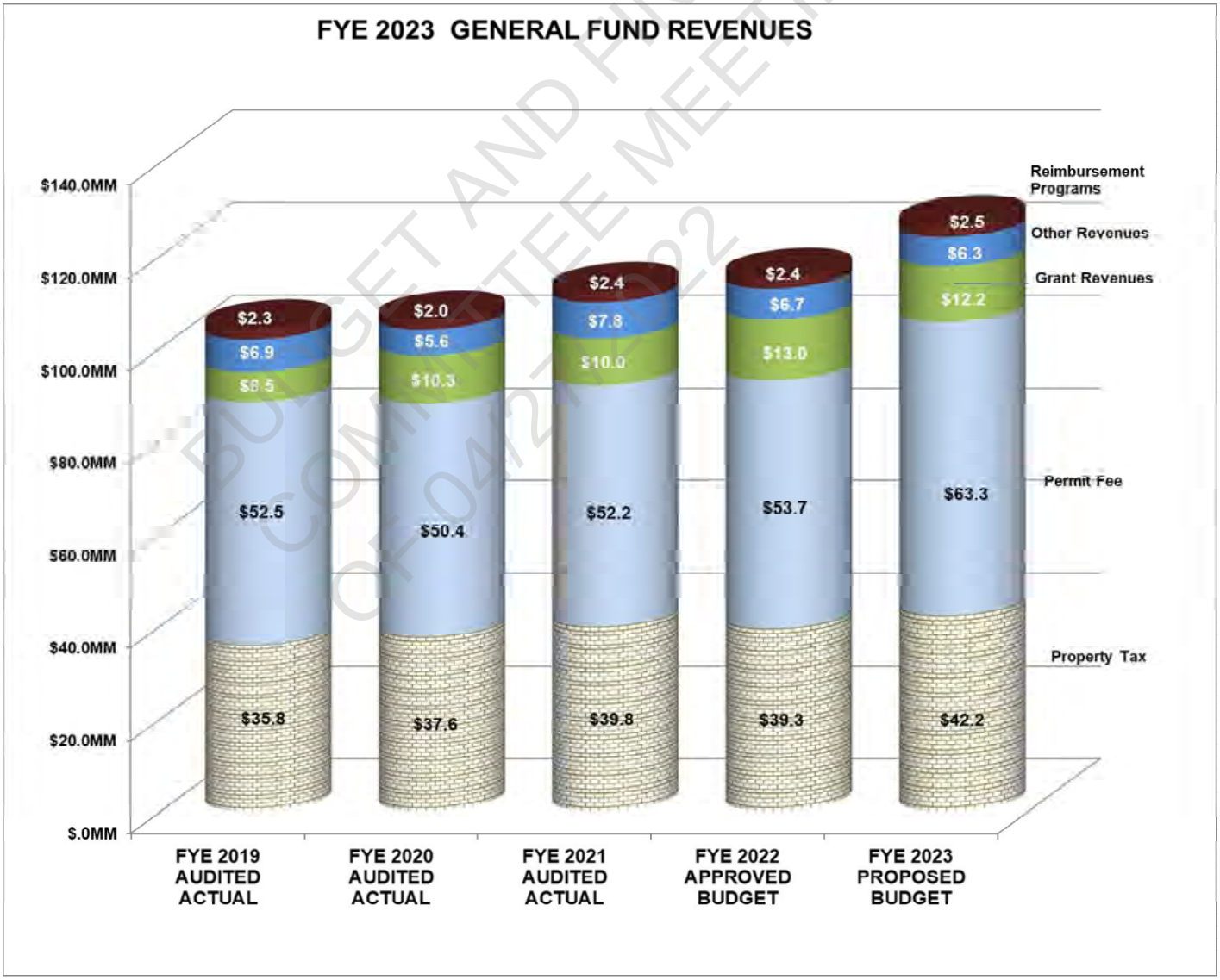
APPENDIX D

Figure 1

General Fund Revenue Trends

Figure 1 below graphically displays the trends in the sources of actual revenues used to fund actual expenditures each year from FYE 2019 through FYE 2021 along with the approved and proposed budget for FYE 2022 and FYE 2023, respectively.

As seen from Figure 1, permit fees are the Air District's largest source of revenue. Actual permit revenues fluctuate from FYE 2019 through FYE 2021 because of certain fees being billed based on economic activities and the proposed fee increases to each individual fee schedule. In FYE 2023 projected permit revenues are expected to increase due to the proposed recommendation to increase the Air District's existing fee schedules, as well as a new fee for overburdened communities. Actual county revenues maintained an increasing trend over the past three years because of increased property valuation due to higher real estate prices in the Bay Area. This revenue source is expected to continue to increase in FYE 2023. Other General Fund sources of revenue have experienced small fluctuations over the years, with a small decrease in FYE 2023 in grant funding.

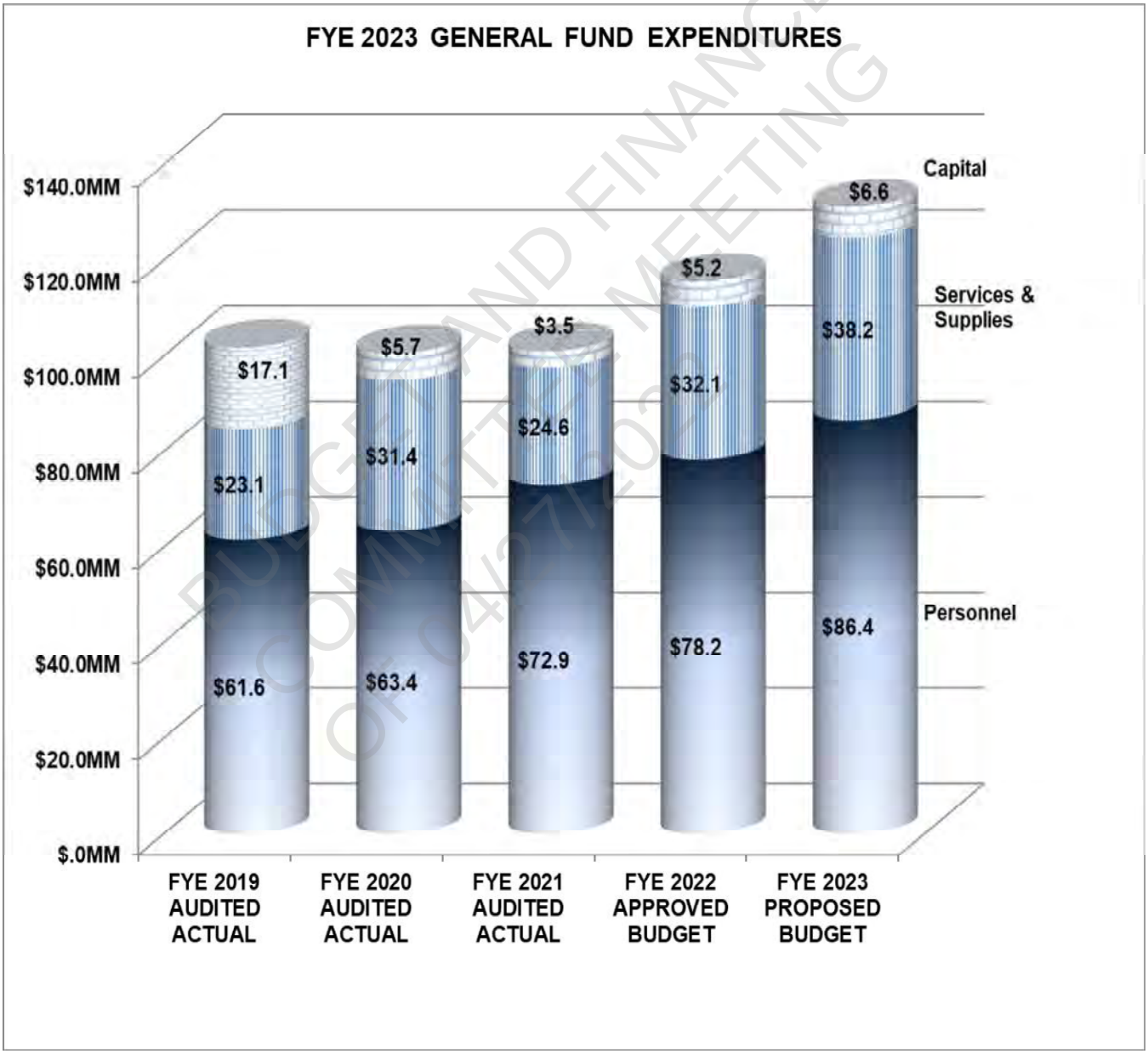


APPENDIX E

Figure 2

General Fund Expenditure Trends

Below Figure 2 shows the trends in actual expenditures from FYE 2019 through FYE 2021 along with the approved and proposed expenditure budgets for FYE 2022 and FYE 2023, respectively. From FYE 2019 through FYE 2023, the total General Fund has risen at an average rate of 6.7% per year from $101.8 million to $131.2 million due to increased Personnel Costs, Services, and Capital Programs expenditures. The FYE 2023 General Fund Proposed Budget shows a projected $15 million increase in expenditures over FYE 2022. This increase is mainly due to additional positions, capital expenditures, community grants, and services and supplies increased in FYE 2023.



APPENDIX F

General Fund 5 Year Projection

	FY 2021 Actuals	FY 2022 Budget	FY 2023 Projected	FY 2024 Projected	FY 2025 Projected	FY 2026 Projected
REVENUES						
Property Tax	$39,778,793	$39,335,284	$42,197,160	$43,781,609	$45,426,332	$47,133,648
Permits/Fees	$52,164,262	$53,678,690	$63,259,929	$66,323,263	$69,536,108	$72,905,805
Grant Revenues	$4,789,235	$6,394,112	$5,706,173	$5,753,236	$5,800,769	$5,848,777
AB 617 Funding	$7,536,969	$9,000,000	$9,000,000	$8,000,000	$8,000,000	$8,000,000
Other Revenues	$7,825,991	$6,745,848	$6,273,876	$6,361,378	$6,450,600	$6,541,574
	$112,095,249	$115,153,934	$126,437,138	$130,219,485	$135,213,809	$140,429,804
Transfer from Special Funds	$1,296,699	$1,361,189	$1,066,545	$1,087,876	$1,109,633	$1,131,826
Use of /(Transfer to) Fund Balance	$(11,729,493)	$500,000	$ 4,670,000	$ 2,241,292	$ 1,213,479	$ (1,493,963)
TOTAL REVENUES	**$101,662,456**	**$117,015,123**	**$132,173,683**	**$133,548,652**	**$137,536,922**	**$140,067,667**
EXPENDITURES						
Personnel & Benefits (net Pension/OPEB)	$56,496,107	$59,173,076	$66,327,235	$68,901,500	$71,495,457	$74,190,571
Retirement Pension (Pension)	$9,891,480	$12,296,429	$13,121,880	$17,755,000	$17,650,000	$15,970,000
Other Post Employment Benefits (OPEB)	$6,554,447	$6,724,299	$6,970,619	$3,700,000	$3,860,000	$3,990,000
Services and Supplies	$25,218,516	$33,633,861	$39,191,792	$36,826,866	$38,038,873	$39,294,653
Capital Expenditures	$3,501,905	$5,187,458	$6,562,177	$6,365,286	$6,492,592	$6,622,443
	$101,662,455	$117,015,123	$132,173,703	$133,548,652	$137,536,922	$140,067,667
TOTAL EXPENDITURES	**$101,662,455**	**$117,015,123**	**$132,173,703**	**$133,548,652**	**$137,536,922**	**$140,067,667**

GENERAL FUND RESERVES	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Beginning	$53,834,547	$64,030,487	$63,530,487	$58,860,487	$56,619,195	$55,405,716
(Use of) /Transfer to Fund Balance	$ 10,195,940	($500,000)	($4,670,000)	($2,241,292)	($1,213,479)	$1,493,963
Ending General Fund Reserves	**$64,030,487**	**$63,530,487**	**$58,860,487**	**$56,619,195**	**$55,405,716**	**$56,899,679**
20% Minimum Reserve Policy	**$21,294,922**	**$23,303,025**	**$25,500,741**	**$26,709,730**	**$27,507,384**	**$28,013,533**

APPENDIX F

Figure 3 and Budget Assumptions

Revenue Assumptions

a. **Property Tax** shows increases across the Bay Area much higher than the 2% average increase given the rising real estate prices in the housing markets. The five-year forecast assumes revenues will increase for year 2023; thereafter, only a 3-4% inflationary growth in years 2024 through 2026.
b. **Permit Fee** revenues are expected to increase by approximately 17% in year 2023 as the Air District increase fees to recover more of its permit related costs and implement a new fee for overburdened communities. In year 2024 through 2026, the annual forecasted average increase is approximately 4-5%. The Air District's Cost Recovery policy, which allows the Air District to increase its fee schedule to recover costs for permit related activities. The current cost recovery level of 84% remains stable in year 2023 as the proposed budget includes higher fee increases to all its eligible regulation fee schedule, as well as a new fee for overburdened communities. These increases are expected to cover proposed staffing increases as the Air District continues to address staffing needs for core programs associated with permit related activities. Projections suggest cost recovery attainment of 85% level during the five-year forecast, however, these projections could change based on the results of the management audit and cost recovery study recommendations.
c. **Grant Revenues** are expected to drop slightly in 2023 to reflect adjustment of one-time grant funding and remains stable through 2026.
d. **Assembly Bill 617** funding of $9.0 million from the State continues for year 2023 and drops to $8.0 million through year 2026 as future funding is expected to decrease.
e. **Other Revenues** mainly account for penalties, State subvention, and interest income. These revenues are expected to remain stable through year 2026.

Expenditure Assumptions

a. **Personnel** costs are projected to increase for the five-year period with projected annual cost of living adjustment, a slight increase in health premiums, and the funding and filling of 403 of the 445 authorized positions being funded by the General Fund, remaining 42 positions are funded from Special Revenue Funds. An additional 20 positions are projected in year 2023 to address growing demands on core programs; taking staffing levels of 445 to 465 positions is anticipated for the next 5 years. The projection assumes a 6% vacancy rate in 2023, declining by 3% in year 2024 remains stable at 3% through year 2026.
b. **Retirement Pension** costs are rising due to recent discount rate reduction by CalPERS and escalating unfunded liability payments. The forecast assumes implementation of the Air District's approved policy to make discretionary payments to CalPERS to reduce the unfunded actuarial liability (UAL).
c. **Other Post-Employment Benefits (OPEB)** for retiree medical benefits are projected to reach 90% funding level by year 2024. After that, the $4.0 million in discretionary funding will shift towards the CalPERS Pension Plan to reduce the UAL.
d. **Services and Supplies** overall costs are projected to increase in year 2023, assuming only an inflationary increase of approximately 2-4% for the five-year forecast.
e. **Capital Expenditures** assumes ongoing capital equipment and one-time funding in FYE 2023 to pay for continued office improvement to Headquarters East in Richmond, equipment purchases and information technology improvements, etc. FYE 2024-2026 assumes normal capital equipment replacement only with an inflationary increase.

General Fund Reserves are used to fund one-time costs, and to cover temporary revenue shortfalls. The Air District plan to use approximately $4.7 million in reserves for FYE 2023 for community grant, continue capital improvements to the Richmond Office building and information technology improvements. The forecast projects use of reserves in year 2024 and 2025 to cover the temporary revenue shortfall. Based on current assumptions, reserves are expected to stay above the minimum policy level through year 2026 due to a healthy reserve balance. Approximately $57 million in reserves have been designated. Please see Appendix C for a detail list of proposed designations.

APPENDIX G

Definitions

AB 434 (Assembly Bill 434) – This enacted bill resulted in *California Health and Safety Code* Section 44241 which authorizes the District to levy a fee on motor vehicles registered in the District. The revenue must be used to fund specified programs aimed at the reduction of air pollution from motor vehicles. The bill allows the District to allocate not more than five percent (5%) of the fees distributed for administrative costs. See TFCA (Transportation Fund for Clean Air).

AB 617 (Assembly Bill 617) This enacted bill requires the state board to develop a uniform statewide system of annually reporting of emissions of criteria air pollutants and toxic air contaminants for use by certain categories of stationary sources.

AB 923 (Assembly Bill 923) – This enacted bill allows an additional $2 surcharge on Motor Vehicle Registration fees for MSIF (Mobile Source Incentive Fund).

AHM (Acutely Hazardous Material) – Those materials that have been defined as such by either State or Federal regulations as being hazardous to human health.

AIRS (Aerometric Information Retrieval System) – Computerized information system as delineated by the EPA (Environmental Protection Agency).

APCO – **Air Pollution Control Officer** – Appointed by the Board of Directors.

Appropriation – A legal authorization to incur obligations and to make expenditures for specific purposes.

Association of Bay Area Governments (ABAG) – Regional agency covering the nine counties of the Bay Area, responsible for population projections, various services for local agencies, and co-lead agency for federal air quality planning.

A&WMA (Air & Waste Management Association) – The international nonprofit organization of regulatory, business, academic and research communities for air and waste management professionals.

BACT (Best Available Control Technology) – The lowest achievable emission rate to be applied to new and modified stationary sources pursuant to the District's New Source Review permitting program.

Board – Board of Directors and also Hearing Board. The Board of Directors is the governing body of the District. The Hearing Board is appointed by the Board of Directors. (See Programs 121 and 122).

California Clean Air Act 1988 – Statutory scheme to reduce air pollution from stationary and mobile sources as set forth in *California Health and Safety Code* Section 39600 et seq.

Capital Expenditures – An amount spent to acquire land, building, equipment, vehicles etc. in order to increase capacity or efficiency by the District for more than 1 year. Such purchases are capitalized or depreciated over the useful land, except for land.

Carl Moyer Program – Provides grants to public and private entities to reduce emissions of oxides of nitrogen, reactive organic gases and particulate matter from existing heavy-duty engines by either replacing or retrofitting them.

CAPCOA (California Air Pollution Control Officers Association) – Organization comprised of local air pollution control officials; human resource and fiscal staff are also members.

CARB or ARB (California Air Resources Board) – The State agency responsible for setting California Ambient Air Quality Standards (CAAQS) and motor vehicle emission standards, and for overseeing implementation of the California Clean Air Act.

CEC (California Energy Commission) – The state agency responsible for energy policy and planning.

CEMS – (Continuous Emissions Monitoring Systems) – Technology that allows the District to measure certain emissions on a continuous basis.

CEQA (California Environmental Quality Act) – State law that requires public agencies to analyze environmental impacts of proposed projects and plans. (*California Public Resources* Code Section 21000 et seq.)

CFC (Chlorofluorocarbon) – Any of a group of compounds that contain carbon, chlorine, fluorine and sometimes hydrogen and are used as refrigerants, cleaning solvents, and aerosol propellants and in the manufacture of plastic foams.

Clean Air Act Amendments of 1990 – Revisions to the Federal legislation governing air quality planning and control programs to meet National ambient air quality standards.

CMA (Congestion Management Agency) – Countywide agency responsible for preparing and implementing congestion management programs.

CMAQ – (Congestion Mitigation and Air Quality) - The District receives funding under this grant to fund the Spare the Air campaign.

Contractual Services – Services rendered to a government by private firms, individuals, or other governmental agencies.

COLA (Cost of Living Adjustment) – An adjustment to salaries based on the increased cost of living as defined by the percent change in the U.S. Department of Labor's Consumer Price Index.

DAPCO (Deputy Air Pollution Control Officer) – Deputy Officer to the APCO.

Environmental Justice – The fair treatment of people of all races and incomes with respect to development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no person or group of people should shoulder a disproportionate share of negative environmental and economic impacts resulting from the execution of environmental programs.

EPA (Environmental Protection Agency) – Federal agency that oversees air, water and waste management. An assistance grant is provided to various agencies in their efforts to reduce air pollution.

EPA 103 Grant – Provides funding for all aspects of operating the $PM_{2.5}$ fine particulate monitoring program as well as BioWatch, the National Air Toxic Trends Study (NATTS) Program and other supplemental study programs awarded by the EPA.

EPA 105 Grant – Grant pursuant to federal Clean Air Act Section 105.

Fiscal Year – A twelve-month period designated as the operating year for accounting and budgeting purposes in an organization; July 1 through June 30 is the fiscal year for the District.

FICA (Federal Insurance Corporation Act) Replacement Benefits – In 1981, District employees elected to terminate participation in Social Security. FICA costs listed in the budget reflect the replacement benefit premiums paid in lieu of Social Security.

Fixed Assets – Assets of long-term character that are intended to continue to be held or used, such as land, buildings, machinery, furniture and other equipment.

FTE (Full-time Equivalent Position) – A position converted to the decimal equivalent of a full-time position based on 2,080 hours of work per year.

Fund – A fiscal entity with revenues and expenditures that are segregated for the purpose of carrying out a specific purpose or activity.

Fund Reserves – Designated – That portion of the fund reserve designated by the governing body to indicate tentative plans for financial resource utilization in a future period**.**

Fund Reserves – Reserved – That portion of the fund reserve obligated by the issuance of purchase orders or contracts (encumbrances), or otherwise obligated and unavailable to meet the District's operating expenditures.

Fund Reserves – Undesignated – That portion of the unreserved fund reserve that represents the accumulated surplus which, as specified in the *California Government Code*, is restricted to the following uses: to meet cash requirements before the proceeds from revenues are available, to meet emergency expenditures, and at the end of each fiscal year to meet current year operating or subsequent year budget deficits.

Fund Reserves – The equity accounts for the governmental fund types.

Group Insurance Benefits – benefits provided to BAAQMD employees, including medical, dental, vision, and life insurance as well as State Disability Insurance, Section 125 cafeteria plan, Long Term Care and Long Term Disability, Section 457 deferred compensation plan, and COBRA program.

IRIS (Integrated Reporting Information System) – The name of the District's database conversion project.

MACT (Maximum Achievable Control Technology) – EPA standards mandated by the 1990 amendments to the Federal Clean Air Act for control of toxic air contaminants.

Metropolitan Transportation Commission (MTC) – Bay Area regional agency responsible for transportation planning, financing and coordination; co-lead agency for Federal air quality planning.

MSIF (Mobile Source Incentive Fund) – The Air District's grant program for allocating revenues from an additional motor vehicle registration fee surcharge for implementation of eligible projects.

NOV (Notice of Violation) – A written citation informing a facility, or individual, that it has violated a specific air quality regulation or rule.

OVA (Organic Vapor Analyzer) – Hand-held analyzer used to detect organic vapor leaks from valves and other chemical and refinery equipment.

PERP (Portable Equipment Registration Program) – a program established by CARB allowing the operation of portable equipment in any air district throughout the state without individual local district permits.

PERS (Public Employees Retirement System) – The retirement system contracted by the District to provide retirement benefits to employees

Program Budget – A budget that allocates financial resources to functions or activities of government, rather than to specific types of expenditure, or to specific departments.

PSM (Process Safety Management) – Federal OSHA regulation that requires industrial safety audits.

Request for Proposals (RFP) – A document requesting bids to provide specified services or supplies.

RMPP (Risk Management and Prevention Plan) – State Program that the District monitors to prevent accidental releases of hazardous materials.

SIP (State Implementation Plan) – Bay Area portion of California plan to attain and maintain national ambient air quality standards.

State Subvention Revenue – Pursuant to Part 2, Chapter 5 of the *California Health and Safety Code*, the California Air Resources Board must subvene and distribute funds to Districts engaged in the reduction of air contaminants. The distribution is based on a per-capita basis of population contained in the District.

T-BACT (Toxic Best Available Control Technology) – The lowest achievable emission rate for toxic air contaminants at new or modified stationary sources.

TCM (Transportation Control Measure) – A strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions.

TFCA (Transportation Fund for Clean Air) – The District's grant program for allocating revenues from a motor vehicle registration fee surcharge to public agencies for implementation of eligible projects that reduce motor vehicle emissions.

UNIX – A computer operating system.

UTM – A coordinate system for geographical locations.

Vehicle Buy Back – The District's sponsored incentive program for the scrapping of 1985 and older models funded under TFCA. The program will pay eligible owners $650 to contract with a specific auto dismantler to have their vehicle dismantled.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Carole Groom and Members
of the Budget and Finance Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 27, 2022

Re: Third Quarter Financial Report - Fiscal Year Ending (FYE) 2022

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

None.

DISCUSSION

Staff will present an update on the Air District's financial results for the third quarter of the 2021-2022 Fiscal Year.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Stephanie Osaze
Reviewed by: Jeff McKay

ATTACHMENTS:

1. Third Quarter Financial Report FYE 2022

Attachment A: Financial Summary

The following information summarizes the financial results of the 3rd quarter of the fiscal year ending 2022.

GENERAL FUND: STATEMENT OF REVENUES – Comparison of Prior Year Quarter Actual and Current Year Budget to Actual

REVENUE TYPE	3rd QTR FY 2021	3rd QTR FY 2022	FY 2022 - % of BUDGETED REVENUE
County Receipts	$22,631,738	$23,074,260	59%
Permit Fee Receipts	$35,297,532	$33,864,929	85%
Title V Permit Fees	$4,797,828	$6,156,708	98%
Asbestos Fees	$3,046,389	$3,170,213	79%
Toxic Inventory Fees	$1,269,361	$1,184,867	162%
Community Health Impact	$0	$1,136,154	124%
Criteria Pollutant Toxic	$0	$981,619	76%
Penalties and Settlements	$1,518,623	$4,265,511	155%
Interest Income	$500,669	$436,609	27%
Total Revenue	**$69,062,141**	**$74,270,869**	**77%**

GENERAL FUND: STATEMENT OF EXPENDITURES - Comparison of Prior Year Quarter Actual and Current Year Budget to Actual

EXPENDITURE TYPE	3rd QTR FY 2021	3rd QTR FY 2022	FY 2022 - % of BUDGETED EXPENDITURES
Personnel - Salaries*	$36,149,108	$38,232,802	69%
Personnel - Benefits*	$18,539,288	$23,964,193	79%
Operational Services / Supplies	$17,415,016	$18,722,346	58%
Capital Outlay	$3,022,554	$2,186,648	42%
Total Expenditures	**$75,125,967**	**$83,105,989**	**68%**

* Consolidated (includes Special Funds)

CASH INVESTMENTS IN COUNTY TREASURY – Account Balances as of Third Quarter

CASH/INVESTMENTS	3rd QTR FY 2021	3rd QTR FY 2022
General Fund	$87,973,981	$99,319,031
TFCA	$121,729,525	$125,249,984
MSIF	$50,774,585	$55,217,042
Carl Moyer	$83,819,333	$68,843,706
CA Goods Movement	$21,132,412	$21,325,610
AQ Projects	$1,604,829	$3,244,845
Vehicles Mitigation	$7,647,530	$23,582,385
Total	**$374,682,195**	**$396,782,602**

FUND BALANCES	6/30/2020 Audited	6/30/2021 Projected	6/30/2022 Projected
DESIGNATED: *			
Community Benefits			$3,000,000
Economic Contingency	$20,082,966	$21,294,922	$23,303,025
Pension Liability	$3,000,000	$4,000,000	$4,000,000
Technology Implementation Office	$3,350,000	$3,350,000	$3,350,000
Wildfire Mitigation	$1,000,000	$1,000,000	$2,000,000
AB617 Staffing Contingency			$6,000,000
Pandemic Contingency			$7,000,000
Total Designated Reserves	**$27,432,966**	**$29,644,922**	**$48,653,025**
Undesignated Fund Balance	$26,401,581	$34,385,565	$14,877,462
TOTAL DESIGNATED & UNDESIGNATED	**$53,834,547**	**$64,030,487**	**$63,530,487**
TOTAL FUND BALANCE	**$53,834,547**	**$64,030,487**	**$63,530,487**
* Designated Fund Balances are subject to change at Board's discretion.			
OUTSTANDING LIABILITIES			
CalPERS Pension Retirement			$101,305,734
Certificate of Participation Notes			$21,173,770
TOTAL OUTSTANDING LIABILITIES			**$122,479,504**

VENDOR PAYMENTS

In accordance with provisions of the Administrative Code, Division II Fiscal Policies and Procedures - Section 4 Purchasing Procedures: 4.3 Contract Limitations, the staff is required to present recurring payments for routine business needs such as utilities, licenses, office supplies and the like, more than, or accumulating to more than $100,000 for the fiscal year. In addition, this report includes all of the vendors receiving payments in excess of $100,000 under contracts that have not been previously reviewed by the Board. In addition, staff will report on vendors that undertook work for the Air District on several projects that individuals were less than $100,000, but cumulatively exceed $100,000.

Below is a list of vendors with cumulative payments made through the Third quarter of 2021-22 fiscal year that exceeded $100,000 and meets the reporting criteria noted above. All expenditures have been appropriately budgeted as a part of the overall Air District budget for
The fiscal Year 2021-22.

	VENDOR NAME	AMOUNT PAID (July 2021 - March 2022)	Explanation
1	Alliant Insurance Services	$730,435	Various Business Insurance Policies
2	BAAQMD Employee Association	$159,184	Employee Union Dues
3	Bay Area Headquarters Authority	$2,250,353	Shared Services & Common Areas
4	Benefits Coordinators Corp.	$862,204	Life Insurance Plan & LTD Insurance
5	CA Public Employee Retirement System (Heath)	$6,575,363	Health Insurance Plan
6	CA Public Employee Retirement System (Retirement)	$5,515,096	Retirement Benefits & 457 Supplemental Plan
7	CAPCOA	$619,325	Pass through EPA grants
8	Ceridian Corp	$124,361	Payroll Processing Services
9	Comcast Cable Communications	$134,609	Internet data services
10	Cubic Transportation Systems	$347,531	Clipper Transit Subsidy
11	Denovo Ventures, LLC	$142,570	Financial application JD Edward services
12	Enterprise Fleet Services	$450,846	Fleet Leasing and Maintenance services
13	Pacific Gas & Electric	$135,256	Utility services
14	EPlus Technology	$164,565	Cisco computer network equipment warranty
15	P&A Administrative Services	$235,803	Flexible Spending & Cobra Benefit Services
16	Pacific Gas & Electric	$135,256	Utility services
17	Preferred Benefit Insurance AD	$480,550	Dental Insurance Plan
18	Robert Half, Inc.	$470,308	Temporary Staffing Services
19	Sloan Sakai Yeung & Wong LLP	$202,744	Human Resources Consulting Services
20	Thermo Environmental Instrument	$104,623	Equipment purchase and maintenance
21	True North Research	$118,800	Survey and Analysis Services
22	Verizon Wireless	$157,544	Cell phone services
23	Wang Brothers Investment LLC	$384,749	Richmond Site Lease

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Carole Groom and Members
of the Budget and Finance Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 27, 2022

Re: Proposed Amendments to Air District Regulation 3: Fees

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Staff develops recommended amendments to the Air District's fee regulation as part of the budget preparation process. On March 7, 2012, the Board of Directors adopted a Cost Recovery Policy for fee-based activity that established a goal of increasing fee revenue sufficient to achieve at least 85 percent recovery of regulatory program costs. Staff will provide two options for fee schedule increase strategies as well as proposals for other fees.

DISCUSSION

This is a follow-up to the March 23, 2022 Budget and Committee meeting presentation by incorporating committee member feedback.
Two options will be provided to the Board for consideration on fee schedule increases:

- With a blended fee increase of 10.9%, Option 1 proposes a 15% fee increase for fee and fee schedules not deemed fully cost recovered (a rate above 110%). Fees that are administrative in nature would also be increased by 15 percent.
    - The proposed FYE2023 budget is based on this scenario.
    - The "blended fee increase of 10.9%" is estimated to increase the budget by $3.9 million compared to the "blended fee increase of 6.4%"
- With a blended fee increase of 6.4%, Option 2 follows the 2018 Cost Recovery and Containment recommendations for fee increases based on the cost recovery rate. Fees that are administrative in nature would also be increased by 4.1 percent.

The impacted fee schedules are:
Schedule A: Hearing Board Fees

Schedule B: Combustion of Fuels
Schedule Da: Gasoline Dispensing Facilities – Risk Assessment Fee only for existing facilities
Schedule E: Solvent Evaporating Sources
Schedule F: Misc. Sources (e.g., storage silos, abrasive blasting)
Schedule G-1: Misc. Sources (e.g., glass manufacturing, soil remediation)
Schedule G-2: Misc. Sources (e.g., asphaltic concrete, furnaces)
Schedule G-3: Misc. Sources (e.g., metal melting, cracking units)
Schedule G-4: Misc. Sources (e.g., cement kilns, sulfur removal & coking units)
Schedule H: Semiconductor and Related Operations
Schedule K: Solid Waste Disposal Sites Schedule M: Major Stationary Source Fees
Schedule N: Toxic Inventory Fees
Schedule P: Major Facility Review Fees
Schedule S: Naturally Occurring Asbestos Operations
Schedule T: Greenhouse Gas Fees
Schedule V: Open Burning
Schedule W: Petroleum Refining Emissions Tracking Fees

The following additional amendments are proposed:

- Fees to implement the amendments to Regulation 2 (Permits), Rules 1 (General Requirements) and 5 (New Source Review for Toxic Air Contaminants), which were adopted by the board in December 2021 and take effect on July 1, 2022, are proposed as follows:
    - Revise Section 3-302, Fees for New and Modified Sources to add a new fee for a permit application for projects in an Overburdened Community (OBC).
    - Revise Section 3-318, to have the public notice fees apply to applicable permit applications in an OBC.
    - Revise Section 3-327, Permit to Operate, Renewal Fees to add a new fee for each permitted facility located in an OBC would be charged during permit renewal.

    - Staff proposes an OBC renewal fee of 15 percent of the permit renewal fees for all facilities with a Permit to Operate. The maximum OBC renewal fee will be capped at $250,000 per year per facility. This fee would impact approximately 2,400 facilities.
    - The OBC renewal fee is estimated to increase the budget by $2.4 million.

- Add a new fee in Schedule S: Naturally Occurring Asbestos Operations for a geologic evaluation which may be required before an Asbestos Dust Mitigation Plan (ADMP) application is submitted. The geologic evaluation is currently being done without any cost recovery.

Staff will provide the committee with additional details regarding the draft fee amendments, overall cost recovery and the proposed percent average fee increase for the upcoming fiscal year.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The proposed fee amendments would increase fee schedule revenue in FYE 2023 by an estimated $6.5 million for the "blended fee increase of 10.9%" option or $3.1 million for the "blended fee increase of 6.4%" option. The proposed new OBC fees would add an estimated $2.4 million to the budget.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by:	Fred Tanaka
Reviewed by:	Pamela J. Leong, Damian Breen, Jeff McKay

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Carole Groom and Members of the Budget and Finance Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 27, 2022

Re: 2022 Cost Recovery and Containment Study Update

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

On July 12, 2021, the Air District entered into a contract with the Matrix Consulting Group to evaluate the Air District's Cost Recovery and Containment practices and policy for fee-based activity. This study included evaluating the concept of reaching 100% cost recovery from fee-based programs. Khushboo Hussain is Matrix's project manager.

The current Cost Recovery Policy was adopted by the Board of Directors on March 7, 2022. The policy established goals of increasing fee revenue sufficient to achieve at least 85 percent recovery of regulatory program costs. The previous study was initiated in 2017 and the report was finalized in February 2018.

DISCUSSION

The Air District provides a variety of fee-related services including but not limited to: issuing and maintaining permits, processing asbestos and open burn notifications, verifying and enforcing applicable requirements, maintaining the point-source emissions inventory, and developing and updating regulations that apply to permitted and registered facilities. Periodically, the Air District contracts an outside review of its cost recovery and containment methods, policies and procedures.

Matrix began work on the study in August 2021 when they collected data and conducted interviews with Air District staff, industry representatives and community members. Khushboo Hussain will present an overview of the study, potential options of achieving 100% overall cost recovery and other key recommendations.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Fred Tanaka
Reviewed by: Pamela J. Leong, Damian Breen, Jeff McKay

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Carole Groom and Members of the Budget and Finance Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 27, 2022

Re: California Employers' Pension Prefunding Trust (CEPPT) Participation and Recommended Adoption

RECOMMENDED ACTION

Recommend the Board of Directors to adopt a resolution to authorize the Air District to participate in CEPPT; delegate the Executive Officer and Chief Financial Officer with authority to request disbursements; and, authorize the Executive Officer to execute the CEPPT legal and administrative documents on behalf of the Air District.

BACKGROUND

The Air District provides a defined-benefit pension for its retirees through the California Public Employees Retirement System (CalPERS). Funding for CalPERS pensions relies on three sources: employee contributions, employer contributions, and investment returns (which vary per the performance of financial markets). In 2012, the Government Accounting Standards Board (GASB) issued Statement No. 68, Accounting and Financial Reporting for Pensions. GASB 68 requires that governmental employers that sponsor defined benefit plans (i.e. CalPERS) must recognize a net pension liability (also known as an unfunded actuarial accrued liability (UAAL)) on their balance sheet. This is the difference between the Air District's total pension liability and actual plan assets. Audited financial statements for Fiscal Year Ending (FYE) 2021 show an unfunded pension liability of $100 million. A recent ruling received from the Internal Revenue Service established that public agencies could create a separate trust to "pre-fund" its unfunded pension liability. This would provide the Air District with an option to invest funds directly in a Section 115 Trust. Like the California Employers Retirement Benefit Trust (CERBT) for Other Post-Employment Benefits (OPEB), also administered by CalPERS, CEPPT participation will allow the Air District to realize similar investment earnings.

DISCUSSION

As part of the FYE 2019 Budget process, the Board directed staff to conduct independent analysis of strategies and consider options for pre-funding pension liability. The Air District hired an independent consulting firm, NHA Advisors, to identify investment options and identify

strategies to pay down the long-term liabilities for the Other Post-Employment Benefits (OPEB) and Pension Plans. Staff will provide a presentation of NHA Advisors' analysis and staff's recommendations based on the results of the independent analysis. The Committee can consider staff's recommendation further, if needed, or recommend moving ahead with CEPPT to the full Board of Directors (Board).

BUDGET CONSIDERATION/FINANCIAL IMPACT

Between FYE 2018 and FYE 2022, in the Adopted Budgets, the Board set aside $1 million annually for prefunding the pension obligation. The decision on an investment vehicle was postponed pending staff recommendations and Board approval. Upon Board approval, a total set aside of $5 million will be invested in the CEPPT program; $4 million from the General Fund's Designated Fund Balance and $1 million from the FYE 2022 Adopted Budget; respectively. All funds placed into the irrevocable trust fund can only be used to pay for retirement obligations. The Air District will pay fees to CEPPT for management of the trust. These fees will be paid from the trust assets. Staff anticipates that the investment earnings will be more than adequate to pay the fees.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Leonid Bak
Reviewed by: Jeffrey McKay

ATTACHMENTS:

1. CEPPT Resolution
2. CEPPT Participation Agreement
3. CEPPT Delegation of Authority to Request Disbursements

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

RESOLUTION NO. _____

RESOLUTION OF THE GOVERNING BOARD OF DIRECTORS
OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT
APPROVING THE ADOPTION OF THE
CALIFORNIA EMPLOYERS' PENSION PREFUDNING TRUST FUND (CEPPT)
ADMINISTERED BY CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM (CALPERS)

WHEREAS CALPERS has made available the California Employers' Pension Prefunding Trust Fund (the "Program") for the purpose of allowing eligible employers to prefund their required pension contributions to a defined pension plan by receiving and holding in the CEPPT amounts that are intended to be contributed to an Employer Pension Plan at a later date; and

WHEREAS the Bay Area Air Quality Management District ("District") is eligible to participate in the Program, a tax-exempt trust performing an essential governmental function within the meaning of Section 115 of the Internal Revenue Code, as amended, and the Regulations issued there under, and is a tax-exempt trust under the relevant statutory provisions of the State of California; and

WHEREAS the District's adoption and operation of the Program has no effect on any current or former employee's entitlement to pension benefits; and

WHEREAS the terms and conditions of pension benefit entitlement are governed by contracts separate from and independent of the Program; and

WHEREAS the District's funding of the Program does not, and is not intended to, create any new vested right to any benefit nor strengthen any existing vested right; and

WHEREAS the District reserves the right to make contributions, if any, to the Program; and

WHEREAS the District's participation in the Program requires the Board to approve the CEPPT Participation Agreement and the Delegation of Authority to Request Disbursements; and

NOW THEREFORE, BE IT RESOLVED THAT:

1. The Governing Board hereby approves the District to participate in the California Employers' Pension Prefunding Trust Fund (CEPPT) program, effective _____, 2022; and

2. The Governing Board hereby approves the Election Agreement and appoints the Executive Officer/APCO and the Chief Financial Officer/CFO, or his/her successor as the Delegation of Authority to Request Disbursements for the Program; and

3. The Executive Officer/APCO or his/her successor, or his/her designee is hereby authorized to execute the CEPPT administrative documents on behalf of the District and to take whatever additional actions are necessary to maintain the District's participation in the Program and to

maintain compliance of any relevant regulation issued or as may be issued; therefore, authorizing him/her to take whatever additional actions are required to administer the District's Program.

The foregoing resolution was duly and regularly introduced, passed and adopted at a regular meeting of the Board of Directors of the Bay Area Air Quality Management District on the Motion of Director_____, seconded by Director _____, on the _____ day of _____ 2022

by the following vote of the Board:

AYES:

NOES:

ABSENT:

_____
Karen Mitchoff
Chairperson of the Board of Directors

ATTEST:

_____
Davina Hurt
Secretary of the Board of Directors

CALIFORNIA EMPLOYERS' PENSION PREFUNDING TRUST PROGRAM

AGREEMENT AND ELECTION OF

Bay Area Air Quality Management District

(NAME OF EMPLOYER)

to Prefund Employer Contributions to a Defined Benefit Pension Plan

WHEREAS (1) Government Code (GC) Section 21711(a) establishes in the State Treasury the California Employers' Pension Prefunding Trust Fund (CEPPT), a special trust fund for the purpose of allowing eligible employers to prefund their required pension contributions to a defined benefit pension plan (each an Employer Pension Plan) by receiving and holding in the CEPPT amounts that are intended to be contributed to an Employer Pension Plan at a later date; and

WHEREAS (2) GC Section 21711(b) provides that the California Public Employees' Retirement System (CalPERS) Board of Administration (Board) has sole and exclusive control of the administration and investment of the CEPPT, the purposes of which include, but are not limited to (i) receiving contributions from participating employers; (ii) investing contributed amounts and income thereon, if any, in order to receive yield on the funds; and (iii) disbursing contributed amounts and income thereon, if any, to pay for costs of administration of the CEPPT and to deposit employer contributions into Employer Pension Plans in accordance with their terms; and

WHEREAS (3) Bay Area Air Quality Management District

(NAME OF EMPLOYER)

(Employer) desires to participate in the CEPPT upon the terms and conditions set by the Board and as set forth herein; and

WHEREAS (4) Employer may participate in the CEPPT upon (i) approval by the Board and (ii) filing a duly adopted and executed Agreement and Election to Prefund Employer Contributions to a Defined Benefit Pension Plan (Agreement) as provided in the terms and conditions of the Agreement; and

WHEREAS (5) The CEPPT is a trust fund that is intended to perform an essential governmental function (that is, the investment of funds by a State, political subdivision or 115 entity) within the meaning of Internal Revenue Code (Code) Section 115 and Internal Revenue Service Revenue Ruling 77-261, and as an Investment Trust Fund, as defined in Governmental Accounting Standards Board (GASB) Statement No. 84, Paragraph 16, for accounting and financial reporting of fiduciary activities from the

external portion of investment pools and individual investment accounts that are held in a trust that meets the criteria in Paragraph 11c(1).

WHEREAS (6) The CEPPT is not a Code Section 401(a) qualified trust and the assets held in the CEPPT are not assets of any Employer Pension Plan or any plan qualified under Code Section 401(a).

NOW, THEREFORE, BE IT RESOLVED THAT EMPLOYER HEREBY MAKES THE FOLLOWING REPRESENTATION AND WARRANTY AND THAT THE BOARD AND EMPLOYER AGREE TO THE FOLLOWING TERMS AND CONDITIONS:

A. Employer Representation and Warranty

Employer hereby represents and warrants that it is the State of California or a political subdivision thereof, or an entity whose income is excluded from gross income under Code Section 115(1).

B. Adoption and Approval of the Agreement; Effective Date; Amendment

(1) Employer's governing body shall elect to participate in the CEPPT by adopting this Agreement and filing with the Board a true and correct original or certified copy of this Agreement as follows:

Filing by mail, send to: CalPERS
CEPPT
P.O. Box 1494
Sacramento, CA 95812-1494

Filing in person, deliver to: CalPERS Mailroom
CEPPT
400 Q Street
Sacramento, CA 95811

(2) Upon receipt of the executed Agreement, and after approval by the Board, the Board shall fix an effective date and shall promptly notify Employer of the effective date of the Agreement. Employer shall provide the Board such other documents as the Board may request, including, but not limited to a certified copy of the resolution(s) of the governing body of Employer authorizing the adoption of the Agreement and documentation naming Employer's successor entity in the event that Employer ceases to exist prior to termination of this Agreement.

(3) The terms of this Agreement may be amended only in writing upon the agreement of both the Board and Employer, except as otherwise provided herein. Any such amendment or modification to this Agreement shall be adopted and executed in the same manner as required for the Agreement. Upon receipt of the executed amendment or modification, the Board shall fix the effective date of the amendment or modification.

(4) The Board shall institute such procedures and processes as it deems necessary to administer the CEPPT, to carry out the purposes of this Agreement, and to maintain the tax-exempt status of the CEPPT. Employer agrees to follow such procedures and processes.

C. Employer Reports Provided for the Board's Use in Trust Administration and Financial Reporting and Employer Contributions

(1) Employer shall provide to the Board a defined benefit pension plan cost report on the basis of the actuarial assumptions and methods prescribed by Actuarial Standards of Practice (ASOP) or prescribed by GASB. Such report shall be for the Board's use in trust administration and financial reporting and shall be prepared at least as often as the minimum frequency required by applicable GASB Standards. This defined benefit pension plan cost report may be prepared as an actuarial valuation report or as a GASB compliant financial report. Such report shall be:

1) prepared and signed by a Fellow or Associate of the Society of Actuaries who is also a Member of the American Academy of Actuaries or a person with equivalent qualifications acceptable to the Board;

2) prepared in accordance with ASOP or with GASB; and

3) provided to the Board prior to the Board's acceptance of contributions for the reporting period or as otherwise required by the Board.

(2) In the event that the Board determines, in its sole discretion, that Employer's cost report is not suitable for the Board's purposes and use or if Employer fails to provide a required report, the Board may obtain, at Employer's expense, a report that meets the Board's trust administration and financial reporting needs. At the Board's option, the Board may recover the costs of obtaining the report either by billing and collecting such amount from Employer or through a deduction from Employer's Prefunding Account (as defined in Paragraph D(2) below).

(3) Employer shall notify the Board in writing of the amount and timing of contributions to the CEPPT, which contributions shall be made in the manner established by the Board and in accordance with the terms of this Agreement and any procedures adopted by the Board.

(4) The Board may limit Employer's contributions to the CEPPT to the amount necessary to fully fund the actuarial present value of total projected benefit payments not otherwise prefunded through the applicable Employer Pension Plan (Unfunded PVFB), as set forth in Employer's cost report for the applicable period. If Employer's contribution would cause the assets in Employer's Prefunding Account to exceed the Unfunded PVFB, the Board may refuse to accept the contribution. If Employer's cost report for the applicable period does not set forth the Unfunded PVFB, the Board may

refuse to accept a contribution from Employer if the contribution would cause the assets in Employer's Prefunding Account to exceed Employer's total pension liability, as set forth in Employer's cost report.

(5) No contributions are required. Contributions can be made at any time following the effective date of this Agreement if Employer has first complied with the requirements of this Agreement, including Paragraph C.

(6) Employer acknowledges and agrees that assets held in the CEPPT are not assets of any Employer Pension Plan or any plan qualified under Code Section 401(a), and will not become assets of such a plan unless and until such time as they are distributed from the CEPPT and deposited into an Employer Pension Plan.

D. Administration of Accounts; Investments; Allocation of Income

(1) The Board has established the CEPPT as a trust fund consisting of an aggregation of separate single-employer accounts, with pooled administrative and investment functions.

(2) All Employer contributions and assets attributable to Employer contributions shall be separately accounted for in the CEPPT (Employer's Prefunding Account). Assets in Employer's Prefunding Account will be held for the exclusive purpose of funding Employer's contributions to its Employer Pension Plan(s) and defraying the administrative expenses of the CEPPT.

(3) The assets in Employer's Prefunding Account may be aggregated with the assets of other participating employers and may be co-invested by the Board in any asset classes appropriate for a Code Section 115 trust, subject to any additional requirements set forth in applicable law, including, but not limited to, subdivision (d) of GC Section 21711. Employer shall select between available investment strategies in accordance with applicable Board procedures.

(4) The Board may deduct the costs of administration of the CEPPT from the investment income of the CEPPT or from Employer's Prefunding Account in a manner determined by the Board.

(5) Investment income earned shall be allocated among participating employers and posted to Employer's Prefunding Account daily Monday through Friday, except on holidays, when the allocation will be posted the following business day.

(6) If, at the Board's sole discretion and in compliance with accounting and legal requirements applicable to an Investment Trust Fund and to a Code Section 115 compliant trust, the Board determines to its satisfaction that all obligations to pay defined benefit pension plan benefits in accordance with the applicable Employer Pension Plan terms have been satisfied by payment or by defeasance with no remaining risk regarding the amounts to be paid or the value of assets held in the

CEPPT, then the residual Employer assets held in Employer's Prefunding Account may be returned to Employer.

E. Reports and Statements

(1) Employer shall submit with each contribution a contribution report in the form and containing the information prescribed by the Board.

(2) The Board, at its discretion but at least annually, shall prepare and provide a statement of Employer's Prefunding Account reflecting the balance in Employer's Prefunding Account, contributions made during the period covered by the statement, investment income allocated during such period, and such other information as the Board may determine.

F. Disbursements

(1) Employer may receive disbursements from the CEPPT not to exceed, on an annual basis, the amount of the total annual Employer contributions to Employer's Pension Plan for such year.

(2) Employer shall notify the Board in writing in the manner specified by the Board of the persons authorized to request disbursements from the CEPPT on behalf of Employer.

(3) Employer's request for disbursement shall be in writing signed by Employer's authorized representative, in accordance with procedures established by the Board, and the Board may rely conclusively upon such writing. The Board may, but is not required to, require that Employer certify or otherwise demonstrate that amounts disbursed from Employer's Prefunding Account will be used solely for the purposes of the CEPPT. However, in no event shall the Board have any responsibility regarding the application of distributions from Employer's Prefunding Account.

(4) No disbursement shall be made from the CEPPT which exceeds the balance in Employer's Prefunding Account.

(5) Requests for disbursements that satisfy the above requirements will be processed on at least a monthly basis.

(6) The Board shall not be liable for amounts disbursed in error if it has acted upon the written instruction of an individual authorized by Employer to request disbursements, and is under no duty to make any investigation or inquiry about the correctness of such instruction. In the event of any other erroneous disbursement, the extent of the Board's liability shall be the actual dollar amount of the disbursement, plus interest at the actual earnings rate but not less than zero.

G. Costs of Administration

Employer shall pay its share of the costs of administration of the CEPPT, as determined by the Board and in accordance with Paragraph D.

H. Termination of Employer's Participation in the CEPPT

(1) The Board may terminate Employer's participation in the CEPPT if:

(a) Employer's governing body gives written notice to the Board of its election to terminate; or

(b) The Board determines, in its sole discretion, that Employer has failed to satisfy the terms and conditions of applicable law, this Agreement or the Board's rules, regulations or procedures.

(2) If Employer's participation in the CEPPT terminates for either of the foregoing reasons, all assets in Employer's Prefunding Account shall remain in the CEPPT, except as otherwise provided below, and shall continue to be invested and accrue income as provided in Paragraph D, and Employer shall remain subject to the terms of this Agreement with respect to such assets.

(3) After Employer's participation in the CEPPT terminates, Employer may not make further contributions to the CEPPT.

(4) After Employer's participation in the CEPPT terminates, disbursements from Employer's Prefunding Account may continue upon Employer's instruction or otherwise in accordance with the terms of this Agreement.

(5) After Employer's participation in the CEPPT terminates, the governing body of Employer may request either:

(a) A trustee to trustee transfer of the assets in Employer's Prefunding Account to a trust dedicated to prefunding Employer's required pension contributions; provided that the Board shall have no obligation to make such transfer unless the Board determines that the transfer will satisfy applicable requirements of the Code, other law and accounting standards, and the Board's fiduciary duties. If the Board determines that the transfer will satisfy these requirements, the Board shall then have one hundred fifty (150) days from the date of such determination to effect the transfer. The amount to be transferred shall be the amount in Employer's Prefunding Account as of the date of the transfer (the "transfer date") and shall include investment earnings up to an investment earnings allocation date preceding the transfer date. In no event shall the investment earnings allocation date precede the transfer date by more than 150 days.

(b) A disbursement of the assets in Employer's Prefunding Account; provided that the Board shall have no obligation to make such disbursement unless the Board determines that, in compliance with the Code, other law and accounting standards, and the Board's fiduciary duties, all of Employer's obligations for payment of defined benefit pension plan benefits and reasonable administrative costs of the Board have been satisfied. If the Board determines that the disbursement will satisfy these requirements, the Board shall then have one hundred fifty (150) days from the date of such determination to effect the disbursement. The amount to be disbursed shall be the amount in Employer's Prefunding Account as of the date of the disbursement (the "disbursement date") and shall include investment earnings up to an investment earnings allocation date preceding the disbursement date. In no event shall the investment earnings allocation date precede the disbursement date by more than 150 days.

(6) After Employer's participation in the CEPPT terminates and at such time that no assets remain in Employer's Prefunding Account, this Agreement shall terminate. To the extent that assets remain in Employer's Prefunding Account, this Agreement shall remain in full force and effect.

(7) If, for any reason, the Board terminates the CEPPT, the assets in Employer's Prefunding Account shall be paid to Employer to the extent permitted by law and Code Section 115 after retention of (i) an amount sufficient to pay the Unfunded PVFB as set forth in a current defined benefit pension plan(s) cost report prepared in compliance with ASOP and the requirements of Paragraph C(1), and (ii) amounts sufficient to pay reasonable administrative costs of the Board. Amounts retained by the Board to pay the Unfunded PVFB shall be transferred to (i) another Code Section 115 trust dedicated to prefunding Employer's required pension contributions, subject to the Board's determination that such transfer will satisfy applicable requirements of the Code, other law and accounting standards, and the Board's fiduciary duties or (ii) Employer's Pension Plan, subject to acceptance by Employer's Pension Plan.

(8) If Employer ceases to exist but Employer's Prefunding Account continues to exist, and if no provision has been made to the Board's satisfaction by Employer with respect to Employer's Prefunding Account, the Board shall be permitted to identify and appoint a successor to Employer under this Agreement, provided that the Board first determines, in its sole discretion, that there is a reasonable basis upon which to identify and appoint such a successor and provided further that such successor agrees in writing to be bound by the terms of this Agreement. If the Board is unable to identify or appoint a successor as provided in the preceding sentence, then the Board is authorized to appoint a third-party administrator or other successor to act on behalf of Employer under this Agreement and to otherwise carry out the intent of this Agreement with respect to Employer's Prefunding Account. Any and all costs associated with such appointment shall be paid from the assets attributable to Employer's Prefunding Account. At the Board's option, and subject to acceptance by Employer's Pension Plan,

the Board may instead transfer the assets in Employer's Prefunding Account to Employer's Pension Plan and terminate this Agreement.

(9) If the Board determines, in its sole discretion, that Employer has breached the representation and warranty set forth in Paragraph A., the Board shall take whatever action it deems necessary to preserve the tax-exempt status of the CEPPT.

I. Indemnification

Employer shall indemnify, defend, and hold harmless CalPERS, the Board, the CEPPT, and all of the officers, trustees, agents and employees of the foregoing from and against any loss, liability, claims, causes of action, suits, or expense (including reasonable attorneys' fees and defense costs, lien fees, judgments, fines, penalties, expert witness fees, appeals, and claims for damages of any nature whatsoever) not charged to the CEPPT and imposed as a result of, arising out of, related to or in connection with (1) the performance of the Board's duties or responsibilities under this Agreement, except to the extent that such loss, liability, suit or expense results or arises from the Board's own gross negligence, willful misconduct or material breach of this Agreement, or (2) without limiting the scope of Paragraph F(6) of this Agreement, any acts taken or transactions effected in accordance with written directions from Employer or any of its authorized representatives or any failure of the Board to act in the absence of such written directions to the extent the Board is authorized to act only at the direction of Employer.

J. General Provisions

(1) Books and Records

Employer shall keep accurate books and records connected with the performance of this Agreement. Such books and records shall be kept in a secure location at Employer's office(s) and shall be available for inspection and copying by the Board and its representatives.

(2) Notice

(a) Any notice or other written communication pursuant to this Agreement will be deemed effective immediately upon personal delivery, or if mailed, three (3) days after the date of mailing, or if delivered by express mail or e-mail, immediately upon the date of confirmed delivery, to the following:

For the Board:

Filing by mail, send to:
CalPERS
CEPPT
P.O. Box 1494
Sacramento, CA 95812-1494

Filing in person, deliver to:
CalPERS Mailroom
CEPPT
400 Q Street
Sacramento, CA 95811

For Employer:

Name of Employer
Address
City, State, Zip Code

(b) Either party to this Agreement may, from time to time by notice in writing served upon the other, designate a different mailing address to which, or a different person to whom, all such notices thereafter are to be addressed.

(3) Survival

All representations, warranties, and covenants contained in this Agreement, or in any instrument, certificate, exhibit, or other writing intended by the parties to be a part of this Agreement shall survive the termination of this Agreement.

(4) Waiver

No waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of this Agreement shall be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy shall be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies.

(5) Necessary Acts; Further Assurances

The parties shall at their own cost and expense execute and deliver such further documents and instruments and shall take such other actions as may be reasonably required or appropriate to evidence or carry out the intent and purposes of this Agreement.

(6) Incorporation of Amendments to Applicable Laws and Accounting Standards

Any references to sections of federal or state statutes or regulations or accounting standards shall be deemed to include a reference to any amendments thereof and any successor provisions thereto.

(7) Days

Wherever in this Agreement a set number of days is stated or allowed for a particular event to occur, the days are understood to include all calendar days, including weekends and holidays, unless otherwise stated.

(8) No Third Party Beneficiaries

Except as expressly provided herein, this Agreement is for the sole benefit of the parties hereto and their permitted successors and assignees, and nothing herein, expressed or implied, will give or be construed to give any other person any legal or equitable rights hereunder. Notwithstanding the foregoing, CalPERS, the CEPPT, and all of the officers, trustees, agents and employees of CalPERS, the CEPPT and the Board shall be considered third party beneficiaries of this Agreement with respect to Paragraph I above.

(9) Counterparts

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

A majority vote of Employer's Governing Body at a public meeting held on the _____ day of the month of _____ in the year _____, authorized entering into this Agreement.

Signature of the Presiding Officer: _____

Printed Name of the Presiding Officer: _____

Name of Governing Body: _____

Name of Employer: _____

Date: _____

BOARD OF ADMINISTRATION
CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BY_____
ARNITA PAIGE
DIVISION CHIEF, PENSION CONTRACT AND PREFUNDING PROGRAMS
CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

To be completed by CalPERS The effective date of this Agreement is: _____

California Public Employees' Retirement System
California Employers' Pension Prefunding Trust (CEPPT)
400 Q Street, Sacramento, CA 95811
www.calpers.ca.gov

Delegation of Authority to Request Disbursements
California Employers' Pension Prefunding Trust (CEPPT)

RESOLUTION
OF THE

Bay Area Air Quality Management District Board of Directors
(GOVERNING BODY)

OF THE

Bay Area Air Quality Management District
(NAME OF EMPLOYER)

The BAAQMD Board of Directors delegates to the incumbents
(GOVERNING BODY)

in the positions of Executive Officer/APCO and
(TITLE)

Chief Financial Officer , and/or
(TITLE)

_____ authority to request on behalf of the
(TITLE)

Employer disbursements from the Pension Prefunding Trust and to certify as to the purpose for which the disbursed funds will be used.

By _____

Title _____

Witness _____

Date _____

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Report of the Mobile Source & Climate Impacts Committee meeting of April 28, 2022

RECOMMENDED ACTION

A) Projects and Contracts with Proposed Awards Over $500,000:

1. Approve the award of Carl Moyer Program funding to recommended projects with proposed grant awards in excess of $500,000; and
2. Authorize the Interim Executive Officer/Air Pollution Control Officer execute grant agreements with applicants for the recommended projects.

B) Transportation Fund for Clean Air County Program Manager Expenditure Plans for Fiscal Year Ending 2023:

1. Approve the allocation of new Transportation Fund for Clean Air revenue to each of the nine County Program Managers for Fiscal Year Ending 2023; and
2. Authorize the Interim Executive Officer/Air Pollution Control Officer to enter into funding agreements with the County Program Managers for Transportation Fund for Clean Air revenues to be programmed in Fiscal Year Ending 2023.

C) Updates to the Transportation Fund for Clean Air Regional Fund Policies & Evaluation Criteria for FYE 2023:

1. Approve the proposed updates to Transportation for Clean Air Regional Fund Policies and Evaluation Criteria for Fiscal Year Ending 2023.

BACKGROUND

None.

DISCUSSION

The Mobile Source & Climate Impacts Committee met on Thursday, April 28, 2022, and approved the minutes of March 24, 2022. This meeting was conducted under procedures authorized by Assembly Bill 361. Members of the Committee participated by teleconference.

The Committee then reviewed and discussed the staff presentation *Projects and Contracts with Proposed Awards Over $500,000.* The Committee recommends the Board:

1. Approve the award of Carl Moyer Program funding to recommended projects with proposed grant awards in excess of $500,000; and
2. Authorize the Interim Executive Officer/Air Pollution Control Officer execute grant agreements with applicants for the recommended projects.

The Committee then reviewed and discussed the staff presentation *Transportation Fund for Clean Air County Program Manager Expenditure Plans for Fiscal Year Ending 2023.* The Committee recommends the Board:

1. Approve the allocation of new Transportation Fund for Clean Air revenue to each of the nine County Program Managers for Fiscal Year Ending 2023; and
2. Authorize the Interim Executive Officer/Air Pollution Control Officer to enter into funding agreements with the County Program Managers for Transportation Fund for Clean Air revenues to be programmed in Fiscal Year Ending 2023.

Finally, the Committee reviewed and discussed the staff presentation *Updates to the Transportation Fund for Clean Air Regional Fund Policies & Evaluation Criteria for FYE 2023.* The Committee recommends the Board:

1. Approve the proposed updates to Transportation for Clean Air Regional Fund Policies and Evaluation Criteria for Fiscal Year Ending 2023.

The next meeting of the Mobile Source & Climate Impacts Committee will be on Thursday, May 26, 2022, at 9:30 a.m., via webcast, teleconference, or Zoom, pursuant to procedures in accordance with Assembly Bill 361 (Rivas 2021.) This concludes the Chair Report of the Mobile Source & Climate Impacts Committee.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by:	Marcy Hiratzka
Reviewed by:	Vanessa Johnson

ATTACHMENTS:

1. Mobile Source and Climate Impacts Committee April 28, 2022 Meeting Memorandums

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Teresa Barrett and Members
of the Mobile Source and Climate Impacts Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 28, 2022

Re: Projects and Contracts With Proposed Grant Awards Over $500,000

RECOMMENDED ACTION

1. Approve recommended projects with proposed grant awards over $500,000 as shown in Attachment 1; and

2. Authorize the Interim Executive Officer/APCO to enter into all necessary agreements with applicants for the recommended projects.

BACKGROUND

The Bay Area Air Quality Management District (Air District) has participated in the Carl Moyer Program (CMP), in cooperation with the California Air Resources Board (CARB), since the program began in fiscal year 1998-1999. The CMP provides grants to public and private entities to reduce emissions of nitrogen oxides (NOx), reactive organic gases (ROG), and particulate matter (PM) from existing heavy-duty engines by either replacing or retrofitting them. Eligible heavy-duty diesel engine applications include on-road trucks and buses, off-road industrial, construction, and agricultural equipment, marine vessels, locomotives, and stationary agricultural pump engines. Since 2018, this funding may also be awarded to offset a portion of the cost of installing new refueling or recharging infrastructure that supports the deployment of new zero-emissions vehicles and equipment.

Assembly Bill (AB) 923 (Firebaugh), enacted in 2004 (codified as Health and Safety Code (HSC) Section 44225), authorized local air districts to increase motor vehicle registration surcharges by up to $2 additional per vehicle and use the revenue to fund projects eligible under the CMP guidelines. AB 923 revenue is deposited in the Air District's Mobile Source Incentive Fund (MSIF).

On January 20, 2021, the Board of Directors (Board) authorized the Air District's participation in Year 23 of the CMP, including an allocation of MSIF revenue as match funds. Per AB 1390, at least 50% of CMP funds must be allocated to projects that benefit communities with the most significant exposure to air contaminants or localized air contaminants.

In 2017, AB 617 directed the CARB, in conjunction with local air districts to establish a new community-focused action framework to improve air quality and reduce exposure to criteria air pollutants and toxic air contaminants in communities most impacted by air pollution. The AB 617 initiative calls for strategies to address air quality issues in impacted communities, including community-level monitoring, uniform emission reporting across the State, stronger regulation of pollution sources, and incentives for reducing air pollution and public health impacts from mobile and stationary sources.

Beginning in fiscal year ending (FYE) 2018, the California Legislature approved funding from the State's Greenhouse Gas Reduction Fund (GGRF), which is used to reduce criteria pollutants, toxic air contaminants, and greenhouse gases, for the Community Air Protection Program (CAPP). CAPP funds may be used to fund projects eligible under the CMP and on-road truck replacements under the Proposition 1B Goods Movement Emission Reduction Program. Following additional approvals from CARB, CAPP funds may also potentially be used to fund stationary source and mobile source projects that have been identified and prioritized by communities with a Community Emissions Reduction Program, pursuant to HSC Section 44391.2. In May 2020, the Governor's revised budget authorized up to $200 million for a third cycle of CAPP incentive funding. On June 17, 2020, the Board authorized the Air District to accept, obligate, and expend up to $40 million in CAPP funds. At least 80% of CAPP funds must be allocated to projects that benefit disadvantaged communities (Senate Bill (SB)535), and low-income communities (AB 1550).

In February 2018, CARB developed the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program Guidelines that outline requirements for eligible equipment, i.e., agricultural harvesting equipment, heavy-duty trucks, agricultural pump engines, tractors, and other equipment used in agricultural operations. On October 21, 2019, CARB's Executive Officer approved an update to the FARMER Program Guidelines to include eligibility criteria for demonstration projects. The 2020 California State Budget appropriated $65 million in Fiscal Year 2019-20 GGRF funds to the CARB for the continued reduction of criteria, toxic, and greenhouse gas emissions from the agricultural sector through the FARMER Program. On November 20, 2019, the Board authorized the Air District's participation in the current cycle of the FARMER program.

In 1991, the California State Legislature authorized the Air District to impose a $4 surcharge on motor vehicles registered within the nine-county Bay Area to fund projects that reduce on-road motor vehicle emissions within the Air District's jurisdiction. The statutory authority and requirements for the Transportation Fund for Clean Air (TFCA) are set forth in the HSC Sections 44241 and 44242. Sixty percent of TFCA funds are awarded by the Air District to eligible projects and programs implemented directly by the Air District (e.g., Spare the Air program) and to a program referred to as the Regional Fund. The remaining forty percent of the funds are passed through to the designated Bay Area County Program Manager who in turn award TFCA

funds to eligible projects within their county. Each year, the Board allocates funding and adopts policies and evaluation criteria that govern the expenditure of TFCA monies. On April 7, 2021, the Board authorized funding allocations for use of the sixty percent of the TFCA revenue in FYE 2022, and cost-effectiveness limits for Air District-sponsored FYE 2022 programs. On June 16, 2021, the Board adopted policies and evaluation criteria for the FYE 2022 Regional Fund program.

Applications for grant funding received by the Air District are reviewed and evaluated for eligibility under the respective governing policies and guidelines established by each funding source e.g., CARB, the Board. At least quarterly, staff provides updates to the Mobile Source and Climate Impacts Committee on the status of incentive funding for the current fiscal year, including total funding awarded, incentive fund balance available for award, funds allocated by county and by equipment category type, and percentage of funding benefitting low-income residents and impacted communities, including Air District-identified Community Air Risk Evaluation (CARE) areas, disadvantaged SB 535 communities, and/or low-income AB 1550 communities. The reported award allocations and emissions reductions benefits to counties and impacted communities, which are based on information provided by each applicant, also does not include "regional" projects, where all communities receive benefits, or projects where the location of the benefit has not yet been determined.

On April 6, 2022, the Board authorized the Interim Air Pollution Control Office (APCO)/Executive Officer to approve projects with awards up to $500,000. For all projects with proposed awards greater than $500,000, staff brings the recommendations to the Board for approval.

DISCUSSION

Carl Moyer Program and Community Air Protection Program:

For the FYE 2022, the Air District had approximately $46.3 million available in CMP, MSIF, CAPP, and FARMER funds for eligible projects, including prior year funds. This total may change as additional revenues are awarded to the Air District. The Air District accepts project applications on a rolling basis and evaluates them on a first-come, first-served basis.

Between February 22, 2022, and March 30, 2022, staff evaluated three eligible projects with proposed awards over $500,000. One on-road zero-emission infrastructure project, one on-road school bus project, and one marine project are estimated to reduce over 12 tons of NOx, ROG, and PM emissions per year and all three projects provide emission reduction benefits to impacted communities. Staff recommends approval of the allocation of up to $7,485,255 for these projects from a combination of CMP/MSIC and CAPP revenues. Attachment 1 provides additional information on the projects.

Attachment 2, updated at least quarterly, lists all eligible projects that have been awarded by the Air District between July 1, 2021, and March 30, 2022, including information about project equipment, award amounts, estimated emissions reductions, community benefits, and project locations. Approximately 85% of the funds were awarded or allocated to low-income residents

or to projects that reduce emissions in CARE, disadvantaged SB 535 communities, and/or low-income AB 1550 communities. The percentage of projects in these communities will change over time as the remaining funds are awarded later in the fiscal year and as more complete information about the location of projects and program participants becomes available.

Transportation Fund for Clean Air Program:

For the FYE 2022, the Air District had approximately $29.4 million in TFCA monies available for eligible projects and programs consisting of new and prior-year revenues. The Air District accepts project applications for certain project categories on a rolling basis and evaluates them on a first-come, first-served basis. No projects are being recommended for TFCA funding.

Attachment 3, Table 1, updated at least quarterly, lists all eligible TFCA projects that have been evaluated and awarded between July 1, 2021, and March 30, 2022, including information about project equipment, award amount, estimated emissions reduction, community benefits, and project locations. Approximately 87% of the funds were awarded or allocated to low-income residents or to projects that reduce emissions in CARE, disadvantaged SB 535 communities, and/or low-income AB 1550 communities. The percentage of projects in these communities will change over time as the remaining funds are awarded later in the fiscal year and as more complete information about the location of projects and program participants becomes available.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None. The Air District distributes the CMP, MSIF, CAPP, FARMER, and TFCA funding to project sponsors on a reimbursement basis. Funding for administrative costs is provided by each funding source.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Jessica DePrimo, Chad White, Linda Hui, Minda Berbeco, and Alona Davis
Reviewed by: Karen Schkolnick

ATTACHMENTS:

1. Projects with Grant Awards Greater than $500,000 (evaluated 2/22/22 to 3/30/22)
2. CMP/MSIF, FARMER and CAPP Projects (awarded and allocated 7/1/21 to 3/30//22)
3. TFCA Projects (awarded and allocated between 7/1/21 and 3/30/22)
4. Summary of Funding (awarded and allocated between 7/1/21 and 3/30/22)

ATTACHMENT 1

Table 1 - Carl Moyer Program, Mobile Source Incentive Fund, FARMER, Community Air Protection Program, and Transportation Fund for Clean Air projects with grant awards greater than $500k (Evaluated between 2/22/22 and 3/30/22)

Project #	Applicant Name	Project Category	Project Description	Proposed Contract Award	Total Project Cost	Emission Reductions (tons per year)			County
						NO_X	ROG	PM	
22MOY293	Golden Gate Bridge Highway and Transportation District	Marine	Replace four Tier 3 main engines with Tier 4 main engines in two ferries operating on San Francisco Bay.	$ 1,410,000	$ 10,300,136	10.169	1.411	0.150	San Francisco, Marin
22MOY238	AC Transit	On-Road Infrastructure	Expand AC Transit's hydrogen fueling facility in Oakland D4.	$ 4,535,255	$ 9,101,230	N/A	N/A	N/A	Alameda
22SBP177	West County Transportation Agency	School Bus	Replace 7 CNG school buses with 7 low-NOx CNG school buses.	$ 1,540,000	$ 1,617,959	0.829	0.075	N/A	Sonoma
3 Projects				**$ 7,485,255**	**$ 21,019,325**	**10.998**	**1.486**	**0.150**	

ATTACHMENT 2

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CMP/MSIF, FARMER and Community Air Protection Program projects
(awarded and allocated between 7/1/21 and 3/30/22)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	AB1390 Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
22SBP71***	School Bus	Equipment replacement + Infrastructure	12	$ 3,775,186	Petaluma City Schools	0.932	0.071	0.005	7/7/2021	No	Yes	Sonoma
22MOY138	Ag/ off-road	Equipment replacement	3	$ 525,300	Dave Soiland	2.035	0.165	0.097	7/7/2021	No	No	Sonoma
22SBP84***	School Bus	Equipment replacement + Infrastructure	4	$ 803,786	Rincon Valley Union School District	0.228	0.015	0.003	7/7/2021	No	Yes	Sonoma
22MOY149	Ag/ off-road	Equipment replacement	1	$ 170,500	Renati Dairy	0.522	0.068	0.048	7/7/2021	No	No	Sonoma
22MOY127	Ag/ off-road	Equipment replacement	2	$ 107,100	Napa Select Vineyard Services, Inc.	0.187	0.012	0.011	7/7/2021	No	No	Napa
22MOY142	Ag/ off-road	Equipment replacement	2	$ 51,750	Cobb Creek Holdings, LLC DBA CCH Ag Services	0.205	0.034	0.021	7/7/2021	No	No	Napa
22MOY135	Marine	Engine replacement	1	$ 154,000	William E. Smith	1.831	0.018	0.069	7/7/2021	No	No	San Mateo
22SBP105	School Bus	Equipment replacement + Infrastructure	4	$ 1,731,969	Fremont Unified School District	0.414	0.036	0.018	7/7/2021	No	Yes	Alameda
22MOY169	Ag/ off-road	Equipment replacement	2	$ 132,260	Kenzo Estate, Inc.	0.223	0.020	0.015	7/7/2021	No	No	Napa
22SBP40***	School Bus	Equipment replacement + Infrastructure	5	$ 889,832	Franklin-McKinley School District	0.250	0.015	0.003	7/7/2021	Yes	Yes	Santa Clara
22MOY158	Marine	Engine replacement	1	$ 174,000	Laurence J Collins	0.790	0.018	0.028	7/7/2021	No	No	San Francisco
2102-16395	LD Infrastructure	Charge!	--	$ 21,000	The Millennium Tower Association	0.007	0.004	0.000	7/7/2021	Yes	No	San Francisco
2103-17230	LD Infrastructure	Charge!	--	$ 64,000	REEF Energy CA Operations LLC	0.098	0.058	0.002	7/7/2021	Yes	Yes	San Francisco
2103-17359	LD Infrastructure	Charge!	--	$ 48,000	The Shores at Marina Bay Community Association	0.005	0.003	0.000	7/7/2021	Yes	Yes	Contra Costa
2103-17527	LD Infrastructure	Charge!	--	$ 24,000	EVmatch, Inc.	0.003	0.002	0.000	7/7/2021	Yes	Yes	Alameda
2103-17603	LD Infrastructure	Charge!	--	$ 32,000	Bollinger Crest Apartment Investors, LP	0.011	0.006	0.000	7/7/2021	No	No	Alameda
2103-17638	LD Infrastructure	Charge!	--	$ 48,000	Intertie, Incorporated	0.017	0.010	0.000	7/7/2021	Yes	Yes	San Francisco
22MOY130	On-road	Equipment replacement	1	$ 25,000	Min Jian Huang (jianhuang)	0.841	0.070	0.000	APCO	Yes	Yes	Alameda
22MOY151	Ag/ off-road	Equipment replacement	2	$ 86,000	Hardin Vineyard Management LLC	0.257	0.055	0.023	APCO	No	No	Napa
22MOY124	On-road	Equipment replacement	1	$ 25,000	Kulwant Khera (kskhera)	0.773	0.065	0.000	APCO	Yes	Yes	Alameda
22MOY78	Ag/ off-road	Equipment replacement	1	$ 31,642	Cortina Vineyard Management	0.047	0.011	0.008	APCO	Yes	Yes	Napa
22MOY131	On-road	Equipment replacement	1	$ 25,000	Karanbir Singh (karanbirsg)	0.820	0.690	0.000	APCO	No	No	Contra Costa
22MOY166	Ag/ off-road	Equipment replacement	2	$ 96,400	Stone Bridge Cellars Inc.	0.166	0.009	0.009	APCO	No	No	Napa
22MOY174	On-road	Equipment replacement	1	$ 25,000	Can Yuan Chen (canchen)	1.008	0.085	0.000	APCO	Yes	Yes	Alameda

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CMP/MSIF, FARMER and Community Air Protection Program projects
(awarded and allocated between 7/1/21 and 3/30/22)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	AB1390 Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
22MOY92	Ag/ off-road	Equipment replacement	1	$ 29,550	Paul P. Bianchi, Inc	0.025	0.023	0.007	APCO	No	No	Sonoma
22SBP52	School Bus	Equipment replacement	3	$ 435,306	Pittsburg Unified School District	0.290	0.022	0.000	10/6/2021	Yes	Yes	Contra Costa
22MOY185	Ag/ off-road	Equipment replacement	1	$ 67,100	Domenico J. Carinalli, Jr.	0.156	0.010	0.009	APCO	No	No	Sonoma
22MOY99	Ag/ off-road	Equipment replacement	1	$ 41,100	Daylight Vineyard Management, Inc.	0.062	0.005	0.007	APCO	No	No	Sonoma
22MOY179	Marine	Engine replacement	1	$ 72,000	Kyle Dryer dba Diamond Sportfishing	0.705	0.009	0.028	APCO	Yes	No	Alameda/Contra Costa/San Francisco
22MOY22	Ag/ off-road	Equipment replacement	2	$ 57,100	Joseph Pinheiro	0.047	0.018	0.010	APCO	No	No	Sonoma
22MOY160	Marine	Engine replacement	4	$ 3,529,000	Baydelta Navigation LTD	30.665	2.726	1.021	10/6/2021	Yes	Yes	San Francisco, Alameda, Contra Costa, Marin, Solano
21SBP98*	School Bus	Equipment replacement + Infrastructure	--	$ 242,828	Palo Alto Unified School District	--	--	--	10/6/2021	Yes	Yes	Santa Clara
22SBP14**	School Bus	Equipment replacement + Infrastructure	--	$ 95,327	Milpitas Unified School District	--	--	--	10/6/2021	Yes	Yes	Santa Clara
22MOY128	On-road	Equipment replacement	1	$ 15,000	Aman Khan	0.420	0.035	0.000	APCO	Yes	Yes	Alameda
22MOY187	Ag/ off-road	Equipment replacement	1	$ 30,100	Dierke's Enterprises	0.017	0.015	0.004	APCO	No	No	Sonoma
22MOY190	Ag/ off-road	Equipment replacement	2	$ 91,170	Anderson's Conn Valley Winery, Inc.	0.108	0.034	0.015	APCO	No	No	Napa
22MOY170	Off-road	Equipment replacement	1	$ 106,000	Argent Materials INC	0.814	0.041	0.021	11/17/2021	Yes	Yes	Alameda
22MOY209	Ag/ off-road	Equipment replacement	1	$ 192,600	Global Mushrooms LLC.	0.362	0.049	0.030	11/17/2021	No	Yes	Santa Clara
22MOY167	Ag/ off-road	Equipment replacement	2	$ 285,700	Ielmorini Moody Dairy	0.871	0.107	0.052	11/17/2021	No	Yes	Sonoma
22MOY196	Marine	Engine replacement	2	$ 256,000	A.C. Fishing Charters Inc., dba Tigerfish Sportfishing	0.576	0.000	0.031	11/17/2021	Yes	No	Alameda/Contra Costa/Marin/San Francisco
TBD	LD Infrastructure	Charge![§]	--	$ 2,000,000	BAAQMD	TBD[♦]	TBD[♦]	TBD[♦]	11/17/2021	TBD[♦]	TBD[♦]	Regional
22MOY211	Ag/ off-road	Equipment Replacement	1	$ 88,900	Pomponio Farms LLC	0.412	0.054	0.031	APCO	No	Yes	San Mateo
22SBP216***	School Bus	Equipment replacement + Infrastructure	3	$ 887,025	Campbell Union High School District	0.192	0.011	0.001	12/15/2021	Yes	Yes	Santa Clara County
22MOY217	Marine	Engine replacement	2	$ 380,000	Happy Hooker Sportfishing, LLC	1.340	-0.036	0.056	12/15/2021	Yes	Yes	Alameda, San Francisco, Contra Costa
22MOY206	Ag/ off-road	Equipment Replacement	1	$ 64,000	Wente Bros. dba. Wente Vineyards	0.214	0.035	0.026	APCO	Yes	No	Alameda
22MOY157	Ag/ off-road	Equipment replacement	3	$ 133,400	Walsh Vineyards Management Inc.	0.657	0.105	0.067	1/19/2022	No	No	Napa
22MOY220	Ag/ off-road	Equipment replacement	3	$ 160,300	Atlas Vineyard Management, Inc.	0.301	0.046	0.036	1/19/2022	No	No	Napa/Sonoma
22MOY208	Ag/ off-road	Equipment replacement	1	$ 117,100	Jack Neal and Son Inc	0.210	0.028	0.019	1/19/2022	No	No	Napa

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CMP/MSIF, FARMER and Community Air Protection Program projects
(awarded and allocated between 7/1/21 and 3/30/22)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	AB1390 Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
22MOY215	Marine	Engine Replacement	2	$ 187,000	Reel Screamer Charters LLC	0.371	0.003	0.019	1/19/2022	No	No	San Mateo, San Francisco, Marin
22MOY241	Marine	Engine replacement	2	$ 258,000	C-Gull II Sportfishing Inc.	0.934	0.000	0.050	1/19/2022	Yes	No	Alameda, San Francisco, Contra Costa, Marin
22MOY245	Marine	Engine replacement	2	$ 301,400	C-Gull II Sportfishing Inc.	0.550	0.002	0.029	1/19/2022	Yes	No	Alameda, San Francisco, Contra Costa, Marin
22MOY224	Marine	Engine Replacement	2	$ 133,000	Duane Winter	0.349	0.002	0.018	1/19/2022	No	No	San Mateo, San Francisco
22MOY195	Ag/ off-road	Equipment replacement	1	$ 59,500	Ilsley Brothers Farming, LLC	0.099	0.006	0.006	APCO	No	No	Napa
22MOY180	Ag/ off-road	Equipment replacement	1	$ 32,400	Frog's Leap Winery	0.041	0.003	0.004	APCO	No	No	Napa
22MOY235	Ag/ off-road	Equipment replacement	1	$ 50,300	Cornerstone Certified Vineyard	0.074	0.007	0.008	APCO	No	No	Sonoma
22MOY228	Marine	Engine replacement	1	$ 85,300	Wooden Boats for Vetrans Foundation	0.216	0.009	0.009	APCO	Yes	No	Solano/Contra Costa/San Francisco/Marin
22MOY223	Ag/ off-road	Equipment replacement	1	$ 24,700	Ingenious Solutions Incorporated	0.013	0.011	0.003	APCO	No	No	Napa
22MOY195	Ag/ off-road	Equipment replacement	1	$ 54,000	Ilsley Brothers Farming, LLC	0.090	0.005	0.005	APCO	No	No	Napa
22MOY227	Ag/ off-road	Equipment replacement	2	$ 104,400	M. German & Son Partnership	0.379	0.060	0.041	3/2/2022	No	No	Solano
22MOY258	Ag/ off-road	Equipment replacement	2	$ 119,400	Foley Family Farms, LLC	0.376	0.049	0.033	3/2/2022	No	No	Sonoma
22MOY250	Ag/ off-road	Equipment replacement	3	$ 447,500	George Bianchi Inc	1.361	0.139	0.080	3/2/2022	No	No	Sonoma
22MOY253	Ag/ off-road	Equipment replacement	1	$ 60,800	Alan Willey	0.099	0.015	0.009	APCO	No	No	Solano
22MOY259	Ag/ off-road	Equipment replacement	1	$ 70,200	Morrison Ranch	0.150	0.023	0.017	APCO	No	No	Solano
22MOY270	Ag/ off-road	Equipment replacement	2	$ 90,400	Dirt Farmer & Company, A California Corporation	0.188	0.012	0.011	APCO	No	No	Sonoma
22SBP203***	School Bus	Equipment replacement	12	$ 3,164,239	Oak Grove School District	1.000	0.120	0.010	3/2/2022	Yes	Yes	Santa Clara
22MOY261	Marine	Engine replacement	2	$ 140,000	Bay Marine Services, LLC	0.594	0.003	0.022	3/2/2022	Yes	Yes	Solano, Contra Costa
22MOY277	Ag/ off-road	Engine replacement	4	$ 192,400	Colinas Farming Company	0.374	0.061	0.046	4/6/2022	No	No	Napa
22MOY226	Ag/ off-road	Engine replacement	2	$ 108,400	Sonoma-Cutrer Vineyards, Inc.	0.291	0.017	0.017	4/6/2022	No	No	Sonoma
22MOY251	Ag/ off-road	Engine replacement	6	$ 290,900	New Pina Vineyard Management , LLC.	0.463	0.102	0.056	4/6/2022	No	No	Napa
22MOY283	Ag/ off-road	Engine replacement	2	$ 83,000	John Edward White	0.095	0.029	0.013	APCO	No	No	Napa
22MOY287	Ag/ off-road	Engine replacement	1	$ 71,400	A Cut Above Viticulture Service inc.	0.123	0.020	0.015	APCO	Yes	Yes	Napa
22MOY272	Marine	Engine replacement	3	$ 99,000	Lil' Man In The Boat, Inc.	0.994	0.039	0.037	APCO	Yes	Yes	San Francisco, Alameda, Marin

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CMP/MSIF, FARMER and Community Air Protection Program projects
(awarded and allocated between 7/1/21 and 3/30/22)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	AB1390 Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
22MOY276	Marine	Engine replacement	2	$ 99,000	John Barnett dba Amigo Adventures	0.522	0.014	0.019	APCO	Yes	No	San Francisco, Marin, Alameda
22MOY293	Marine	Engine replacement	4	$ 1,410,000	Golden Gate Ferry	10.169	1.411	0.150	TBD	Yes	Yes	San Francisco, Marin
22MOY299	Marine	Engine replacement	2	$ 114,000	Chuck Louie dba Chuckys Pride Sportfishing	0.446	-0.001	0.024	APCO	Yes	Yes	San Francisco, Alameda, Marin
22MOY238	On-road	Infrastructure	-	$ 4,535,255	AC Transit	-	-	-	TBD	Yes	Yes	Alameda
22SBP177	School Bus	Engine replacement	7	$ 1,540,000	West County Transportation Agency	0.830	0.070	0.000	TBD	Yes	Yes	Sonoma
22MOY263	Ag/ off-road	Equipment replacement	2	$ 129,900	Balletto Ranch, Inc.	0.224	0.023	0.018	APCO	No	No	Sonoma
22MOY285	Ag/ off-road	Equipment replacement	1	$ 50,400	Drake's View Dairy	0.098	0.017	0.013	APCO	Yes	Yes	Marin
22MOY295	Ag/ off-road	Equipment replacement	1	$ 169,000	A&S Landscape Materials, Inc.	0.590	0.041	0.030	APCO	Yes	Yes	Marin
22MOY204	Ag/ off-road	Equipment replacement + Infrastructure	2	$ 219,674	San Mateo Lumber Company, Inc.	0.263	0.077	0.003	APCO	Yes	Yes	San Mateo
22MOY266	Ag/ off-road	Equipment replacement	1	$ 90,600	Complete Equipment, Inc.	0.113	0.018	0.010	APCO	No	No	Sonoma
	82 Projects		**162**	**$ 33,028,799**		**72.6**	**7.3**	**2.7**				

*This project award reflects an approved increase of $242,828 in CMP/MSIF/CAPP funds to allow for DC fast-charging infrastructure to be included as part of this project.This project was previously awarded $513,500.00 of TFCA funds and $323,778.00 of CMP/MSIF/CAPP funds on 3/4/20.
**The project award reflects an approved increase of $95,327 in CMP/MSIF/CAPP funds to allow for DC fast-charging infrastructure to be included as part of this project. This project was previously awarded $204,598.00 of TFCA funds and $622,556.00 of CMP/MSIF/CAPP funds on 4/7/21.

*** This project is co-funded with TFCA funds as shown on Attachment 3.

§ Award Amount may come from either the Mobile Source Incentive Fund (MSIF) or the Transportation Fund for Clean Air (TFCA).

‡ Funds have been allocated to these programs and project results will be determined at the end of project period.

ATTACHMENT 3

Table 1 - TFCA projects awarded and allocated (between 7/1/21 and 3/30/22)

Project #	Project Category	Project Description	Award Amount	Applicant Name	Emission Reductions (tons per year)			Board/ APCO Approval Date	CARE Area	AB1550/ SB535 Area	County
					NO_X	ROG	PM				
2101-15735	LD Infrastructure	Install and operate 38 DC Fast chargers at 6 transportation corridor facilities in San Francisco, South San Francisco, Millbrae, Menlo Park, and San Jose.	$ 950,000	EVgo Services LLC	0.350	0.207	0.008	7/7/21	Yes	No	Multi-County
2103-17065	LD Infrastructure	Install and operate 5 Level 2 (high) dual port chargers at 1 transit parking facility in Napa.	$ 20,000	Napa Valley Transportation Authority	0.014	0.008	0.000	7/7/21	No	No	Napa
2103-17315	LD Infrastructure	Install and operate 135 Level 2 (high) single port chargers and 123 DC fast chargers at 40 destination, transportation corridor, and transit parking facilities in Vallejo, San Jose, Kenwood, Fairfield, Vacaville, Mountain View, and Santa Clara.	$ 2,999,000	EV Charging Solutions, Inc.	1.446	0.853	0.035	7/7/21	Yes	Yes	Multi-County
2103-17345	LD Infrastructure	Install and operate 2 DC Fast and 2 dual port Level 2 (high) chargers at 2 destination facilities in San Ramon.	$ 44,000	City of San Ramon	0.024	0.014	0.001	7/7/21	Yes	No	Alameda
2103-17497	LD Infrastructure	Install and operate 17 DC Fast chargers at 1 transportation corridor facility in Oakland.	$ 425,000	East Bay Community Energy Authority	0.157	0.093	0.004	7/7/21	Yes	Yes	Alameda
2103-17499	LD Infrastructure	Install and operate 8 Level 2 (high) dual port chargers at 1 multi-unit dwelling facility in Alameda.	$ 64,000	Alameda Multifamily Owner LLC	0.023	0.013	0.001	7/7/21	Yes	No	Alameda
2103-17520	LD Infrastructure	Install and operate 5 Level 2 (high) dual port and 2 Level 2 (high) single port chargers at 2 destination facilities in Dublin.	$ 26,000	City of Dublin	0.019	0.011	0.000	7/7/21	No	No	Alameda
2103-17524	LD Infrastructure	Install and operate 110 Level 2 (high) single port chargers with solar and 24 Level 2 (high) single port chargers at 3 workplace and 1 destination facilities in Solano.	$ 406,000	County of Solano	0.309	0.182	0.007	7/7/21	Yes	Yes	Solano
2103-17554	LD Infrastructure	Install and operate 2 Level 2 (high) dual port chargers with solar at 1 workplace facility in Richmond.	$ 12,000	West County Wastewater District	0.006	0.003	0.000	7/7/21	Yes	Yes	Contra Costa
2103-17625	LD Infrastructure	Install and operate 11 Level 2 (high) dual port chargers at 1 multi-unit dwelling facility in Brentwood.	$ 44,000	Silvergate Brentwood, LLC	0.037	0.022	0.001	7/7/21	No	No	Contra Costa
21R05	LD Infrastructure	FYE 21 Charge! Program	$ 10,000	BAAQMD	TBD*	TBD*	TBD*	7/7/21	TBD*	TBD*	Regional
22R02	LD Vehicles	Vehicle Buy Back Program	$ 200,000	BAAQMD	N/A**	N/A**	N/A**	6/16/21	N/A	N/A	Regional
21RSB03	School Bus	Match funding for Project #22SBP71 for the replacement of 12 diesel school buses with 12 electric school buses	$ 1,153,346	BAAQMD	N/A**	N/A**	N/A**	7/7/21	No	Yes	Sonoma
21RSB04	School Bus	Match funding for Project #22SBP84 for the replacement of 3 diesel school buses & 1 CNG school bus with 4 electric school buses	$ 892,045	BAAQMD	N/A**	N/A**	N/A**	7/7/21	No	Yes	Sonoma
21RSB05	School Bus	Match funding for Project #22SBP40 for the replacement of 5 diesel special needs school buses with 5 electric special needs school buses	$ 1,232,175	BAAQMD	N/A**	N/A**	N/A**	7/7/21	Yes	Yes	Santa Clara
22SBP203	School Bus	Match funding for the replacement of 8 diesel school buses with 8 electric school buses	$ 1,428,844	Oak Grove School District	N/A**	N/A**	N/A**	3/2/22	Yes	Yes	Sonoma
22SBP216	School Bus	Match funding for the replacement of 3 diesel school buses with 3 electric school buses	$ 623,591	Campbell Union High School District	N/A**	N/A**	N/A**	12/15/21	Yes	Yes	Santa Clara
21R12	Trip Reduction	Pleasanton Connector Shuttles	$ 80,000	San Joaquin Regional Rail Commission	N/A ǂ	N/A ǂ	N/A ǂ	6/22/21	No	No	Alameda

Project #	Project Category	Project Description	Award Amount	Applicant Name	Emission Reductions (tons per year)			Board/ APCO Approval Date	CARE Area	AB1550/ SB535 Area	County
					NO_X	ROG	PM				
22R01	Trip Reduction	Enhanced Mobile Source & Commuter Benefits Enforcement	$ 150,000	BAAQMD	TBD*	TBD*	TBD*	6/16/21	N/A	N/A	Regional
22R03	Trip Reduction	Spare The Air/Intermittent Control/Flex Your Commute Programs	$ 2,290,000	BAAQMD	TBD*	TBD*	TBD*	6/16/21	N/A	N/A	Regional
Total	**20**	**Projects**	**$13,050,001**		**2.384**	**1.408**	**0.057**				

* Funds have been allocated to these programs and projects and results will be determined at the end of project period.

** Emission reductions are fully reported under the Carl Moyer Program to prevent double counting.

‡ Emission reductions will be reported as part of the Spare the Air program (Project #21R03).

ATTACHMENT 4

Summary of funding awarded and allocated from the following revenue sources between 7/1/21 and 3/30/22

- Carl Moyer Program (CMP)
- Community Air Protection Program (CAPP)
- Mobile Source Incentive Fund (MSIF)
- Transportation Fund for Clean Air (TFCA)
- Funding Agricultural Replacement Measures for Emission Reductions (FARMER)

Figure 1. Status of FYE 2022 funding by source
includes funds awarded, recommended for award, and available

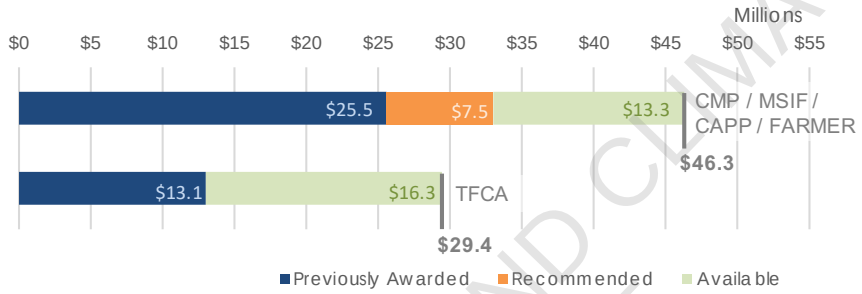


Figure 2. Funding awarded and allocated in FYE 2022 by county
includes funds awarded & recommended for award

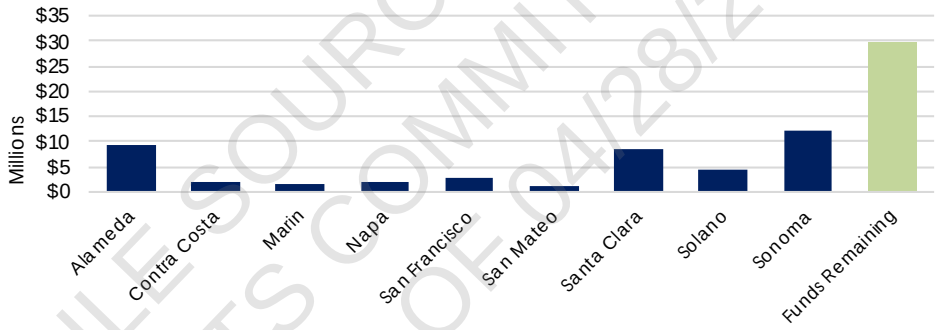
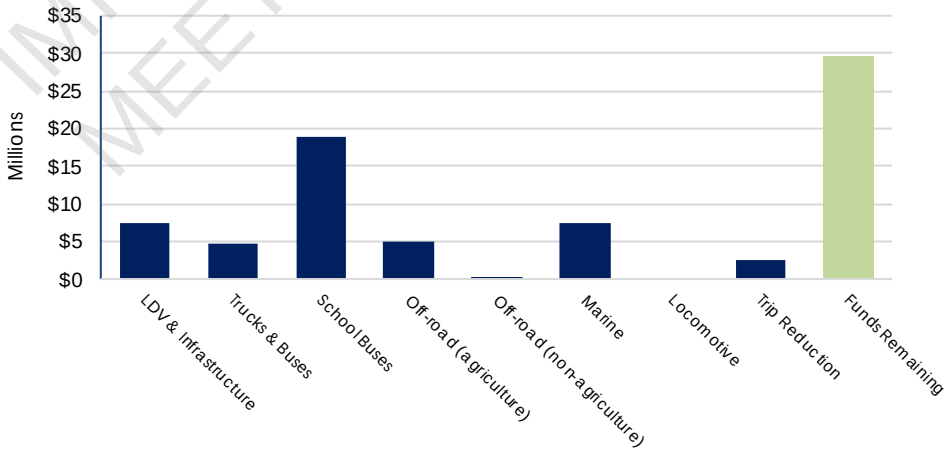


Figure 3. Funding awarded and allocated in FYE 2022 by project category
includes funds awarded & recommended for award



BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Teresa Barrett and Members
of the Mobile Source and Climate Impacts Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 28, 2022

Re: Transportation Fund for Clean Air County Program Manager Expenditure Plans For Fiscal Year Ending 2023

RECOMMENDED ACTION

1. Approve the allocation of new Transportation Fund for Clean Air (TFCA) revenue to each of the nine County Program Managers (CPM) for Fiscal Year Ending (FYE) 2023, as listed in Column A of Table 1; and

2. Authorize the Interim Executive Officer/APCO to enter into funding agreements with the CPMs for TFCA revenues to be programmed in FYE 2023 as listed in Column C of Table 1.

BACKGROUND

In 1991, the California State Legislature authorized the Bay Area Air Quality Management District (Air District) to impose a $4 surcharge on motor vehicles registered within the nine-county Bay Area to fund projects that reduce on-road motor vehicle emissions. The legislative requirements that enable the use of the funds are codified in California Health and Safety Code (HSC) Sections 44241 and 44242.

Forty percent of new TFCA revenue is passed through to the designated CPM in each of the nine counties within the Air District's jurisdiction based on each county's proportionate share of vehicle registration fees collected. The Air District awards the other sixty percent to eligible projects and programs it implements directly (e.g., Spare the Air) and to the TFCA Regional Fund program.

Pursuant to HSC Section 44241, CPMs must award TFCA funds to eligible projects within six months of the Air District Board of Directors' (Board) approval of their expenditure plans. Annually, CPMs submit expenditure plans to the Air District specifying the status of their prior year funding that is available for reprogramming and interest accrued. The Board adopted the policies and cost-effectiveness criteria for expenditure of CPM TFCA funds in FYE 2023 on

November 17, 2021.

DISCUSSION

The Air District received proposed expenditure plans from all nine CPMs. Table 1 shows the TFCA monies that are estimated to be available to CPMs in FYE 2023.

- Column A shows the new revenue projected to accrue from Department of Motor Vehicles (DMV) revenue from each county's proportionate share of vehicle registration fees collected.
- Column B shows TFCA carry-over funds available for reprogramming as reported by CPMs in their expenditure plans. Carry-over funds include TFCA monies from projects that were recently completed under budget and/or canceled, and any interest earned.
- Column C shows total amount of TFCA funds that are estimated to be available to CPMs in FYE 2023 (sum of values in columns A and B).

	A	**B**	**C**
County Program Manager	**Estimated New TFCA Revenue**	**Reprogrammed TFCA Funds**	**Estimated Total FYE 2023 TFCA Funds**
Alameda County Transportation Commission	$1,935,000	$1,146,011	$3,081,011
Contra Costa Transportation Authority	$1,535,700	$651,858	$2,187,558
Transportation Authority of Marin	$351,400	$3,727	$355,127
Napa Valley Transportation Authority	$196,900	$8,034	$204,934
San Francisco County Transportation Authority	$690,800	$287,969	$978,769
San Mateo City/County Association of Governments	$926,700	$168,677	$1,095,377
Santa Clara Valley Transportation Authority	$2,326,400	$40,325	$2,366,725
Solano Transportation Authority	$350,300	$27,898	$378,198
Sonoma County Transportation Authority	$623,700	$18,076	$641,776
TOTAL	***$8,936,900***	***$2,352,575***	***$11,289,475***

BUDGET CONSIDERATION/FINANCIAL IMPACT

None. TFCA revenue is generated from DMV registration fees collected and 40% of the TFCA funds are passed through to the CPMs. Administrative costs for the CPMs and the Air District are reimbursed by TFCA program revenue.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Hannah Cha
Reviewed by: Linda Hui, Ken Mak, Minda Berbeco, and Karen Schkolnick

ATTACHMENTS:

None

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Teresa Barrett and Members
of the Mobile Source and Climate Impacts Committee

From: Alexander Crockett
Interim Acting Executive Officer/APCO

Date: April 28, 2022

Re: Annual Update to the Transportation Fund for Clean Air (TFCA) Regional Fund Policies and Evaluation Criteria for Fiscal Year Ending (FYE) 2023

RECOMMENDED ACTION

Recommend Board of Directors approve the proposed updates to TFCA Regional Fund Policies and Evaluation Criteria for FYE 2023 presented in Attachment A.

BACKGROUND

In 1991, the California State Legislature authorized the Bay Area Air Quality Management District (Air District) to impose a $4 surcharge on each motor vehicle registered within the nine-county Bay Area to fund projects that reduce on-road motor vehicle emissions within the Air District's jurisdiction. The statutory authority and requirements for the Transportation Fund For Clean Air (TFCA) are set forth in California Health and Safety Code Sections 44241 and 44242. The authorizing legislation requires that the Air District's Board of Directors (Board) adopt cost-effectiveness criteria that govern the use of the TFCA funds.

Sixty percent of TFCA funds are allocated annually by the Board to eligible projects and programs implemented directly by the Air District (e.g., Spare the Air) and to a program referred to as the Regional Fund. The remaining forty percent (40%) of TFCA funds are passed-through to the County Program Manager Fund, based on each county's proportionate share of vehicle registration fees paid, and awarded by the nine designated agencies within the Air District's jurisdiction.

On April 6, 2022, the Board approved an allocation of $28.92 million in TFCA monies for award in FYE 2023 through the Regional Fund and to Air District sponsored program categories, including an estimated $12.92 million in new revenue and additional funds from prior years and interest. At the same meeting, the Board also authorized the Executive Officer/APCO to execute grant agreements with project sponsors whose projects have proposed individual awards up to $500,000 and that meet the respective governing policies and guidelines. TFCA projects recommended for awards greater than $500,000 are brought to the Air District's Mobile Source Committee for consideration.

The authorizing legislation requires the Board to consider updates to the Regional Fund Policies and Evaluation Criteria (Policies), which establish the eligibility and evaluation criteria for projects and award of TFCA funding at least annually. The Policies include both general requirements, applicable to all Regional Fund projects, and project category-specific requirements.

This report discusses the proposed updates to the Policies for FYE 2023 and the public process through which these updates were developed.

DISCUSSION

Public Outreach Process for FYE 2023 Policies

On January 31, 2022, the Air District posted the draft Policies on its website and opened the public comment period, which closed on March 3, 2022. The public comment process was advertised via the Air District's TFCA grants email notification system and sent to more than 1,700 stakeholders, including representatives from each of the nine Bay Area Congestion Management Agencies (CMAs). The updates proposed for FYE 2023 were presented and discussed a public webinar on February 8. Attachment C provides a summary of the public comments received, along with staff's responses.

Proposed Updated Policies for FYE 2023

For FYE 2023, proposed updates were made to the current-year Policies to address the comments and suggestions received from stakeholders throughout the prior year and during the public comment period. Language revisions were also made for clarification purposes.

A redlined copy of the Policies for FYE 2023, which shows the proposed updates from the prior year, is included as Attachment B. Below is a summary of the key proposed updates:

- Update the evaluation criteria to include Priority Populations as a consideration and remove cost-effectiveness limits for *Hydrogen Stations* and *Electric Vehicle Charging Infrastructure* (policy #2).

- Continue providing an additional 12 months of flexibility for grantees to start their projects (for a total of 24 months) to address supply shortages and other delays caused by the pandemic (policy #8).

- Combine *On-Road Light- and Medium-Duty Zero- and Partial-Zero-Emissions Vehicles (policy #23) and On-Road Heavy-Duty Zero- and Partial-Zero-Emissions Trucks and Buses* (policy #24) into one category.

- Allow TFCA funds to be used to cover all or part of the incentive amount associated with vehicle scrapping (Policy #27)

Impacts of Staffing Shortage

The staffing shortage in the grants program restricts the new funds that can be accepted, impacts the quality of work, and has resulted in high risks to the program's ability to execute, and has resulted in high risks to the program's conformance to audit requirements that will persist for many years.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None. TFCA funds are generated from DMV registration fees and distributed to sponsors of eligible projects on a reimbursement basis. Administrative costs are also covered by TFCA.

Respectfully submitted,

Alexander Crockett
Interim Acting Executive Officer/APCO

Prepared by: Linda Hui
Reviewed by: Minda Berbeco and Karen Schkolnick

ATTACHMENTS:

1. Attachment A - Proposed FYE 2023 TFCA RF Policies
2. Attachment B - Proposed FYE 2023 TFCA RF Policies - Redlined Version
3. Attachment C - Comments and Responses

TFCA REGIONAL FUND POLICIES AND EVALUATION CRITERIA FOR FYE 2023

The following policies apply to the Bay Area Air Quality Management District's (Air District) Transportation Fund for Clean Air (TFCA) Regional Fund for fiscal year ending (FYE) 2023.

BASIC ELIGIBILITY

1. **Eligible Projects:** Only projects that result in the reduction of motor vehicle emissions within the Air District's jurisdiction are eligible. Projects must conform to the provisions of the California Health and Safety Code (HSC) sections 44220 et seq. and Air District Board of Directors adopted TFCA Regional Fund Policies and Evaluation Criteria.

   Projects must achieve surplus emission reductions, i.e., reductions that are beyond what is required through regulations, contracts, and other legally binding obligations at the time the Air District executes the project's funding agreement.

2. **TFCA Cost-Effectiveness:** Projects must not exceed the maximum cost-effectiveness (C-E) limit specified in Table 1, except for projects that are being co-funded by other Air District-administered programs (e.g., Carl Moyer Program). Emissions benefits for co-funded projects may be reported under other Air District-administered programs. Cost-effectiveness ($/weighted ton) is the ratio of TFCA funds awarded to the sum of surplus emissions reduced, during a project's operational period, of reactive organic gases (ROG), nitrogen oxides (NOx), and weighted PM10 (particulate matter 10 microns in diameter and smaller).

Table 1: Maximum Cost-Effectiveness for TFCA Regional Fund Projects

Policy #	Project Category	Maximum C-E ($/weighted ton)
22	On-Road Truck Replacements	$90,000
23	On-Road Zero- and Partial- Zero- Emissions Vehicles	$500,000
25	Hydrogen Stations	N/A*
26	Electric Vehicle Charging Infrastructure	N/A*
27	Vehicle Scrapping	$50,000**
28	Existing Last-Mile Commuter Connections	Evaluated as part of the Spare the Air Program
29	Pilot Trip Reduction	$500,000
30	Existing Regional Ridesharing Services	Evaluated as part of the Spare the Air Program
31	Bicycle Parking	$250,000
32	Bikeways	$500,000
33	Infrastructure Improvements for Trip-Reduction	$500,000

***** These projects provide electric vehicle charging/hydrogen refueling infrastructure needed to enable emission reductions from electric and fuel cell electric vehicles. To maximize emissions reductions and public health benefits, projects will be evaluated based on project characteristics including, but not limited to, cost of the project, anticipated equipment usage, and anticipated benefits to environmental justice communities and communities highly impacted by air pollution but shall not be subject to a maximum cost-effectiveness limit.

****** Maximum C-E for vehicle scrapping if entirely funded by TFCA. If TFCA is used as a match for state funds, all emissions reductions will be claimed by the state program.

3. **Consistent with Existing Plans and Programs:** All projects must comply with the Transportation Control and Mobile Source Control Measures included in the Air District's most recently approved strategies for achieving and maintaining State and national ozone standards (2017 Clean Air Plan); those plans and programs established pursuant to California Health & Safety Code (HSC) sections 40233, 40717 and 40919; and, when specified, other adopted federal, State, regional, and local plans and programs.
4. **Eligible Recipients and Authority to Apply:** Applicants must have the legal authority, as well as the financial and technical capability, to complete projects. In addition, the following conditions apply:
   a. **Eligible Recipients**:
      i. **Public agencies** are eligible to apply for all project categories.
      ii. **Non-public entities** are eligible to apply for only Clean Air Vehicle Projects and advanced technology demonstrations that are permitted pursuant to HSC section 44241(b)(7).
   b. **Authority to Apply:** Applicants must demonstrate that they have the authority to submit the application, to enter into a funding agreement, to carry out the project, and to bind the entity to perform these tasks by including either: 1) a signed letter of commitment from the applicant's representative with authority (e.g., Chief Executive or Financial Officer, Executive Director, or City Manager); or 2) a signed resolution from the governing body (e.g., City Council, Board of Supervisors, or Board of Directors).
5. **Viable Project and Matching Funds:** Applicants must demonstrate that they have adequate funds to cover all stages of their proposed project(s) from commencement through completion. Unless otherwise specified in policies #22 through 33, project applicants must provide evidence that they have at least 10% of the total eligible project costs (matching funds) from a non-Air District source available and ready to commit to the proposed projects.
6. **Minimum Grant Amount:** $10,000 per project.
7. **Maximum Grant Amount:** the maximum grant award amounts are:
   a. Each public agency may be awarded up to a total award of $5,500,000 per agency per year; and
   b. Each non-public entity may be awarded up to a total award of $5,000,000 per entity per year.
8. **Readiness:** Unless otherwise specified in policies #22 through 33, projects must commence by the end of calendar year 2023 or within 24 months from the date of execution of the funding agreement with the Air District, whichever is later. For purposes of this policy, "commence" means either (a) a discrete, necessary and tangible action, such as the issuance of a purchase order to secure project vehicles or equipment or the delivery of the award letter for a construction contract, taken for a project to begin implementation, or (b) commencement or continuation of transportation service, such as last-mile commuter connections or ridesharing service, for which the project sponsor can provide documentation of date the action occurred.
9. **Maximum Two Years Operating Costs for Service-Based Projects:** Unless otherwise specified in policies #22 through 33, TFCA Regional Funds may be used to support up to two years of

operating costs for service- based projects (i.e., Trip Reduction Projects).

10. **Project Revisions:** The Air District will consider only requests for modifications to approved projects that are within the same project categories, achieve the same or better cost-effectiveness, comply with all TFCA Regional Fund Policies, and are in compliance with all applicable federal and State laws, and Air District rules and regulations. The Air District may also approve minor modifications, such as to correct typographical mistakes in the grant agreements or to change the name of the grantees, without re-evaluating the proposed modification in light of the regulations, contracts, and other legally binding obligations that are in effect at the time the minor modification was proposed.

APPLICANT IN GOOD STANDING

11. **In Compliance with Air Quality Regulations:** Applicants must certify that, at the time of the application and at the time of issuance of the grant, they are in compliance with all local, state, and federal air quality regulations. Applicants who are in compliance with those laws, rules and regulations, but who have pending litigation or who have unpaid civil penalties owed to the Air District, may be eligible for funding, following a review and approval by the Air District. The Air District may terminate a grant agreement and seek reimbursement of distributed funds from a project sponsor who was not eligible for funding at the time of the grant.
12. **In Compliance with Agreement Requirements:** Project sponsors who have failed to meet contractual requirements such as project implementation milestones or monitoring and reporting requirements for any project funded by the Air District may not be considered eligible for new funding until such time as all of the unfulfilled obligations are met.
13. **Independent Air District Audit Findings and Determinations:** Project sponsors who have failed either a fiscal audit or a performance audit for a prior Air District funded project will be excluded from future funding for three (3) years from the date of the Air District's final determination in accordance with HSC section 44242. Additionally, project sponsors with open projects will not be reimbursed until all audit recommendations and remedies have been satisfactorily implemented.

    A failed fiscal audit means an uncorrected audit finding that confirms an ineligible expenditure of funds. A failed performance audit means an uncorrected audit finding that confirms a project was not implemented as set forth in the project funding agreement.

    Project sponsors must return funds under any of the following circumstances:

    a. The funds were expended in a manner contrary to the TFCA Regional Funds' requirements and/or requirements of HSC Code section 44220 et seq;
    b. The project did not result in a surplus reduction of air pollution from the mobile sources or transportation control measures pursuant to the applicable plan;
    c. The funds were not spent for surplus reduction of air pollution pursuant to a plan or program to be implemented by the TFCA Regional Fund;
    d. The project sponsor failed to comply with the approved project scope, as set forth in the project funding agreement.

    Applicants who failed to reimburse such funds to the Air District from prior Air District funded

projects will be excluded from future TFCA funding.

14. **Executed Funding Agreement:** Only a fully executed funding agreement (i.e., signed by both the project sponsor and the Air District) constitutes the Air District's award of funds for a project. Approval of an application for the project by the Air District Board of Directors or Air District's notices such as a transmittal letter announcing the proposed award do not constitute a final obligation on the part of the Air District to fund a project.

    Applicants must sign funding agreements within 60 days from the date the agreements were transmitted to them in order to remain eligible for award of TFCA Regional Funds. Applicants may request, in writing, an extension of up to no more than 180 days from the transmittal date to sign the grant agreements. The request shall include the basis for an extended signature period. At its discretion, the Air District may authorize such an extension.

15. **Maintain Appropriate Insurance:** Project sponsors must obtain and maintain general liability insurance and additional insurance that is appropriate for its specific project type throughout the life of the project, with coverage being no less than the amounts specified in the respective funding agreement. Project sponsors shall require their subcontractors to obtain and maintain such insurance of the type and in the amounts required by the grant agreements.

INELIGIBLE PROJECTS

16. **Planning Activities:** The costs of preparing or conducting feasibility studies are not eligible. Other planning activities may be eligible, but only if the activities are directly related to the implementation of a specific project or program.

17. **Cost of Developing Proposals and Grant Applications:** The costs to prepare proposals and/or grant applications are not eligible.

18. **Duplication:** Projects that have previously received any TFCA funds, e.g., TFCA Regional Funds or County Program Manager Funds, and that do not propose to achieve additional emission reductions are not eligible.

USE OF TFCA FUNDS

19. **Combined Funds:** Unless otherwise specified in policies #22 through 33, TFCA County Program Manager Funds may not be combined with TFCA Regional Funds to fund a TFCA Regional Fund project.

20. **Administrative Costs:** Unless otherwise specified in policies #22 through 33, TFCA Regional Funds may not be used to pay for administrative costs (i.e., the costs associated with administering a TFCA Regional Fund grant). In cases where administrative costs may be paid for by TFCA Regional Funds, they are limited to a maximum of 6.25% of total TFCA Regional Funds expended on a project and are only available to projects sponsored by public agencies. To be eligible for reimbursement, administrative costs must be clearly identified in the project budget at the time of application and in the funding agreement between the Air District and the project sponsor.

21. **Expend Funds within Two Years:** Project sponsors must expend the grant funding within two (2) years of the effective date of their grant agreement. Applicants may request a longer period in the application, by submitting evidence that a longer period is justified to complete the project

due to its unique circumstance. Project sponsors may request a longer period before the end of the agreements' second year in the event that significant progress has been made in the implementation of the project. If the Air District approves a longer period, the parties shall memorialize the approval and length of the extension formally (i.e., in writing) in the grant agreement or in an amendment to the executed grant agreement.

ELIGIBLE PROJECT CATEGORIES

To be eligible for funding from the TFCA Regional Fund, a proposed project must meet the purpose and requirements for the applicable Project Category.

Clean Air Vehicle Projects

22. **On-Road Truck Replacements:** The project will replace Class 6, Class 7, and Class 8 diesel-powered trucks that have a Gross Vehicle Weight Rating (GVWR) of 19,501 lbs. or greater (per vehicle weight classification definition used by Federal Highway Administration (FHWA)) with new or used trucks that have an engine certified to the 2010 California Air Resources Board (CARB) emissions standards or cleaner. The existing truck(s) to be replaced must be registered with the California Department of Motor Vehicles (DMV) to an address within the Air District's jurisdiction and must be scrapped after replacement.
23. **On-Road Zero- and Partial-Zero-Emissions Vehicles:** The project will help vehicle owners and operators achieve significant voluntary emission reductions by accelerating the deployment of zero- and partial-zero-emissions motorcycles, cars, light- and medium- duty vehicles, trucks, and buses:
    a. Reserved.
    b. Vehicles may be purchased or leased;
    c. Eligible vehicle types are limited to plug-in hybrid-electric, plug-in electric, and fuel cell vehicles. Vehicles must also be approved by the CARB;
    d. Project Sponsors may request authorization of up to 100% of the TFCA Funds awarded for each vehicle to be used to pay for costs directly related to the purchase and installation of alternative fueling infrastructure and/or equipment used to power the new vehicle;
    e. Projects that seek to scrap and replace a vehicle may qualify for additional TFCA funding toward the purchase or lease of a new vehicle. Costs related to the scrapping and/or dismantling of the existing vehicle are not eligible for reimbursement with TFCA funds;
    f. Vehicles that are solely powered by gasoline, natural gas, or diesel, and retrofit projects are not eligible; and
    g. The total amount of TFCA funds awarded may not exceed 100% of the project's eligible cost for School Buses and 90% of the project's eligible cost for all other vehicle types; the sum of TFCA funds awarded combined with all other grants and applicable manufacturer and local/state/federal rebates and discounts may not exceed total project costs.
24. Reserved.
25. **Hydrogen Stations:** The project is intended to accelerate the deployment of hydrogen fueling stations. Funding may be used for the purchase and installation of equipment for new dispensing

facilities and for upgrades and improvements that expand access to existing refueling sites. The following additional conditions must also be met:

a. Stations must be located within the Air District's jurisdiction and be available and accessible to the public;
b. Equipment and infrastructure must be designed, installed, and maintained as required by the existing recognized codes and standards and approved by the local/State authority;
c. Each station must be maintained and operated for a minimum of three years;
d. TFCA funding may not be used to pay for fuel or on-going operations or maintenance costs;
e. TFCA funding is limited to 25% of the total eligible project cost and may not exceed a maximum award amount of $250,000 per station; and
f. Stations must have received a passing score and/or received approval for funding from a State or federal agency.

26. **Electric Vehicle Charging Infrastructure:** The project is intended to accelerate the adoption of zero- emissions vehicles through the deployment of new electric vehicle charging stations:
    a. Each station must be maintained and operated for a minimum of three years;
    b. Project equipment must be certified by Underwriters Laboratories, Inc. or equivalent safety standard; and
    c. TFCA funding may not be used to pay for on-going operations or maintenance costs.

27. **Vehicle Scrapping:** The project is intended to accelerate the removal of highly polluting vehicles from Bay Area roads. Funding will be provided to owners of on-road motor vehicles who voluntarily scrap vehicles that meet the following requirements:
    a. Vehicles must be roadworthy and pass an inspection by the Air District or its designee;
    b. Vehicles must be currently registered with the DMV to an address within the Air District's jurisdiction and have had continuous registration to the same owner for a minimum of two years; and
    c. Owners may receive up to the total incentive amount offered for this program from the TFCA only or a combination of TFCA and other Air District programs. Program participants may not apply for funding from any other public agencies for scrapping.

Trip Reduction Projects

28. **Existing Last-Mile Commuter Connections:** The project will reduce single-occupancy vehicle commute-hour trips by providing the short-distance connection between a mass transit hub and one or more definable commercial hubs or employment centers:
    a. The project must provide local feeder bus or shuttle service between stations (e.g., rail stations, ferry stations, Bus Rapid Transit (BRT) stations, or airports) and a distinct commercial or employment location;
    b. The service's schedule must be coordinated to have a timely connection with the corresponding mass transit service;
    c. The service must be available for use by all members of the public;

d. TFCA Regional Funds may be used to fund only shuttle services to locations that are under-served and lack other comparable service. For the purposes of this policy, "comparable service" means that there exists, either currently or within the last three years, a direct, timed, and publicly accessible service that brings passengers to within one-third (1/3) mile of the proposed commercial or employment location from a mass transit hub. A proposed service will not be deemed "comparable" to an existing service if the passengers' proposed travel time will be at least 15 minutes shorter and at least 33% shorter than the existing service's travel time to the proposed destination;

e. Reserved.

f. TFCA Regional Funds may be used to fund services only during commuter peak-hours, i.e., 5:00-10:00 AM and/or 3:00-7:00 PM;

g. Reserved.

h. Project Sponsors must be either: (1) a public transit agency or transit district that directly operates the shuttle/feeder bus service, or (2) a city, county, or any other public agency; and

i. Applicants must submit a letter of concurrence from all transit districts or transit agencies that provide service in the area of the proposed route, certifying that the service does not conflict with existing service.

29. **Pilot Trip Reduction:** The project will reduce single-occupancy commute-hour vehicle trips by encouraging mode-shift to other forms of shared transportation. Pilot projects are defined as projects that serve an area where no similar service was available within the past three years, or will result in significantly expanded service to an existing area. Funding is designed to provide the necessary initial capital to a public agency for the start-up of a pilot project so that by the end of the third year of the trip reduction project's operation, the project will be financially self-sustaining or require minimal public funds, such as grants, to maintain its operation:

    a. Applicants must demonstrate the project will reduce single-occupancy commute-hour vehicle trips and result in a reduction in emissions of criteria pollutants (i.e., ROG, NOx, and PM10);

    b. The proposed service must be available for use by all members of the public;

    c. Applicants must provide a written plan documenting steps that would be taken to ensure that the project will be financially self-sustaining or require minimal public funds to maintain its operation by the end of the third year;

    d. If the local transit provider is not a partner, the applicant must demonstrate they have attempted to get the service provided by the local transit agency. The transit provider must have been given the first right of refusal and determined that the proposed project does not conflict with existing service;

    e. Applicants must provide data and/or other evidence demonstrating the public's need for the service, including a demand assessment survey and letters of support from potential users; and

    f. Pilot trip reduction projects that propose to provide shuttle/feeder bus and ridesharing service projects must comply with all applicable requirements in policies #28 and #30.

30. **Existing Regional Ridesharing Services:** The project will provide carpool, vanpool, and other rideshare services. For TFCA Regional Fund eligibility, ridesharing projects must be comprised of

riders from at least five counties within Air District's jurisdiction, with no one county accounting for more than 80% of all riders, as verified by documentation submitted with the application.

If a project includes ride-matching services, *only* ride-matches that are not already included in the Metropolitan Transportation Commission's (MTC) regional ridesharing program are eligible for TFCA Regional Funds. Projects that provide a direct or indirect financial transit or rideshare subsidy are also eligible under this category. Applications for projects that provide a direct or indirect financial transit or rideshare subsidy *exclusively* to employees of the project sponsor are not eligible.

31. **Bicycle Parking:** The project will expand public access to new bicycle parking facilities. The project must be included in an adopted countywide bicycle plan, Congestion Management Plan (CMP), the MTC's Regional Bicycle Plan, or other similar plan, and serve a major activity center (e.g. transit station, office building, or school). The bicycle parking facility must be publicly accessible and available for use by all members of the public.

    TFCA Regional Funds may not be used to pay for costs related to maintenance, repairs, upgrades, rehabilitation, operations, or project administration.

    Monies expended by the Project Sponsor to maintain, repair, upgrade, rehabilitate, or operate bicycle parking facilities are not eligible for use as matching funds.

32. **Bikeways:** The project will construct and/or install bikeways that are included in an adopted countywide bicycle plan, CMP, countywide transportation plan (CTP), city general plan or area-specific plan, the MTC's Regional Bicycle Plan, or other similar plan. To be eligible for funding, the purpose of bikeways that are included in an adopted city general plan or area-specific plan must be to reduce motor vehicle emissions or traffic congestion. Projects must have completed all applicable State and federal environmental reviews and either have been deemed exempt by the lead agency or have been issued the applicable negative declaration or environmental impact report or statement.

    All bikeway projects must, where applicable, be consistent with design standards published in the California Highway Design Manual or conform to the provisions of the Protected Bikeway Act of 2014.

    Projects must reduce vehicle trips made for utilitarian purposes (e.g., work or school commuting) and cannot be used exclusively for recreational use. Projects must also meet at least one of the following conditions:

    a. Be located within one-half mile biking distance from the closer of a public transit station/stop (e.g., local, county- wide or regional transit stops/stations/terminals) or a bike share station;
    b. Be located within one-half mile biking distance from a major activity center that serves at least 2,500 people per day (e.g., employment centers, schools, business districts); or
    c. Be located within one-half mile biking distance from three activity centers (e.g., employment centers, schools, business districts).

    Projects are limited to the following types of bikeways:

    a. Class I Bikeway (Bike Path), new or upgrade improvement from Class II or Class III Bikeway;
    b. New Class II Bikeway (Bike Lane);

c. New Class III Bikeway (Bike Route); or
d. Class IV Bikeway (Separated Bikeway), new or upgrade improvement from Class II or Class III bikeway.

33. **Infrastructure Improvements for Trip-Reduction:** The project will expand the public's access to alternative transportation modes through the design and construction by local public agencies of physical improvements that support development projects that achieve motor vehicle emission reductions. The projects and physical improvements shall be identified in an approved area-specific plan, redevelopment plan, general plan, or other similar plan.

REGIONAL FUND EVALUATION CRITERIA:

Applications may be reviewed on either a first-come, first-served basis or a competitive basis. Projects will be evaluated using the criteria listed below.

1. Eligible projects will be evaluated based on cost-effectiveness and conformity to additional specific requirements discussed in the adopted policies and project-specific solicitation guidance.
2. TFCA Regional Funds will be prioritized for projects that meet one or more of the following criteria:
   a. Projects in Highly Impacted Communities or Episodic Areas as defined in the Air District's Community Air Risk Evaluation (CARE) Program, in other communities identified through the Assembly Bill (AB) 617 (2017) process, or that benefit Priority Populations as defined by SB 535 disadvantaged communities, AB 1550 low-income communities, and low-income households; and
   b. Projects in Priority Development Areas (PDAs).

TFCA REGIONAL FUND POLICIES AND EVALUATION CRITERIA FOR FYE 2023

The following policies apply to the Bay Area Air Quality Management District's (Air District) Transportation Fund for Clean Air (TFCA) Regional Fund for fiscal year ending (FYE) 2023~~32~~.

BASIC ELIGIBILITY

1. **Eligible Projects:** Only projects that result in the reduction of motor vehicle emissions within the Air District's jurisdiction are eligible. Projects must conform to the provisions of the California Health and Safety Code (HSC) sections 44220 et seq. and Air District Board of Directors adopted TFCA Regional Fund Policies and Evaluation Criteria.

   Projects must achieve surplus emission reductions, i.e., reductions that are beyond what is required through regulations, contracts, and other legally binding obligations at the time the Air District executes the project's funding agreement.

2. **TFCA Cost-Effectiveness:** Projects must not exceed the maximum cost-effectiveness (C-E) limit specified in Table 1, except for projects that are being co-funded by other Air District-administered programs (e.g., Carl Moyer Program). Emissions benefits for co-funded projects may be reported under other Air District-administered programs. Cost-effectiveness ($/weighted ton) is the ratio of TFCA funds awarded to the sum of surplus emissions reduced, during a project's operational period, of reactive organic gases (ROG), nitrogen oxides (NOx), and weighted PM10 (particulate matter 10 microns in diameter and smaller).

Table 1: Maximum Cost-Effectiveness for TFCA Regional Fund Projects

Policy #	Project Category	Maximum C-E ($/weighted ton)
22	On-Road Truck Replacements	$90,000
23	On-Road ~~Light- and Medium-Duty~~ Zero- and Partial-Zero- Emissions Vehicles	$500,000
~~24~~	~~On-Road Heavy-Duty Zero- and Partial-Zero-Emissions Trucks and Buses~~	~~$500,000~~
25	Hydrogen Stations	~~$500,000~~N/A*
26	Electric Vehicle Charging Infrastructure	~~$500,000~~N/A*
27	Vehicle Scrapping	$50,000~~**~~
28	Existing Last-Mile Commuter Connections	Evaluated as part of the Spare the Air Program
29	Pilot Trip Reduction	$500,000
30	Existing Regional Ridesharing Services	Evaluated as part of the Spare the Air Program
31	Bicycle Parking	$250,000
32	Bikeways	$500,000
33	Infrastructure Improvements for Trip-Reduction	$500,000

* These projects provide electric vehicle charging/hydrogen refueling infrastructure needed to enable emission reductions from electric and fuel cell electric vehicles. To maximize emissions reductions and public health benefits, projects will be evaluated based on project characteristics including, but not limited to, cost of the project, anticipated equipment usage, and anticipated benefits to environmental justice communities and communities highly impacted by

air pollution but shall not be subject to a maximum cost-effectiveness limit.

** Maximum C-E for vehicle scrapping if entirely funded by TFCA. If TFCA is used as a match for state funds, all emissions reductions will be claimed by the state program.

3. **Consistent with Existing Plans and Programs:** All projects must comply with the Transportation Control and Mobile Source Control Measures included in the Air District's most recently approved strategies for achieving and maintaining State and national ozone standards (2017 Clean Air Plan); those plans and programs established pursuant to California Health & Safety Code (HSC) sections 40233, 40717 and 40919; and, when specified, other adopted federal, State, regional, and local plans and programs.
4. **Eligible Recipients and Authority to Apply:** Applicants must have the legal authority, as well as the financial and technical capability, to complete projects. In addition, the following conditions apply:
   a. **Eligible Recipients**:
      i. **Public agencies** are eligible to apply for all project categories.
      ii. **Non-public entities** are eligible to apply for only Clean Air Vehicle Projects and advanced technology demonstrations that are permitted pursuant to HSC section 44241(b)(7).
   b. **Authority to Apply:** Applicants must demonstrate that they have the authority to submit the application, to enter into a funding agreement, to carry out the project, and to bind the entity to perform these tasks by including either: 1) a signed letter of commitment from the applicant's representative with authority (e.g., Chief Executive or Financial Officer, Executive Director, or City Manager); or 2) a signed resolution from the governing body (e.g., City Council, Board of Supervisors, or Board of Directors).
5. **Viable Project and Matching Funds:** Applicants must demonstrate that they have adequate funds to cover all stages of their proposed project(s) from commencement through completion. Unless otherwise specified in policies #22 through 33, project applicants must provide evidence that they have at least 10% of the total eligible project costs (matching funds) from a non-Air District source available and ready to commit to the proposed projects.
6. **Minimum Grant Amount:** $10,000 per project.
7. **Maximum Grant Amount:** the maximum grant award amounts are:
   a. Each public agency may be awarded up to a total award of $5,500,000 per agency per year; and
   b. Each non-public entity may be awarded up to a total award of $5,000,000 per entity per year.
8. **Readiness:** Unless otherwise specified in policies #22 through 33, projects must commence by the end of calendar year 2022~~2~~3 or within 24 months from the date of execution of the funding agreement with the Air District, whichever is later. For purposes of this policy, "commence" means either (a) a discrete, necessary and tangible action, such as the issuance of a purchase order to secure project vehicles or equipment or the delivery of the award letter for a construction contract, taken for a project to begin implementation, or (b) commencement or continuation of transportation service, such as last-mile commuter connections or ridesharing service, for which

the project sponsor can provide documentation of date the action occurred.

9. **Maximum Two Years Operating Costs for Service-Based Projects:** Unless otherwise specified in policies #22 through 33, TFCA Regional Funds may be used to support up to two years of operating costs for service- based projects (i.e., Trip Reduction Projects).
10. **Project Revisions:** The Air District will consider only requests for modifications to approved projects that are within the same project categories, achieve the same or better cost-effectiveness, comply with all TFCA Regional Fund Policies, and are in compliance with all applicable federal and State laws, and Air District rules and regulations. The Air District may also approve minor modifications, such as to correct typographical mistakes in the grant agreements or to change the name of the grantees, without re-evaluating the proposed modification in light of the regulations, contracts, and other legally- binding obligations that are in effect at the time the minor modification was proposed.

APPLICANT IN GOOD STANDING

11. **In Compliance with Air Quality Regulations:** Applicants must certify that, at the time of the application and at the time of issuance of the grant, they are in compliance with all local, state, and federal air quality regulations. Applicants who are in compliance with those laws, rules and regulations, but who have pending litigation or who have unpaid civil penalties owed to the Air District, may be eligible for funding, following a review and approval by the Air District. The Air District may terminate a grant agreement and seek reimbursement of distributed funds from a project sponsor who was not eligible for funding at the time of the grant.
12. **In Compliance with Agreement Requirements:** Project sponsors who have failed to meet contractual requirements such as project implementation milestones or monitoring and reporting requirements for any project funded by the Air District may not be considered eligible for new funding until such time as all of the unfulfilled obligations are met.
13. **Independent Air District Audit Findings and Determinations:** Project sponsors who have failed either a fiscal audit or a performance audit for a prior Air District funded project will be excluded from future funding for three (3) years from the date of the Air District's final determination in accordance with HSC section 44242. Additionally, project sponsors with open projects will not be reimbursed until all audit recommendations and remedies have been satisfactorily implemented.

    A failed fiscal audit means an uncorrected audit finding that confirms an ineligible expenditure of funds. A failed performance audit means an uncorrected audit finding that confirms a project was not implemented as set forth in the project funding agreement.

    Project sponsors must return funds under any of the following circumstances:

    a. The funds were expended in a manner contrary to the TFCA Regional Funds' requirements and/or requirements of HSC Code section 44220 et seq;
    b. The project did not result in a surplus reduction of air pollution from the mobile sources or transportation control measures pursuant to the applicable plan;
    c. The funds were not spent for surplus reduction of air pollution pursuant to a plan or program to be implemented by the TFCA Regional Fund;

d. The project sponsor failed to comply with the approved project scope, as set forth in the project funding agreement.

Applicants who failed to reimburse such funds to the Air District from prior Air District funded projects will be excluded from future TFCA funding.

14. **Executed Funding Agreement:** Only a fully executed funding agreement (i.e., signed by both the project sponsor and the Air District) constitutes the Air District's award of funds for a project. Approval of an application for the project by the Air District Board of Directors or Air District's notices such as a transmittal letter announcing the proposed award do not constitute a final obligation on the part of the Air District to fund a project.

    Applicants must sign funding agreements within 60 days from the date the agreements were transmitted to them in order to remain eligible for award of TFCA Regional Funds. Applicants may request, in writing, an extension of up to no more than 180 days from the transmittal date to sign the grant agreements. The request shall include the basis for an extended signature period. At its discretion, the Air District may authorize such an extension.

15. **Maintain Appropriate Insurance:** Project sponsors must obtain and maintain general liability insurance and additional insurance that is appropriate for its specific project type throughout the life of the project, with coverage being no less than the amounts specified in the respective funding agreement. Project sponsors shall require their subcontractors to obtain and maintain such insurance of the type and in the amounts required by the grant agreements.

INELIGIBLE PROJECTS

16. **Planning Activities:** The costs of preparing or conducting feasibility studies are not eligible. Other planning activities may be eligible, but only if the activities are directly related to the implementation of a specific project or program.

17. **Cost of Developing Proposals and Grant Applications:** The costs to prepare proposals and/or grant applications are not eligible.

18. **Duplication:** Projects that have previously received any TFCA funds, e.g., TFCA Regional Funds or County Program Manager Funds, and that do not propose to achieve additional emission reductions are not eligible.

USE OF TFCA FUNDS

19. **Combined Funds:** Unless otherwise specified in policies #22 through 33, TFCA County Program Manager Funds may not be combined with TFCA Regional Funds to fund a TFCA Regional Fund project.

20. **Administrative Costs:** Unless otherwise specified in policies #22 through 33, TFCA Regional Funds may not be used to pay for administrative costs (i.e., the costs associated with administering a TFCA Regional Fund grant). In cases where administrative costs may be paid for by TFCA Regional Funds, they are limited to a maximum of 6.25% of total TFCA Regional Funds expended on a project and are only available to projects sponsored by public agencies. To be eligible for reimbursement, administrative costs must be clearly identified in the project budget at the time of application and in the funding agreement between the Air District and the project sponsor.

21. **Expend Funds within Two Years:** Project sponsors must expend the grant funding within two (2) years of the effective date of their grant agreement. Applicants may request a longer period in the application, by submitting evidence that a longer period is justified to complete the project due to its unique circumstance. Project sponsors may request a longer period before the end of the agreements' second year in the event that significant progress has been made in the implementation of the project. If the Air District approves a longer period, the parties shall memorialize the approval and length of the extension formally (i.e., in writing) in the grant agreement or in an amendment to the executed grant agreement.

ELIGIBLE PROJECT CATEGORIES

To be eligible for funding from the TFCA Regional Fund, a proposed project must meet the purpose and requirements for the applicable Project Category.

Clean Air Vehicle Projects

22. **On-Road Truck Replacements:** The project will replace Class 6, Class 7, and Class 8 diesel-powered trucks that have a Gross Vehicle Weight Rating (GVWR) of 19,501 lbs. or greater (per vehicle weight classification definition used by Federal Highway Administration (FHWA)) with new or used trucks that have an engine certified to the 2010 California Air Resources Board (CARB) emissions standards or cleaner. The existing truck(s) to be replaced must be registered with the California Department of Motor Vehicles (DMV) to an address within the Air District's jurisdiction and must be scrapped after replacement.

23. **On-Road ~~Light-and Medium- Duty~~ Zero- and Partial-Zero-Emissions Vehicles:** The project will help vehicle owners and operators achieve significant voluntary emission reductions by accelerating the deployment of zero- and partial-zero-emissions motorcycles, cars, ~~and~~ light- and medium- duty vehicles, trucks, and buses:

    a. Reserved.~~Vehicles must have a GVWR not exceeding 8,500 lbs.;~~

    b. Vehicles may be purchased or leased;

    c. Eligible vehicle types are limited to plug-in hybrid-electric, plug-in electric, and fuel cell vehicles. Vehicles must also be approved by the CARB;

    d. Project Sponsors may request authorization of up to 100% of the TFCA Funds awarded for each vehicle to be used to pay for costs directly related to the purchase and installation of alternative fueling infrastructure and/or equipment used to power the new vehicle;

    e. Projects that seek to scrap and replace a vehicle may qualify for additional TFCA funding toward the purchase or lease of a new vehicle. Costs related to the scrapping and/or dismantling of the existing vehicle are not eligible for reimbursement with TFCA funds;

    f. Vehicles that are solely powered by gasoline, natural gas, or diesel, and retrofit projects are not eligible; and

    g. The total amount of TFCA funds awarded may not exceed 100% of the project's eligible cost for School Buses and 90% of the project's eligible cost for all other vehicle types; the sum of TFCA funds awarded combined with all other grants and applicable manufacturer and local/state/federal rebates and discounts may not exceed total project costs.

~~24. **On-Road Heavy-Duty Zero- and Partial-Zero-Emissions Trucks and Buses**: The project will~~

~~help fleet operators achieve significant voluntary emission reductions by encouraging the replacement of older, compliant trucks and buses with the cleanest available technology, and help fleet operators who are expanding their fleet to choose the cleanest available technology:~~

~~25. Each vehicle must be new and have a GVWR greater than 8,500 lbs.;~~

~~26. Vehicles may be purchased or leased;~~

~~27. Eligible vehicle types are limited to plug-in hybrid-electric, plug-in electric, and fuel cell vehicles. Vehicles must also be approved by the CARB;~~

~~28. Project Sponsors may request authorization of up to 100% of the TFCA Funds awarded for each vehicle to be used to pay for costs directly related to the purchase and installation of alternative fueling infrastructure and/or equipment used to power the new vehicle;~~

~~29. Projects that seek to scrap and replace a vehicle may qualify for additional TFCA funding toward the purchase or lease of a new vehicle. Costs related to the scrapping and/or dismantling of the existing vehicle are not eligible for reimbursement with TFCA funds;~~

~~30. Vehicles that are solely powered by gasoline, natural gas, or diesel, and retrofit projects are not eligible; and~~

~~31.~~24. ~~The total amount of TFCA funds awarded may not exceed 100% of the project's eligible cost for School Buses and 90% of the project's eligible cost for all other vehicle types; the sum of TFCA funds awarded combined with all other grants and applicable manufacturer and local/State/federal rebates and discounts may not exceed total project costs~~Reserved.

~~32.~~25. **Hydrogen Stations:** The project is intended to accelerate the deployment of hydrogen fueling stations. Funding may be used for the purchase and installation of equipment for new dispensing facilities and for upgrades and improvements that expand access to existing refueling sites. The following additional conditions must also be met:

a. Stations must be located within the Air District's jurisdiction and be available and accessible to the public;
b. Equipment and infrastructure must be designed, installed, and maintained as required by the existing recognized codes and standards and approved by the local/State authority;
c. Each station must be maintained and operated for a minimum of three years;
d. TFCA funding may not be used to pay for fuel or on-going operations or maintenance costs;
e. TFCA funding is limited to 25% of the total eligible project cost and may not exceed a maximum award amount of $250,000 per station; and
f. Stations must have received a passing score and/or received approval for funding from a State or federal agency.

~~33.~~26. **Electric Vehicle Charging Infrastructure:** The project is intended to accelerate the adoption of zero- emissions vehicles through the deployment of new electric vehicle charging stations:

a. Each station must be maintained and operated for a minimum of three years;
b. Project equipment must be certified by Underwriters Laboratories, Inc. or equivalent safety standard; and

c. TFCA funding may not be used to pay for on-going operations or maintenance costs.

~~34.~~27. **Vehicle Scrapping:** The project is intended to accelerate the removal of highly polluting vehicles from Bay Area roads. Funding will be provided to owners of on-road motor vehicles who voluntarily scrap vehicles that meet the following requirements:

a. Vehicles must be roadworthy and pass an inspection by the Air District or its designee;
b. Vehicles must be currently registered with the DMV to an address within the Air District's jurisdiction and have had continuous registration to the same owner for a minimum of two years; and
c. Owners may receive up to the total incentive amount offered for this program from the TFCA only or a combination of TFCA and ~~Vehicles have not and will not receive funding from~~ other Air District programs. Program participants may not apply for funding from any ~~or~~ other public agencies for scrapping.

Trip Reduction Projects

~~35.~~28. **Existing Last-Mile Commuter Connections:** The project will reduce single-occupancy vehicle commute-hour trips by providing the short-distance connection between a mass transit hub and one or more definable commercial hubs or employment centers:

a. The project must provide local feeder bus or shuttle service between stations (e.g., rail stations, ~~-~~ferry stations, Bus Rapid Transit (BRT) stations, or airports) and a distinct commercial or employment location;
b. The service's schedule must be coordinated to have a timely connection with the corresponding mass transit service;
c. The service must be available for use by all members of the public;
d. TFCA Regional Funds may be used to fund only shuttle services to locations that are under-served and lack other comparable service. For the purposes of this policy, "comparable service" means that there exists, either currently or within the last three years, a direct, timed, and publicly accessible service that brings passengers to within one-third (1/3) mile of the proposed commercial or employment location from a mass transit hub. A proposed service will not be deemed "comparable" to an existing service if the passengers' proposed travel time will be at least 15 minutes shorter and at least 33% shorter than the existing service's travel time to the proposed destination;
e. Reserved.
f. TFCA Regional Funds may be used to fund services only during commuter peak-hours, i.e., 5:00-10:00 AM and/or 3:00-7:00 PM;
g. Reserved.
h. Project Sponsors must be either: (1) a public transit agency or transit district that directly operates the shuttle/feeder bus service, or (2) a city, county, or any other public agency; and
i. Applicants must submit a letter of concurrence from all transit districts or transit agencies that provide service in the area of the proposed route, certifying that the service does not conflict with existing service.~~; and~~
~~j. Projects that would operate in Highly Impacted Communities or Episodic Areas as defined~~

~~in the Air District Community Air Risk Evaluation (CARE) Program, or in Priority Development Areas (PDAs), may qualify for funding at a higher cost-effectiveness limit (see Policy #2).~~

~~36.~~29. **Pilot Trip Reduction:** The project will reduce single-occupancy commute-hour vehicle trips by encouraging mode-shift to other forms of shared transportation. Pilot projects are defined as projects that serve an area where no similar service was available within the past three years, or will result in significantly expanded service to an existing area. Funding is designed to provide the necessary initial capital to a public agency for the start-up of a pilot project so that by the end of the third year of the trip reduction project's operation, the project will be financially self-sustaining or require minimal public funds, such as grants, to maintain its operation:

a. Applicants must demonstrate the project will reduce single-occupancy commute-hour vehicle trips and result in a reduction in emissions of criteria pollutants (i.e., ROG, NOx, and PM10);
b. The proposed service must be available for use by all members of the public;
c. Applicants must provide a written plan documenting steps that would be taken to ensure that the project will be financially self-sustaining or require minimal public funds to maintain its operation by the end of the third year;
d. If the local transit provider is not a partner, the applicant must demonstrate they have attempted to get the service provided by the local transit agency. The transit provider must have been given the first right of refusal and determined that the proposed project does not conflict with existing service;
e. Applicants must provide data and/or other evidence demonstrating the public's need for the service, including a demand assessment survey and letters of support from potential users; and
f. Pilot trip reduction projects that propose to provide shuttle/feeder bus and ridesharing service projects must comply with all applicable requirements in policies #28 and #30.

~~37.~~30. **Existing Regional Ridesharing Services:** The project will provide carpool, vanpool, and other rideshare services. For TFCA Regional Fund eligibility, ridesharing projects must be comprised of riders from at least five counties within Air District's jurisdiction, with no one county accounting for more than 80% of all riders, as verified by documentation submitted with the application.

If a project includes ride-matching services, *only* ride-matches that are not already included in the Metropolitan Transportation Commission's (MTC) regional ridesharing program are eligible for TFCA Regional Funds. Projects that provide a direct or indirect financial transit or rideshare subsidy are also eligible under this category. Applications for projects that provide a direct or indirect financial transit or rideshare subsidy *exclusively* to employees of the project sponsor are not eligible.

~~38.~~31. **Bicycle Parking:** The project will expand public access to new bicycle parking facilities. The project must be included in an adopted countywide bicycle plan, Congestion Management Plan (CMP), the MTC's Regional Bicycle Plan, or other similar plan, and serve a major activity center (e.g. transit station, office building, or school). The bicycle parking facility must be publicly accessible and available for use by all members of the public.

TFCA Regional Funds may not be used to pay for costs related to maintenance, repairs, upgrades, rehabilitation, operations, or project administration.

Monies expended by the Project Sponsor to maintain, repair, upgrade, rehabilitate, or operate bicycle parking facilities are not eligible for use as matching funds.

~~39.~~32. **Bikeways:** The project will construct and/or install bikeways that are included in an adopted countywide bicycle plan, CMP, countywide transportation plan (CTP), city general plan or area-specific plan, the MTC's Regional Bicycle Plan, or other similar plan. To be eligible for funding, the purpose of bikeways that are included in an adopted city general plan or area-specific plan must be to reduce motor vehicle emissions or traffic congestion. Projects must have completed all applicable State and federal environmental reviews and either have been deemed exempt by the lead agency or have been issued the applicable negative declaration or environmental impact report or statement.

All bikeway projects must, where applicable, be consistent with design standards published in the California Highway Design Manual or conform to the provisions of the Protected Bikeway Act of 2014.

Projects must reduce vehicle trips made for utilitarian purposes (e.g., work or school commuting) and cannot be used exclusively for recreational use. Projects must also meet at least one of the following conditions:

a. Be located within one-half mile biking distance from the closer of a public transit station/stop (e.g., local, county- wide or regional transit stops/stations/terminals) or a bike share station;
b. Be located within one-half mile biking distance from a major activity center that serves at least 2,500 people per day (e.g., employment centers, schools, business districts); or
c. Be located within one-half mile biking distance from three activity centers (e.g., employment centers, schools, business districts).

Projects are limited to the following types of bikeways:

a. Class I Bikeway (Bike Path), new or upgrade improvement from Class II or Class III Bikeway;
b. New Class II Bikeway (Bike Lane);
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Applications may be reviewed on either a first-come, first-served basis or a competitive basis. Projects will be evaluated using the criteria listed below.

1. Eligible projects will be evaluated based on cost-effectiveness and conformity to additional specific requirements discussed in the adopted policies and project-specific solicitation guidance.
2. TFCA Regional Funds will be prioritized for projects that meet one or more of the following criteria:
   a. Projects in Highly Impacted Communities or Episodic Areas as defined in the Air District's Community Air Risk Evaluation (CARE) Program, ~~and~~ in other communities identified through the Assembly Bill (AB) 617 (2017) process, or that benefit Priority Populations as defined by SB 535 disadvantaged communities, AB 1550 low-income communities, and low-income households; and
   b. Projects in Priority Development Areas (PDAs).

Commenter & Agency	Comment	Staff Response
Vandana Bali **ChargePoint**	ChargePoint supports the Air District's proposed updates to Policy 26.	Noted.
Tiffany Rodriguez **AS-SJSU Transportation Solutions**	*The commenter provided background on many aspects of COVID-19 impacts to their organization and their inability to meet Air District program requirements. The commenter recommends that the Air District provide more flexibility with grant requirements as they recover from low ridership during the pandemic.* I would also like to recommend that grant funding be approved for improving bike infrastructure instead of just adding new bike racks. Again, I am aware that the measurement is based on how many cars are being taken off the road by the number of added bike racks, but that measurement is not 1:1, people would be more encouraged to bike to campus if they knew they had secured facilities that were secure, weather protected, with facilities to store their bike accessories. That could be measured through tracking utilization through new sign ups for secured enclosures or utilization reports using key access data. I strongly recommend the Air District considers other factors when measuring the effectiveness of a program based on the population, locations, utilization, and more when taking into account eligible costs and funding awarded. Other eligible costs should include supporting multimodal infrastructure as well such as e scooter and e bike parking since the use of these is rising to solve last mile connection issues.	The Air District has continued to update the policies to provide flexibility to project sponsors and applicants experiencing challenges implementing projects because of the effects of the COVID-19 pandemic. Project sponsors are encouraged to contact the Air District directly if they are experiencing these challenges to discuss potential options. The Air District also continues to support existing last-mile commuter and regional ridesharing services that are consistent with the Policies, at the same funding amount. For local ridesharing programs, please seek funding from the County Program Manager for Santa Clara County. All TFCA projects must achieve surplus emission reductions. Air District staff will explore the option of allowing upgrades to bicycle parking if these projects will result in surplus emission reductions.
Frances Neade **Solano County Department of Resource Management, Public Works**	To produce regional reductions in greenhouse gas (GHG) emissions, SB 375 specifies consideration of financial incentives for farm to market and interconnectivity transportation needs. By enhancing transportation alternatives to and from local agriculture provides significant reductions in net GHG by reducing import/export of agricultural products for consumption and processing. Solano County is requesting amendment to Policy #33 to include consideration of eligible farm to market (ABAG identified Priority Conservation Areas) routes that serve immediately adjacent urban	Air District staff reached out to the commenter to get more information on this comment. Policy #33, Infrastructure Improvements for Trip-Reduction, can support farm-to-market routes if these routes expand the public's access to alternative transportation modes and achieve motor vehicle emission reductions. Additionally,

Commenter & Agency	Comment	Staff Response
	centers. The variety of improvements along these routes incentivize localized use and consumption without GHG intensive regional transport. Our city residents cherish our local ag producers and farm stands but funding remains limited on options to enhance and expand alternative modes of transportation to these immediately adjacent areas. We believe these types of projects should be provided scoring consideration due to the significant reduction in VMT/GHG that local production provides adjacent urban centers. In addition, County-to-County connections are becoming critical for cyclists to travel between regional areas. Solano County is currently collaborating with Yolo County on critical gap closures with assistance from Yolo Solano Air Quality Management District funding. The Bay Area Air Quality Management District should consider similar goals and financial incentives.	funding may be available through the County Program Manager for Solano County. Funding for bikeways (see Policy #32) is available.
Kristina Mosaffa **The Lion Electric Co. USA Inc.**	*The commenter provided background on many aspects of the company as a leader in the zero-emission vehicle industry.* Lion strongly supports the proposal to waive the cost-effectiveness limit for ZEV infrastructure projects. As California moves to grow its electric vehicle deployment by 2030, the demand for EV charging stations has also risen. The California Energy Commission (CEC) has found that the state will need 1.2 million EV chargers to meet this growing demand in time. By waiving minimum cost-effectiveness thresholds, more applicants will be able to secure funding for critical ZEV infrastructure. Streamlined access to robust charging infrastructure will facilitate ZEV deployment to replace older, polluting fleets, subsequently lowering emissions and improving public health. The proposed change will also allow for a greater focus on other project benefits, such as those to low-income and disadvantaged communities that are disproportionately affected by air pollution, as opposed to cost-effectiveness limits that might otherwise restrict charging infrastructure projects. In addition, Lion supports the continued 12-month extension for starting projects, which provides a total of 24 months for applicants preparing to adding new zero-emission vehicles to their fleets. As the world	Noted. Noted.

Commenter & Agency	Comment	Staff Response
	continues to grapple with supply chain disruptions, these considerations allow for more projects to secure much-needed funding and reach completion. We applaud the BAAQMD for remaining cognizant of the global difficulties that many industries still face and implementing policies that will empower applicants switching to ZEVs to complete these critical projects to improve air quality and public health in their communities. Lastly, regarding the proposal to combine category #23 (On-Road Light- and Medium-Duty Zero- and Partial-Zero Emissions Vehicles) and #24 (On-Road Heavy-Duty Zero and Partial-Zero-Emissions Trucks and Buses), Lion asks that the BAAQMD reconsider this reclassification. While it is imperative that the Bay Area moves towards vehicle electrification at all classes, there is a notable difference in emission reductions between light-duty and heavy-duty ZEVs. By combining these categories, this raises the potential for more light-duty projects being awarded than heavy-duty projects, which will dramatically affect overall emissions reductions for the district. This potential prioritization of light-duty projects may discourage heavy-duty applicants whose projects may not be competitive in a combined category. By continuing to have a separate category for heavy-duty vehicle adoption or replacement projects, this encourages applicants to replace older, more heavily polluting vehicles with the assistance of the TFCA. The removal of these vehicles will represent a more significant emissions reduction impact than light-duty alone.	Though under the same policy, the Air District will conduct separate solicitations and evaluations of these two categories. As a result, applications for light-, medium-, and heavy-duty vehicles are not in direct competition with one another for awards of TFCA funds.
Barbara Laurenson **Metropolitan Transportation Commission**	The regional fund policy states that existing regional rideshare services would be evaluated as part of the Spare the Air Program. What is the cycle for this evaluation? I did not think that rideshare would continue to be considered through Spare the Air.	The Air District has continued to support existing regional ridesharing services that are consistent with the Policies. The TFCA funding allocation for FYE 2023, which was approved by the Board on April 6, 2022, includes staff's recommendation to continue supporting ridesharing services and to evaluate any emission reduction benefits from these services as part of the Spare the Air Program.

Commenter & Agency	Comment	Staff Response
Joe Siudzinski **Private Individual**	*The commenter recommends that pure battery electric vehicles be exempted from the $4 surcharge on vehicles registered within the Air District's jurisdiction for TFCA because the owners have already incurred an additional cost to Spare the Air.*	The Air District commends Bay Area residents who choose to spare the air. However, battery electric vehicles are not 100% emissions free – there are emissions associated with brake wear, tire wear, and road dust and additional emissions if these vehicles are contributing to traffic congestion.
Maureen Sedonaen **Habitat for Humanity Greater SF (Marin-SF-San Mateo)**	We would love to see funds available to cover the costs for the installation of EV chargers for non-profit developers building multi-family developments for low-income housing.	The Air District offers funding for electric vehicle charging stations through its Charge! Program. Air District staff will be reaching out to the commenter for more information.
Bruce Beayert **Trails for Richmond Action Committee**	Recommending funding facilities that make it more attractive and safer to bicycle and walk, thus reducing VMT with associated traffic congestion and emissions of air pollutants and GHG.	Funding for bikeways (see Policy #32), and infrastructure improvements for trip-reduction (see Policy #33) is available.
Ozzy Arce **City of Palo Alto**	Bicyclists, including children heading to school, need abundant, efficient, safe, and secure places to store their bicycles. Bicycle support facilities, such as short-term bicycle parking, help support bicycle commuting in Palo Alto and contribute to the long-term viability of bicycling as a healthy, active, and sustainable mode for commuting, including school commutes. However, many of the existing bike racks at schools are inadequate, aging, and past their useful life, resulting in damaged bicycles, crowded facilities, and may deter children from riding their bicycle to school. Considering how bicycle parking and end-of-trip facilities can be a determining factor in whether someone decides to make a bicycle trip, the City of Palo Alto respectfully submits the following comment regarding the Bay Area Air Quality Management District's (BAAQMD) Transportation Fund for Clean Air (TFCA) program, specifically Basic Eligibility Policy #31, Bicycle Parking: Allow funds to be used to pay for the costs related to maintenance, repairs, upgrades, rehabilitation, or operations of existing bicycle parking facilities.	All TFCA projects must achieve surplus emission reductions. Air District staff will explore the option of allowing upgrades to bicycle parking if these projects will result in surplus emission reductions.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Karen Mitchoff and Members of the Board of Directors

From: Alexander Crockett
Interim Executive Officer/APCO

Date: May 4, 2022

Re: Public Hearing to Consider Adoption of Proposed New Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants and Proposed Amendments of Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations; and Certification of a Final Environmental Impact Report Pursuant to the California Environmental Quality Act

RECOMMENDED ACTION

Recommend the Board of Directors take the following actions:

1. Adoption of proposed new Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants (Rule 13-5);
2. Adoption of proposed amendments to Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations (Rule 8-2);
3. Certification of a Final Environmental Impact Report

BACKGROUND

The Air District has a policy goal of reducing Bay Area greenhouse gas emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Methane is a potent and short-lived climate pollutant with a global warming potential 86 times greater than that of carbon dioxide, when compared on a 20-year time horizon. The intent of Proposed Rule 13-5 is to minimize both methane and other organic compound emissions, normally emitted from atmospheric vents at industrial hydrogen plants during normal operating conditions, startups, shutdowns, malfunctions, upsets, and emergencies. Staff is also proposing to amend Rule 8-2 to exempt those hydrogen plant sources that meet the emissions standards expressed in section 301 of Proposed Rule 13-5, and to amend section 601 to allow for approved alternate test methods for facilities that process non-petroleum feedstock consistent with recently adopted amendments to Air District refinery rules.

The Air District held a public workshop at its headquarters in San Francisco in January 2020 to present and discuss draft regulatory language for Rule 13-5, along with a workshop report. Based on comments received and additional research, Air District staff revised draft Rule 13-5 to address concerns and comments raised by stakeholders and published a revised version of draft

Rule 13-5 and the associated Preliminary Staff Report in September 2020.

The Air District received comments on the September 2020 version of the revised draft rule and subsequently updated the draft rule language to accommodate reasonable concerns related to definitions, testing methods, monitoring, reporting, and compliance timelines. On June 30, 2021, the Air District released a request for comments along with the updated draft rule language, as well as a CEQA Notice of Preparation of a Draft Environmental Impact Report and an Initial Study (NOP/IS). Air District staff hosted a scoping meeting held in a virtual format on Tuesday, July 27, 2021, and accepted comments on the revised rule language and CEQA NOP/IS through July 30, 2021. In September 2021, Air District staff met with refinery staff to better understand potential emissions reduction measures that might be implemented to comply with draft Rule 13-5 in lieu of flaring. On October 20, 2021, the Air District met with Western State Petroleum Association and refinery staff to discuss the potential challenges and issues related to monitoring emissions from carbon dioxide scrubbing and deaerator vents. In response to feedback from the public, regulated community, and internal staff, along with that of the Board of Directors, Air District staff prepared the Proposed New Rule 13-5, Staff Report, and Draft Environmental Impact Report.

On January 24, 2022, Air District staff released a Notice of Public Hearing, Notice of Completion and Availability of a CEQA Draft Environmental Impact Report, Proposed New Rule 13-5, Proposed Amendments to Rule 8-2, Staff Report, Socioeconomic Impact Analysis, and other supporting documents. Written comments on the Draft Environmental Impact Report were accepted until March 10, 2022, the deadline for the 45-day written comment period required by CEQA.

In response to comments received, Air District staff made revisions to regulatory language and made this revised Proposed Rule 13-5 available for further public comment. Air District staff made revisions to the Administrative Requirements, and Monitoring and Records sections of Proposed Rule 13-5 as well as additional clarifications. These revisions provide clarity to ensure the original intent of the rule Page 3 is maintained while allowing adequate time to install required control and monitoring equipment. Staff did not propose any changes to the Proposed Amendments to Rule 8-2. To allow adequate time to review and respond to additional comments, the Public Hearing was rescheduled from April 6, 2022 to May 4, 2022. Air District staff prepared a summary of comments received along with responses to be included with supporting documents for consideration by the Board of Directors.

DISCUSSION

Proposed New Rule 13-5: Industrial Hydrogen Plants

Rule 13-5 is designed to reduce methane and other organic compounds—referred to as "total organic compounds"—from industrial hydrogen plant operations. The Proposal will require that, within six years from adoption, each atmospheric vent at an industrial hydrogen plant meet a combined emission standard for total organic compounds of 15 pounds per day and 300 parts per million by volume (ppmv), except for deaerator and carbon dioxide vents.

Proposed Rule 13-5 also provides an alternative compliance option whereby an affected facility could opt to reduce the overall emissions of methane and other greenhouse gases by 90 percent via an approach approved by the Air District. An Alternative Compliance Plan prepared by the owner or operator of an industrial hydrogen plant would detail the measures undertaken to achieve these emissions reductions. It should be noted that only the hydrogen plants at PBF Energy and Valero refineries are anticipated to require modifications to comply with the emission standards of the proposal and that the three other Bay Area refineries would not be impacted by the emission standards of the rule but may be impacted by other requirements of Proposed Rule 13-5. Proposed Rule 13-5 includes reporting requirements for owners or operators to notify the Air District of hydrogen plant atmospheric venting occurrences when total organic compound emissions exceed 15 pounds per day and the concentrations exceed 300 ppmv measured as methane on a dry basis.

The operator of an industrial hydrogen plant subject to the Proposed Rule 13-5 would have to monitor and record all parameters necessary to demonstrate compliance with the provisions contained in the standards section of the rule. Hydrogen plant atmospheric vents would be required to have flowrate meters installed. Operators of hydrogen plant deaerator vents and carbon dioxide scrubbing vents would have to install flowrate meters, recorders, and sampling ports, and must monitor total organic compound emissions. Because atmospheric venting from a pressure swing absorption unit that is properly maintained and operated should never exceed the total organic compound atmospheric vent emission standards of Proposed Rule 13-5, the owner or operator of a hydrogen plant with a pressure swing absorption vent would not be required to maintain emission records from the pressure swing absorption vent unless the unit malfunctions, which would likely lead to an exceedance of the vent emissions standards.

Proposed Amendments to Rule 8-2: Miscellaneous Operations

Staff is proposing to exempt sources that are subject to the atmospheric vent emission standard of Rule 13-5 from the requirements of Rule 8-2. This is because the vent emissions standard contained in Proposed Rule 13-5 is more stringent than the general emission standard contained in Rule 8-2, which only addresses organic compounds excluding methane. Facilities complying with Rule 13-5 through the alternative compliance option would remain subject to Rule 8-2 because this option applies to only methane.

Staff is also proposing amendments to Rule 8-2 to allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed. This additional amendment to Rule 8-2 is being proposed at this time to be consistent with other recently amended rules and is unrelated to Proposed Rule 13-5.

Socioeconomic Impacts

The Air District evaluated the socioeconomic impacts of the proposed new rule and amendments, as required by Health and Safety Code Section 40728.5. The Socioeconomic Impact Analysis considers the impacts of the rule or regulation on employment and the economy of the region affected by the adoption of the rule or regulation. The analysis methodology utilized a conservative approach, by analyzing the worst-case scenarios in terms of control options to determine impacts. The Socioeconomic Impact Analysis concludes that the proposed amendments would not result in significant economic impacts to the majority of the affected facilities. The impact exceeds the significance threshold for one of the smaller facilities for the high end of the cost estimate using worst case assumptions. However, the annualized cost would represent one third the cost for salary and benefits for one employee and so would not likely result in reduced employment to mitigate this impact. There are also potential cost mitigations available to the impacted facilities through carbon credits generated through compliance with Proposed Rule 13-5 that may be traded on both voluntary and compliance markets. While compliance with Proposed Rule 13-5 may impose costs on affected hydrogen producers in the Bay Area, failure to reduce GHG emissions imposes ongoing costs on society as estimated by entities including the U.S. Environmental Protection Agency's Interagency Working Group. The Social Cost of Carbon measures the economic harm caused by climate change, and the reductions in greenhouse gases achieved by Proposed Rule 13-5 will reduce the social cost of carbon, partially mitigating compliance costs.

Environmental Impacts

The Air District evaluated the potential for Proposed Rule 13-5 and amendments to Rule 8-2 to have significant adverse environmental impacts as required by the California Environmental Quality Act (CEQA), Public Resources Code Section 21800 et seq. The Air District prepared a Notice of Preparation and an Initial Study (NOP/IS) in anticipation of a Draft Environmental Impact Report (DEIR) and this NOP/IS was distributed to responsible agencies and interested parties for a 30-day review on June 30, 2021. Public comments received on the NOP/IS raised additional concerns and evaluation of these additional potential impacts were included in the DEIR as part of the evaluation of impacts identified in the NOP/IS. The DEIR was published January 24, 2022 for review and comment. Aesthetic and GHG impacts were found to be less than significant, but air quality impacts are potentially significant. Compliance options could include installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan. Worst case emissions of pollutants associated with construction and operation of control equipment were found to be less than significant with the exception of emissions of NOx which may be significant should a flare be utilized for control. Because of potential NOx emissions, cumulative air quality impacts were also found to be potentially significant. Implementation of the alternative control option in Proposed Rule 13-5 would be expected to result in much lower NOx emissions. The benefits of the GHG emissions reductions obtained by Proposed Rule 13-5 outweigh the potentially significant air quality impacts that may result from controls implemented to meet its provisions. Minor clarifications and revisions to the DEIR have been incorporated in the Final EIR, none of which affect the environmental impacts of the project or otherwise represent "significant new information" requiring recirculation within the meaning of CEQA Guidelines Section 15088.5

BUDGET CONSIDERATION/FINANCIAL IMPACT

Staff anticipates implementation of Proposed New Rule 13-5 and Proposed Amendments to Rule 8-2 will require additional staff time and resources in a number of areas. The Engineering Division would need two additional full-time equivalents (FTEs); the Compliance and Enforcement Division would need one additional FTE; and the Meteorology and Measurements Division would need one FTE for a total of four FTEs. The Air District will evaluate whether Regulation 3: Fees will need to be updated to ensure consistency and cost recovery when incorporating the increased administrative time that will be necessary to process applications to comply with the provisions of the Proposed Rule 13-5.

Respectfully submitted,

Alexander Crockett
Interim Executive Officer/APCO

Prepared by:	Robert Cave and Alex Sohn
Reviewed by:	Victor Douglas and Elizabeth Yura

ATTACHMENTS:

1. Staff Report: Proposed Rule 13-5 and Amendments to 8-2
2. Appendix A: Proposed Rule 13-5
3. Appendix B: Proposed Amendments to Rule 8-2
4. Appendix C: Cost Information
5. Appendix D: Socioeconomic Impact Analysis
6. Appendix E: Final Environmental Impact Report
7. Appendix F: Response to Comments Summary
8. Appendix G: Board Resolution

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT

FINAL STAFF REPORT
Proposed New Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants and Proposed Amendments to Regulation 8, Organic Compounds, Rule 2: Miscellaneous Operations

Source: https://chemicalparks.eu/news/2015-4-17-air-liquide-starts-up-a-large-hydrogen-production-unit-in-germany

April 2022
Prepared By:

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ACKNOWLEDGEMENTS

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STAFF REPORT

Proposed Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants

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I. EXECUTIVE SUMMARY

Overview

In support of the State of California's mandates to reduce greenhouse gas (GHG) emissions, including short-lived climate pollutants, the Bay Area Air Quality Management District (BAAQMD or Air District) adopted a policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Methane is a potent and short-lived climate pollutant; its global warming potential is 34 times greater than that of carbon dioxide on a 100-year time horizon and 86 times greater than that of carbon dioxide, when compared on a 20-year time horizon.[1,2] Methane represents the second largest emissions of GHGs in the Region, after carbon dioxide. In 2015, all methane sources located within the Air District emitted an estimated 10 million carbon dioxide equivalent metric tons, which is about 10 percent of the Bay Area's GHG inventory. The sources of methane emissions include stationary sources such as landfills, wastewater treatment facilities, refineries, natural gas production and distribution systems; mobile sources such as cars and trucks; and natural sources such as wetlands. Reducing emissions of short-lived climate pollutants, including methane, can have a dramatic effect on climate change in the near term as their atmospheric lifetime is much less than longer-lived GHGs, such as carbon dioxide. These climate pollutants are estimated to be responsible for roughly 40 percent of the current net climate forcing effect.[3i] Given the importance of controlling methane, the Air District developed a comprehensive Basin-wide Methane Strategy as part of its 2017 Clean Air Plan to better quantify and reduce the Region's methane emissions.

Summary of the Proposal

This staff report provides the technical support for the adoption of Proposed Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants (Rule 13-5), the first rule proposed as part of this Basin-wide Methane Strategy. Rule 13-5 is designed to reduce methane and other organic compounds—referred to as "total organic compounds"—from industrial hydrogen plant operations. The Proposal will require that, within six years from adoption, each atmospheric vent at an industrial hydrogen plant meet a combined emission standard for total organic compounds of 15 pounds per day and 300 parts per million by volume (ppmv), except for deaerator and carbon dioxide vents.

Proposed Rule 13-5 also provides an alternative compliance option. In lieu of complying with the atmospheric vent emission standard, an affected facility could opt to reduce the overall emissions of methane and other GHGs by 90 percent via an approach approved by the Air District. The measures undertaken to achieve these emissions reductions would be contained in an Alternative Compliance Plan prepared by the owner or operator of an industrial hydrogen plant opting to comply with Proposed Rule 13-5 through this option. It should be noted that only the hydrogen plants at PBF Energy (PBF) and Valero refineries are anticipated to require modifications to comply with the emission standards of the proposal and that the three other Bay Area refineries

[1] Based on the 20-year global warming potential reported for methane in the Intergovernmental Panel on Climate Change Fifth Assessment Report.

[2] Unless otherwise stated, this report uses the 20-year global warming potential (GWP) of 86 when calculating the carbon dioxide equivalent of methane emissions since the emission reduction actions being considered are within that time frame.

[3] Forster P., et al. (2007) Changes in Atmospheric Constituents and in Radiative Forcing, in Solomon S. et al. (2007) Climate Change 2007: Physical Science Basis, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Figure 2.21.

would not be impacted by the emission standards. Other requirements of Proposed Rule 13-5 may affect operations at industrial hydrogen plants at the other Bay Area refineries.

Staff is proposing to exempt sources that are subject to the atmospheric vent emission standard of Rule 13-5 (Section 13-5-301) from the requirements of Regulation 8 Rule 2: Miscellaneous Operations (Rule 8-2). This is because the vent emissions standard contained in Proposed Rule 13-5 is more stringent than the general emission standard contained in Rule 8-2, which only addresses organic compounds excluding methane. Facilities complying with Rule 13-5 through the alternative compliance option would remain subject to Rule 8-2 because this option applies to only methane.

Staff is also proposing amendments to Rule 8-2 to allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed. This additional amendment to Rule 8-2 is being made at this time to be consistent with other recently amended rules and is unrelated to Proposed Rule 13-5.

Proposed Rule 13-5 includes reporting requirements for owners or operators to notify the Air District of hydrogen plant atmospheric venting occurrences when total organic compound emissions exceed 15 pounds per day and the concentrations exceed 300 ppmv measured as methane on a dry basis.

The operator of an industrial hydrogen plant subject to the Proposed Rule 13-5 would have to monitor and record all parameters necessary to demonstrate compliance with the provisions contained in the standards section of the rule. Hydrogen plant atmospheric vents would be required to have flowrate meters installed. Operators of hydrogen plant deaerator vents and carbon dioxide scrubbing vents would have to install flowrate meters, recorders, and sampling ports, and must monitor total organic compound emissions. Because atmospheric venting from a pressure swing absorption unit that is properly maintained and operated should never exceed the total organic compound atmospheric vent emission standards of Proposed Rule 13-5, the owner or operator of a hydrogen plant with a pressure swing absorption vent would not be required to maintain emission records from the pressure swing absorption vent unless the unit malfunctions, which would likely lead to an exceedance of the vent emissions standards.

Emissions and Emissions Reductions

Air District staff developed a methane emissions inventory for Proposed Rule 13-5 based on a survey of industrial hydrogen plant operators that provided information spanning six years of operations. A methane emissions inventory of approximately 2,555 metric tons per year (based on a three-year average for years 2016, 2017, and 2018) is used as the basis for emission reductions and cost effectiveness for the purposes of this rule. If approved and fully implemented, staff estimates that Proposed Rule 13-5 would reduce methane emissions from hydrogen plants by 2,281 metric tons in a typical year; this will result in at least a 90 percent reduction in GHG emissions from hydrogen production facilities. The anticipated emission reductions resulting from the adoption of this rule will make progress toward the achievement of the goals of the Air District's Methane Strategy.

Economic Impacts

Costs and Incremental Cost Effectiveness: Staff estimated the annualized cost of compliance for the two facilities that would most likely have to install control equipment: the industrial hydrogen plants associated with the PBF and Valero refineries. Staff determined the total annualized cost to reduce total organic compound emissions from hydrogen plant operations with flares at each

of the hydrogen plants associated with PBF and Valero will be $15.5 million dollars. For the purposes of the economic and environmental analysis, staff assumed that emissions would be controlled with flares. Flares are less costly than some other methods, but there are several other control methods that would comply with the proposed rule. Table ES-1 summarizes the estimated annualized costs, emissions reductions, and cost effectiveness for Proposed Rule 13-5. Staff determined that it would be cost effective for affected sources to comply with the emission requirements of Rule 13-5.

Table ES-1
Annualized Costs, Emissions Reductions and Cost Effectiveness for Methane

Facility	**Annualized Costs** ($ millions)	**Methane Emissions Reductions** (metric tons/year)	**CO_2e Emission Reductions 20-yr Time Horizon** (metric tons/year)	**Cost Effectiveness 20-yr Time Horizon** ($/$CO_2e$ metric ton)	**CO_2e Emission Reductions 100-yr Time Horizon** (metric tons/year)	**Cost Effectiveness 100-yr Time Horizon** ($/$CO_2e$ metric ton)
PBF	$8.6	909	78,174	$111	30,906	$280
Valero	$6.8	1,372	117,965	$58	46,637	$147
TOTALS	**$15.5**	**2,281**	**196,139**	**$79**	**77,543**	**$200**

* CO_2e: Carbon Dioxide Equivalent

In conducting the incremental cost-effectiveness analysis, staff compared the costs of compliance between that of installation of a flaring system and the use of a pressure-swing adsorption system that would achieve hydrogen purities in excess of 99.99 percent. This method is commonly used in hydrogen plants in the Bay Area. For the incremental cost effectiveness analysis, it was assumed that 100 percent of the methane contained in the hydrogen vent gas would be controlled. This would amount to a reduction of 2,523 metric tons/year of total organic compound emissions in a typical year. Staff estimated that the total capital cost to install a pressure swing adsorption system at both Valero and PBF were $307 million. The total annualized costs for the two pressure swing adsorption systems ranged from $59 to $61 million per year.

The incremental cost between two options is calculated as follows:

$$\frac{\$60.7 \text{ million} - \$15.5 \text{ million}}{(2{,}523 - 2{,}281) \text{ metric tons}} = \frac{\$45.2 \text{ million}}{242 \text{ metric tons}} = \textbf{\$186,518 per metric ton}$$

Socioeconomic Impacts: Applied Development Economics of Walnut Creek, California prepared a socioeconomic analysis of Proposed Rule 13-5. This analysis is based on the costs of compliance with the rule, and is attached to this report as Appendix D. It would cost the industrial hydrogen production industry between $15.3 and $17.7 million per year to comply with the total organic compound emission limits, with costs for individual facilities ranging from $0.2 to 8.6 million per year. The cost for facilities that require emissions control and monitoring equipment ranged from $6.1 to $8.6 million per year. The cost for facilities that already comply with the Rule and only require monitoring equipment ranged from $0.2 million to 1.1 million per year. The upper

range of costs expressed as a percent of annual income for individual facilities range between 0.2 to 11.3 percent.

For the Air Liquide hydrogen plant, which is a smaller facility, the annualized monitoring costs represent 7.6 to 11.3 percent of estimated net income. The upper end of the cost estimate range exceeds the 10 percent threshold of significance for the Air Liquide plant. While the high-end estimate should be considered as a worst-case scenario, the costs may be substantially lower than this estimated value. Nevertheless, the potential impacts associated with costs above the threshold of significance were estimated based on this high-end estimate. Of particular concern under the Health and Safety Code would be the potential for lost jobs at the plant to compensate for the impact to net income. At $270,000 per year, the upper end impact is about $30,000 above the 10 percent impact threshold. The average salary and benefits for workers in the gas production industry in California is $92,300. The maximum cost impact exceeding the threshold, therefore, represents less than a third of the cost for one employee at Air Liquide. We conclude that it is unlikely the company would choose to reduce employment to mitigate this impact.

Potential Cost Mitigation: One potential cost mitigation is that the GHG emissions reductions realized as a result of the implementation of Rule 13-5 may be eligible to be traded as carbon credits on the national and international markets. The market value of carbon credits fluctuates, but the most recent data from the California Air Resources Board indicates that the median price for a carbon credit ranged from $15.32 (offset) to $24.62 (allowance).[ii] [4] If applied to the anticipated reduction of 2,281 metric tons of methane (equivalent of 77,558 metric tons of carbon dioxide based on a 34 GWP for methane), a carbon credit value ranging from $1.3 million (offset) to $2.1 million (allowance) could be realized. Depending on the allowable cap for each facility, the affected companies may be able to monetize a portion of their carbon reductions under this program.

Social Cost of Greenhouse Gases: Failure to reduce emissions of GHGs imposes ongoing costs on society in terms of contributing to climate change and the long-term effects it will have on a wide range of human activities and the built and natural environment. The social cost of carbon attempts to measure the economic harm caused by climate change based on the dollar value per ton of carbon dioxide emissions.[iii] When implemented at Bay Area refineries, Proposed Rule 13-5 will eliminate about 2,281 metric tons per year of methane emissions. Using the alternate discount rate assumptions cited in the most current Interagency Working Group (IWG)[5] report, the annual social cost of carbon reduction would range from $1.7 million to $9.8 million.[iv] The anticipated costs of compliance for Rule 13-5 range from $15.3 million to $17.7 million per year.

Environmental Impacts

[4] An offset carbon credit means that the GHG emission will be offset by a mitigating project, such as reforestation or agricultural projects. An allowance carbon credit functions more like a permit to emit.

[5] The legal rationale for including SCC in socioeconomic impact studies of new regulations dates back to a 2007 court decision in which the US Court of Appeals, Ninth Circuit ruled that federal agencies needed to account for the cumulative effects of GHG emissions in cost-benefit analyses. The Interagency Working Group (IWG) was formed as a result of a 2007 court decision and has issued and updated social cost of carbon estimates since 2010. Agencies are required, to the extent permitted by law and where applicable, "to assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs."

As required by the California Environmental Quality Act, the Air District prepared an Initial Study and Draft Environmental Impact Report (EIR) to analyze potential environmental impacts from the Proposed Rule 13-5. The Draft EIR was published on January 21, 2022, for review and comment. GHG impacts were found to be beneficial and aesthetic impacts during the construction of additional pollution control equipment were found to be less than significant. Hydrogen plants at two refineries are expected to need additional control technology to comply with Proposed Rule 13-5: the Valero Refinery in Benicia and the hydrogen plants that provide hydrogen to the PBF Refinery in Martinez. Compliance options could include installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan. The impacts associated with an Alternative Compliance Plan may vary but would be expected to include the addition of piping, valves, and flanges and similar equipment to reroute gas streams within the facility. Worst case emissions of pollutants associated with operation of control equipment were found to be less than significant except for emissions of oxides of nitrogen (NOx) which may be significant should a flare be utilized as a control option by both affected facilities. Thus, construction, operational and cumulative air quality impacts would be potentially significant. NOx emissions would be significantly less if the alternative compliance option were utilized.

Air District Impacts and Cost Recovery

Staff estimated the additional Air District resources necessary to implement Proposed Rule 13-5. The Engineering Division would need two additional full-time equivalents (FTEs); the Compliance and Enforcement Division would need one additional FTE; and the Meteorology and Measurements Division would need one FTE for a total of four FTEs. The Air District will evaluate whether Regulation 3: Fees will need to be updated to ensure consistency and cost recovery when incorporating the increased administrative time that will be necessary to process applications to comply with the provisions of the Proposed Rule 13-5.

Statutory Findings and Recommendation

Air District staff determined that the Proposed Rule 13-5 and rule amendments meet the required statutory findings of necessity, authority, clarity, consistency, non-duplication, and reference. Considering these findings, staff recommends that the Board of Directors:

1) Certify the Final Environmental Impact Report and adopt an accompanying Statement of Overriding Considerations; and

Adopt Proposed Rule 13-5: Industrial Hydrogen Plants and proposed amendments to Regulation 8, Rule 2: Miscellaneous Operations.

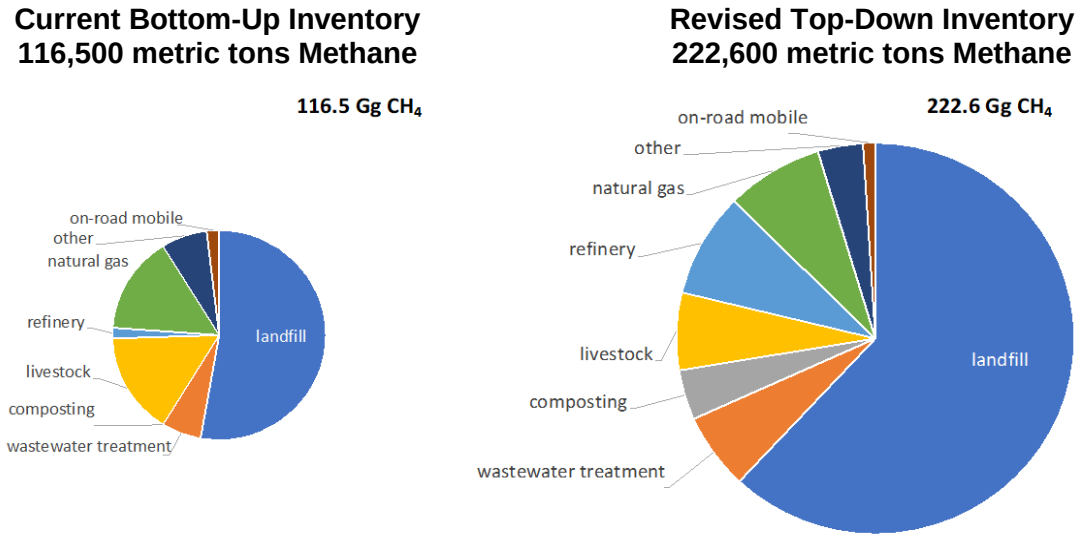
II. BACKGROUND

A. Methane

Methane is an odorless, colorless gas under normal conditions. It is a chemical compound of four hydrogen atoms attached to a single carbon atom with the chemical formula CH_4. It is the simplest alkane, and the main constituent of natural gas. Methane is also a powerful super-greenhouse gas (GHG). It is 86 times more potent than carbon dioxide (CO_2) when compared on a 20-year time horizon (or 34 times on a 100-year basis) and it has a much shorter atmospheric lifespan of 12 years (vs. 20 – 200 years). Due to these factors, actions to reduce methane emissions can provide significant and immediate climate benefits while CO_2 emissions are steadily reduced to achieve long-term climate stability. Curbing methane emissions would also reduce emissions of its co-pollutants, which can include key climate, criteria, and toxic pollutants, resulting in public health and (further) climate benefits.

Methane is the second leading GHG in the Bay Area Air District. In 2015, sources in the Air District emitted an estimated 10 million metric tons of CO_2 equivalent (MMT CO_2e), about 10 percent of the GHG inventory when calculated on a 20-year basis. According to a recent study commissioned by the Air District to evaluate its methane inventory,[v] three source categories represent approximately 84 percent of these emissions. These categories are mainly related to human activities; landfills are the largest source, accounting for 53 percent of these emissions, followed by livestock (16 percent) and natural gas production and distribution (15 percent). These emissions estimates carry a large uncertainty (50 percent or more), consistent with a recent study that suggests that methane emissions in the Air District's "bottom-up" inventory are 1.5 to 2 times lower than expected from top-down measurements.[vi, vii] This "methane gap" has been repeatedly observed for the United States and California regions, where top-down observations that account for ambient methane concentrations suggest that there are large, unaccounted methane emissions in bottom-up inventories. Figure 1 provides a comparison of the two inventories and the major contributors.

Figure 1:
Draft 2020 Top-Down and Bottom-Up Bay Area Methane Emissions Inventory [vii]



Updates to the methane inventory from the top-down indicate that methane emission may be over twice as much as indicated from the bottom-up approach. Air District staff are continually evaluating the methane emissions inventory to better understand this difference.

Based on a top-down approach, methane emissions from refineries are estimated to be at least two thousand metric tons per year.[6] Although methane emissions from refineries are estimated to constitute less than two percent of the anthropogenic methane emitted in the Bay Area, preliminary study findings indicate that fugitive methane emissions from refineries may be significantly higher than bottom-up inventory estimates.

B. Industry Description

1. Hydrogen Properties

Hydrogen is both the most abundant substance in the universe and the simplest element there is, consisting of just one proton and one electron. However, it doesn't typically exist on earth by itself, and must be produced from compounds that contain it such as water and methane. Hydrogen is a colorless, odorless, and non-toxic gas at standard temperature and pressure (normal conditions). Hydrogen gas is highly flammable, can serve as an energy carrier, not an energy source, and is used in an extensive range of industrial applications.[viii]

2. Hydrogen Production Processes

As noted previously, hydrogen is non-toxic, has no global warming potential, and is generally not considered an air pollutant, but the primary methods of industrial hydrogen production may result

[6] Hydrogen plant owners and operators reported to the Air District average total yearly methane emissions of 2,555 metric tons per year (based on a three-year average for years 2016, 2017, and 2018).

in emissions of methane and other hydrocarbons. Biological and electrolytic processes generally do not result in significant emissions, whereas thermochemical processes utilizing methane or other hydrocarbons have greater potential for emissions of methane and other organic compounds. Electrolytic processes convert water to hydrogen and oxygen, while thermochemical processes harvest hydrogen from hydrocarbons resulting in residual amounts of hydrocarbons and methane in the hydrogen product. Hydrogen is currently produced by a number of different well-established electrolytic and thermochemical processes, and many others are under development given the potential for hydrogen as a clean energy carrier.

a. Biological and Electrolytic Processes

Biological processes of hydrogen production include microbial biomass conversion and solar photobiological methods. Microbial biomass conversion utilizes microorganisms, such as bacteria to breakdown organic matter to produce hydrogen through a fermentation process, and microbial electrolysis cells use microbes combined with a small amount of electric current to produce hydrogen. Solar photobiological systems use microorganisms – such as green microalgae of cyanobacteria – along with sunlight to turn water and sometimes organic matter into hydrogen. Research into these technologies is in the early stage but they have long-term potential for sustainable hydrogen production with low environmental impact.

Hydrogen production by means of electrolysis promises a carbon-free means of hydrogen production from renewable sources by using electricity to split water into hydrogen and oxygen. This process occurs in an electrolyzer which functions like a fuel cell and consists of an anode and a cathode separated by an electrolyte. Hydrogen production by means of electrolysis requires electricity and today's grid electricity is often generated using technology that results in GHG emissions and is energy intensive. The US Department of Energy and others are working to bring down the cost of renewable electricity production and to develop solar electrolysis processes that all have potential but are far away from commercial availability.

b. Thermochemical Processes

Some thermal processes use heat in combination with closed chemical cycles to produce hydrogen from feedstocks such as water and others use the energy from natural gas, coal, or biomass to release hydrogen from their molecular structure. Thermochemical water splitting is a long-term technology pathway that uses high temperatures from concentrated solar power and chemical reactions to produce hydrogen with potentially no GHG emissions. Biomass gasification converts organic material at high temperatures with a controlled amount of oxygen or steam without combustion to form carbon monoxide, hydrogen, and CO_2. The carbon monoxide then reacts with water to form CO_2 and more hydrogen. Gasification plants for biofuels are being built and operated in the United States but none are currently on the horizon in the Bay Area. Reforming processes convert organic fuels (either natural gas, petroleum based, or biomass derived liquids) into hydrogen by reactions with high temperature steam at high pressures sometimes in the presence of a catalyst. These processes use either a steam reforming reaction or partial oxidation to produce carbon monoxide and hydrogen followed by a water-gas shift reaction to convert the carbon monoxide to CO_2 and additional hydrogen. In general, biomass derived fuels are composed of larger molecules than petroleum or methane, making them more difficult to reform. Research is needed to identify better catalysts and to reduce the cost of biomass derived liquids as well as capital, operation, and maintenance costs associated with biomass reforming processes.

c. Hydrogen Production in Petroleum Refining Processes

i. Steam-methane Reforming

As the demand for hydrogen increases, it is economically advantageous for refineries to produce their own hydrogen, instead of purchasing it. In some instances, refineries pay an independent third party to produce hydrogen in a facility either contiguous to or located within the refinery property. The production and distribution of hydrogen within refineries is all part of an integrated system that is referred to as a hydrogen plant for the purposes of this report and the development of Proposed Rule 13-5. A refinery may incorporate one or more hydrogen plants into its hydrogen distribution network that delivers hydrogen to processes (or "consumers" covered in the previous section of this report) that use hydrogen.

The majority of hydrogen produced at a refinery comes from the hydrogen plant steam-methane reforming processes (see Figure 2 for a depiction of a typical steam methane reformer). The primary process of the plant consists of a steam-methane reformer and additional hydrogen purification steps that are integrated with all the processes in need of hydrogen throughout the refinery.

Hydrogen production via steam-methane reforming generally includes four steps:

1) Purification of the feed gas (usually natural gas or refinery fuel gas, although other sources of hydrocarbon gases may be used depending on economic conditions) prior to reforming;

2) Steam and methane are reformed in the furnace box to convert most of the methane gas to hydrogen via the following chemical reaction:

$$CH_4 + H_2O \rightarrow CO + 3\ H_2$$

3) Temperature shift reaction (also called the water shift reaction) that converts some of the remaining carbon monoxide to hydrogen; and

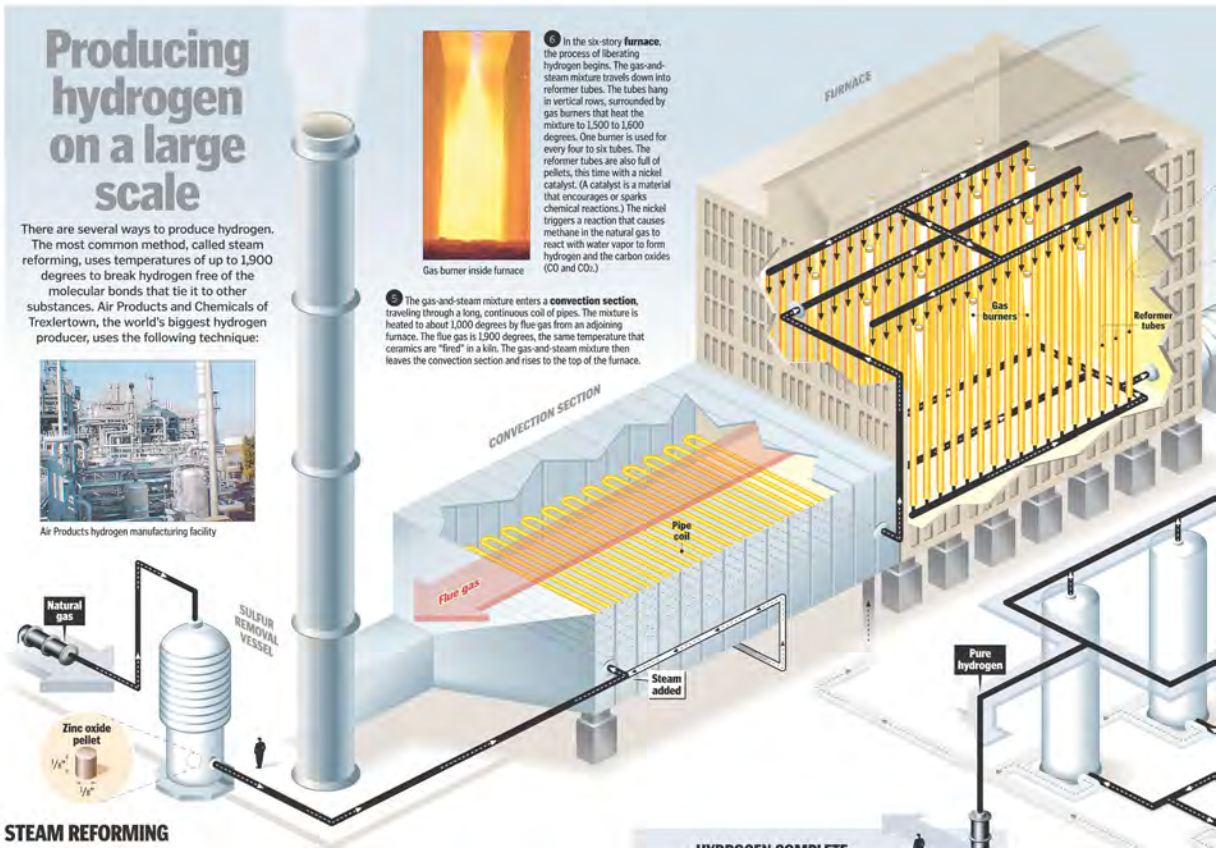
$$CO + H_2O \rightarrow CO_2 + H_2$$

4) Final product purification step.[7]

Hydrogen gas containing total organic compounds may be generated at a refinery process unit by other means than steam methane-reforming process outside of the industrial hydrogen plant. Depending on the configuration of the petroleum refinery, the hydrogen gas generated from a refinery process unit can be routed to an industrial hydrogen plant for compression and distribution. For the purposes of Rule 13-5, an industrial hydrogen plant is defined as a comprehensive operation that includes all equipment used for hydrogen production by use of steam-methane reformation, hydrogen compression operations, hydrogen delivery and hydrogen distribution systems.

[7] While the chemical reaction equations above imply the full conversion of methane and carbon monoxide to carbon dioxide and water, in reality, these reactions never fully convert all of the reactant to the products; under these circumstances, this reaction can result in up to four to six percent methane in the product hydrogen.

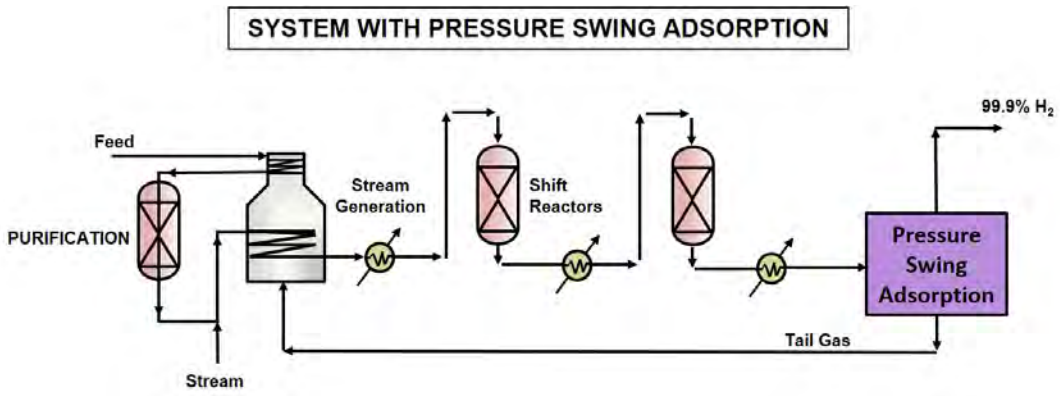
Figure 2: Depiction of the interior of a typical steam-methane reformer



Source: Air Products

Many refinery hydrogen plants utilize pressure swing adsorption to remove methane and other contaminants from the hydrogen production stream. The pressure swing absorption process produces a higher purity of hydrogen required by certain refinery applications. Prior to distributing hydrogen into the refinery hydrogen network, most hydrogen plants use a pressure swing adsorption process for the final purification step at the end of the steam-methane reforming operation to produce an ultra-pure hydrogen with a minimum purity of 99.99 percent concentration in the gas stream from what was previously a concentration ranging between 95 percent to 97 percent. A byproduct of the pressure swing adsorption process, referred to as "tail gas" is impure hydrogen gas that does not meet specifications for refinery hydrogen consumers and is routed back to the steam-methane reformer as fuel and can contain methane concentrations ranging between 15 percent and 20 percent.

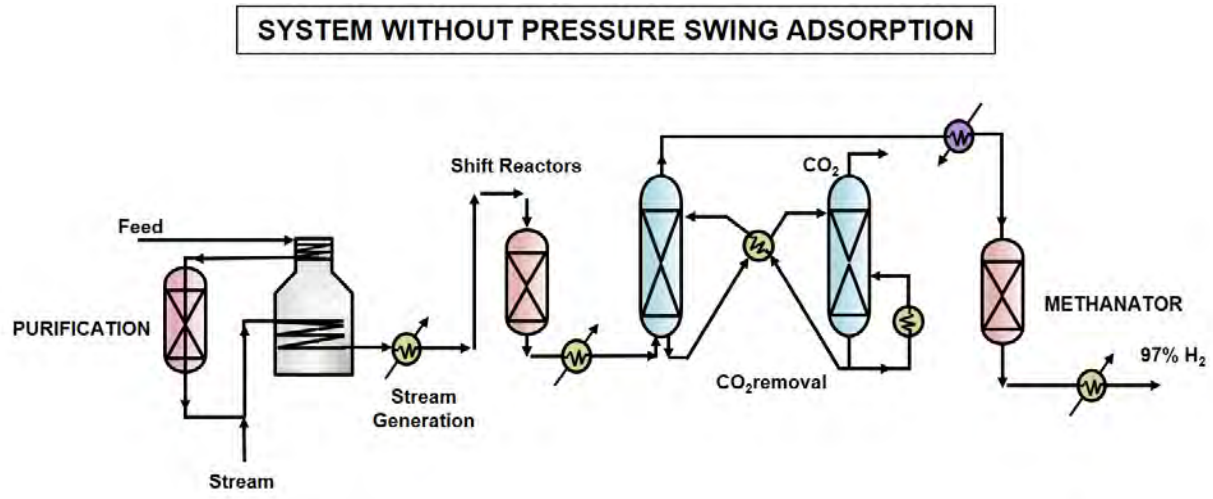
Figure 3: Flow diagram of a hydrogen plant with pressure swing adsorption purification



Source: Air District Staff

By contrast, a hydrogen plant that does not use a pressure swing adsorption process produces a less pure hydrogen stream that contains a higher amount of total organic compounds, including methane—generally between four and six percent.

Figure 4: Diagram of a Hydrogen Plant Without Pressure Swing Absorption Purification



Source: Air District Staff

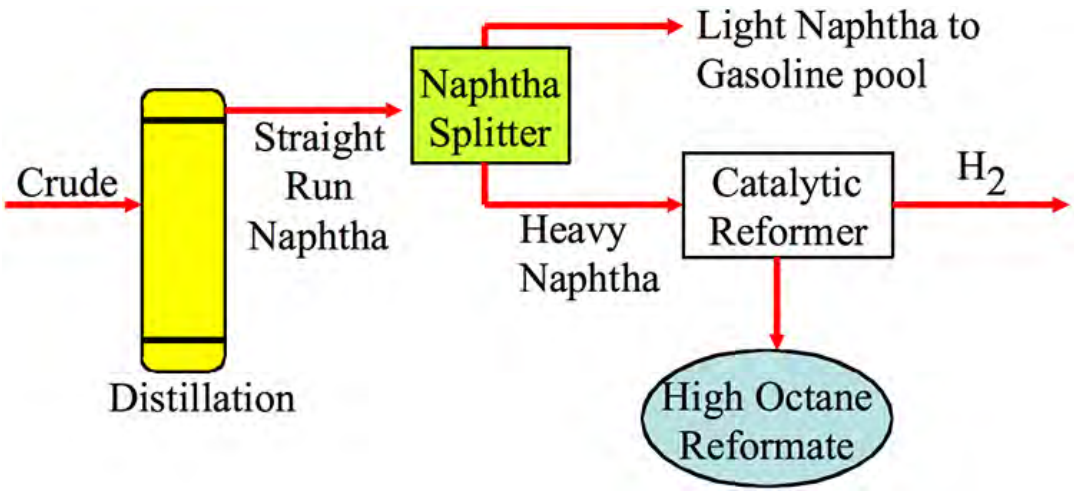
Methane emissions occur when impure hydrogen gases containing total organic compounds are purposely vented from atmospheric vents (sometimes referred to as process vents) located at various junctures throughout the hydrogen plant. Most atmospheric venting of impure hydrogen gas in Bay Area refineries occurs within the hydrogen plant steam-methane reforming processes described in Figure 3 and Figure 4 above. For most facilities, hydrogen gas is only vented when necessary for safety-related reasons such as refinery startups, shutdowns, emergencies, malfunctions, trips, or process upsets.[ix] A total of nine operational hydrogen plants are associated with Bay Area refineries; two of the hydrogen plants—one at the Valero refinery and the other at the PBF Energy (PBF) refinery—regularly vent hydrogen gas from various atmospheric vents during normal operations. Most hydrogen plants typically have three to four atmospheric vents

located in the steam-methane reforming process unit and each vent is used to release impure hydrogen gas under specific operational conditions.

ii. Catalytic Reforming Units

Catalytic reforming units, sometimes referred to as naphtha reforming units, function as part of a petroleum refinery's secondary method of producing hydrogen (see flow diagram in Figure 5 below). The primary purpose of the catalytic reforming process is to convert heavy naphthas distilled from crude oil into lighter components. During this chemical process, heavy naphthas that typically have low octane ratings are reformed into lighter naphthas with higher octane ratings. Often referred to as reformates, light naphthas are used as blending stocks for high-octane gasoline. As a byproduct of the naphtha reforming process, hydrogen is produced and used in nearby hydrogen consumers.

Figure 5: Flow Diagram Schematic of a Refinery Catalytic Reforming Process



Source: Dr. Semih Eser via https://www.e-education.psu.edu/fsc432/content/catalytic-reforming.

Although the hydrogen gas from catalytic reforming unit contains a greater concentration of total organic compounds than that of hydrogen gas from steam-methane reforming operations, the relative amount of total organic compound mass emissions from catalytic reforming units is less than the amount emitted from hydrogen plants due to the difference in volumes and flowrates. The total organic compound emissions from a hydrogen plant can range between 2,000 pounds per day to 40,000 pounds per day, whereas total organic compound emission contribution from a catalytic reforming unit can range from 600 pounds per day to 700 pounds per day.

Hydrogen gas generated from catalytic reforming unit can either be routed to the hydrogen plant which is then combined with hydrogen gas from steam-methane reformation operation or be routed directly to the hydrogen consumers. If the hydrogen gas from catalytic reforming unit is routed to the hydrogen plant for further processing, any venting that occurs from the combined hydrogen gas stream will be subject to Proposed Rule 13-5 since the venting will likely occur within the confines of an Industrial Hydrogen Plant as defined in the rule.

3. Hydrogen Consumers

Currently, approximately 10 million metric tons of hydrogen is produced per year in the United States, primarily for use in petroleum refining and ammonia production.[x] In the San Francisco Bay Area, hydrogen production is primarily limited to use in petroleum refining. There is also great potential for hydrogen use across multiple sectors for near-zero emissions in other chemical and industrial process applications, and integrated clean energy systems to power data centers, ports, manufacturing, and transportation.

In the petroleum refining industry, hydrogen is used extensively in the processing of crude oil into refined fuels such as gasoline and diesel. Hydrogen is consumed in desulfurization units to remove contaminants from fuels and feedstocks, and hydrogen is used in the refinery fuel system. As petroleum refinery product specifications become more stringent to meet environmental requirements, refinery demand for hydrogen has continually increased to supply the refinery hydrogen consumers (process units). The two primary hydrogen consumers in Bay Area petroleum refineries are processes known as hydrotreating and hydrocracking.

a. Hydrotreating

Hydrotreating is a process in which hydrogen is added to a hydrocarbon gas stream (often referred to as a feedstock) over a bed of catalysts typically containing molybdenum with nickel or cobalt, at an intermediate temperature and pressure, as well as other process-specific operating conditions. The purpose of hydrotreating is to remove sulfur and other undesirable compounds, such as unsaturated hydrocarbons and nitrogen, from the hydrocarbon stream.[xi] Sulfur will "poison" (shorten the lifespan of) catalysts used in hydrocarbon processing applications so refineries take measures to protect catalysts to extend their operating longevity as long as possible. During hydrotreating, sulfur compounds react with hydrogen to form hydrogen sulfide, while nitrogen compounds react to form ammonia. Unsaturated hydrocarbons, such as aromatics and olefins, are saturated by the hydrogen and lighter products are created. The final result of the hydrotreating process is the substantial reduction of sulfur and other contaminants from the original feedstock.

b. Hydrocracking

Hydrocracking produces lighter hydrocarbon molecules with higher value for diesel, aviation fuel and petrol fuel from long-chain hydrocarbons. In this process, heavy gas oils, heavy residues or similar boiling-range heavy distillates are reacted with hydrogen in the presence of a catalyst at high temperature and pressure. The heavy feedstocks molecules are broken (or "cracked") into light or middle distillate products—for example, naphtha, kerosene, and diesel—or base stocks for lubricants. For some refineries, the hydrocracker unit is the top hydrogen consumer. Hydrogen is the key component that enables the hydrocracking process to reduce the product boiling range appreciably by converting the majority of the feedstock to lower-boiling, more desirable products.[xii]

4. Pollutants and Emissions Sources

Proposed Rule 13-5 would address total organic compound emissions from hydrogen plant atmospheric vents. A noncomprehensive list of hydrogen plant atmospheric vents includes deaerator vents (which remove dissolved gasses from liquids), CO_2 scrubbing vents (which remove CO_2 from gas streams), catalytic reforming unit vents, and vents used to purge gases

during startup, shutdown, and malfunction conditions. Most hydrogen plants are designed with multiple atmospheric vents—usually a total of three to four vents located in strategically engineered points starting near the front-end of the plant where the steam-methane reforming process occurs, to the back end of the plant where final treatment of hydrogen gas occurs prior to being routed to the hydrogen distribution network.

Typically, after hydrogen gas is produced in the hydrogen plant, it is routed from the plant to refinery hydrogen consumers such as hydrocrackers and hydrotreaters. For safety reasons, operational events such as hydrogen plant and/or refinery shutdowns, malfunctions, trips, upsets, and power outages may require immediate evacuation of pressurized hydrogen gas that may contain total organic compounds. Such events usually occur a couple of times per year at most; however, when they do, emissions of methane and other organic compounds can be quite substantial. Total organic compound emissions can also occur during the hydrogen plant startup and shutdown processes. In the case of one facility, a single exhaust stack located outside of the hydrogen plant vents, emitted almost continuously, a mixture of hydrogen plant gas and naptha reforming unit gas containing a mixture of hydrogen gas and organic compounds. Another Bay Area refinery vents total organic compounds from their hydrogen plants to atmosphere on a frequent basis. In both cases, such emissions are a result of system design as opposed to malfunctions or emergencies.

C. Regulatory History

Hydrogen plant organic compound emissions were historically subject to federal permitting requirements, Air District permitting requirements and Air District organic rules as listed below. Methane emissions from hydrogen plants are not currently regulated other than as equipment leaks, and methane emissions from equipment leaks are insignificant in comparison to mass emissions vented from hydrogen plants. There is no history of control for vented methane emissions from hydrogen plants.

1. Air District Rules / Regulations

Currently, the Air District does not have a rule specifically addressing “vented” methane emissions from hydrogen production operations and associated distribution systems. However, the following four Air District regulations control organic emissions from various hydrogen plant operations:

- Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations (Rule 8-2) is a backstop rule that limits precursor organic compound emissions (excluding methane) from various operations not addressed in other Air District rules. Rule 8-2 currently addresses hydrogen plant production operations, with a concentration emission limit of 300 ppm and a mass emission limit of 15 pounds per day for total carbon (organic compounds excluding methane) on a dry basis.
- Regulation 8: Organic Compounds, Rule 10: Process Vessel Depressurization limits emissions of organic compounds from the depressurizing and opening of process vessels at petroleum refineries and chemical plants.
- Regulation 8: Organic Compounds, Rule 18: Equipment Leaks limits the emissions of total organic compound “leaks” from a wide variety of equipment such as valves, connectors, pumps, compressors, and other equipment located at petroleum refineries (including hydrogen plants), chemical plants, bulk plants, and bulk terminals. As defined

in the rule, total organic compounds include methane, so this rule addresses hydrogen plant methane emissions to some extent.

- Regulation 8: Organic Compounds, Rule 28: Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants limits episodic emissions of organic compounds, excluding methane, from pressure relief devices on equipment handling gaseous organic compounds at petroleum refineries, including hydrogen plants.

Recently, the Air District revised the definition of Petroleum Refinery to address the conversion of some facilities from crude oil to renewable feedstocks for manufacturing eventual products.

2. State Regulations

At the State level, the Mandatory Reporting of Greenhouse Gas Emissions program requires petroleum refineries to report annual GHG emissions generated by various refining operations to the California Air Resources Board.[xiii] Although California regulates GHG emissions from petroleum refineries and other large sources via California's Cap-and-Trade program, methane-specific emission reductions are not required.[xiv]

3. Federal Regulations

There are no substantive federal air quality regulations that address methane emissions from petroleum refining hydrogen plants. Refineries report annual GHG emissions to the United States Environmental Protection Agency as required by the Greenhouse Gas Reporting Program.[xv]

D. Technical Review of Control Technologies

Vented methane emissions from industrial refinery hydrogen plants are not currently subject to emission limits, so they are usually uncontrolled unless a hydrogen gas stream contains toxic or volatile organic compounds which are then subject to emission limit requirements of an Air District regulation. Not all volatile organic compound abatement technology will capture or control methane emissions. Activated carbon is commonly used to extract volatile organic compounds from gaseous streams via an adsorption process that traps volatile organic compound molecules onto the surface of carbon molecules while the remainder of the gaseous stream including methane continues to flow through the carbon bed.

1. Flares

One example of control technology that reduces methane as a co-benefit of reducing other air contaminants is a flare. Refinery flares are primarily used as a safety device, not as control equipment, to reduce gases that often may include a mixture of gases including volatile organic compounds, toxic air contaminants, oxides of nitrogen, sulfur oxides and methane. Nevertheless, two Bay Area refinery and one third-party operator use flare systems dedicated to control hydrogen gas emissions, and thus, any associated methane or other organic compound emissions. If operated correctly, refinery flares destroy total organic compound emissions at a minimum 98 percent control efficiency.

2. Thermal Oxidizers

Thermal oxidizers are another example of control technology used to thermally destroy industrial vapor streams. They are commonly used in refineries and chemical plants to control hydrocarbon-based vapors. Typically, thermal oxidizers are available in four different types depending on a variety of operational factors. They include direct-fired, recuperative, catalytic, and regenerative thermal oxidizers. Thermal oxidizers can be used for planned atmospheric venting occurrences such as startups and some shutdowns; however, they generally cannot be used for unplanned events such as malfunctions, upsets, trips, and emergencies. Thermal oxidizers, when operated correctly, can achieve at a minimum 98 percent control efficiency.

3. Closed Loop Systems

A third method of controlling total organic compound emissions currently employed at two local refineries is a closed loop system. This system functions via flare headers, which capture hydrogen system gas streams, and reintroduces the recovered gas into the refinery's fuel gas system. When necessary, for safety-related reasons such as emergencies, malfunctions, unplanned shutdowns, upsets and trips in the refinery system, the flare header system sends recovered hydrogen gas, as part of a gas recovery mixture, to the flare for combustion, thus emitting two percent or less of the uncombusted methane component to atmosphere. The balance of recovered gas is used in the refinery fuel system. Less than two percent of flare header gas is emitted to the atmosphere post combustion. Flare headers, a collection system for refinery waste vapor streams, contains a mixture of refinery gases, including hydrogen gas. However, under normal operating conditions, this approach can achieve up to 100 percent control efficiency.

4. Pressure Swing Adsorption Technology

Although not technically considered a control technology, pressure swing adsorption technology can significantly reduce methane and other organic compound emissions. Pressure swing adsorption purification is a method of separating one or more gas species from a gaseous stream containing additional (desirable) gas species. Pressure swing adsorption is used in hydrogen production as a final purification step to separate hydrogen gas molecules from other (impure) gas molecules, such as methane, carbon monoxide and CO_2. Under continuous pressure, an adsorbent material targets gas with dissimilar adsorption properties as an effective way of extracting very pure hydrogen.[xvi] As depicted in Figure 6 of this report, tail-gas, a byproduct of the pressure swing adsorption process containing the removed impurities, can then be sent back to the steam-methane reformer as fuel for the steam-methane reforming process. Normally, pressure swing adsorption purification removes methane molecules from the hydrogen gas stream only at the back end of the steam-methane reforming process unit. Atmospheric venting prior to the pressure swing adsorption step contains methane and other air contaminants. Pressure swing adsorption technology results in virtually no total organic compound emissions during normal operations.

Figure 6: Image of several tanks containing the adsorbent material that comprise part of a pressure swing adsorption process

Source: https://www.petrosadid.com/fixed_equipment/process_package/pressure_swing_adsorption.php

III. PROPOSED NEW RULE AND AMENDMENTS

A. Description and Applicability

Section 13-5-101 – Description: The purpose of Proposed Rule 13-5 is to limit methane and other organic compound, defined as "total organic compound," emissions from industrial hydrogen plants using the steam-methane reformation process. All refinery facilities operating in the Air District utilize hydrogen produced through steam-methane reformation that they provide themselves or through a third party.

Section 13-5-102 – Applicability: Proposed Rule 13-5 applies to all industrial hydrogen plants utilizing steam-methane reformation and is not limited to those affiliated with refinery operations but applies to industrial hydrogen plants operating on their own or as part of refinery operations and third parties producing hydrogen servicing refinery consumers.

B. Exemptions

Section 13-5-103 – Exemption, Specific Operations: Proposed Rule 13-5 includes an exemption for specific hydrogen plant operations already subject to methane and/or organic compound emission requirements of existing Air District hydrocarbon rules, specifically Rules 8-5, 8-10, 8-18, and 8-28.

Section 13-5-104 – Limited Exemption, Deaerator Vents and Carbon Dioxide Scrubbing Vents: Proposed Rule 13-5 includes a limited exemption from the standards section of the rule for

deaerator vents and CO_2 scrubbing vents. These vents are exempt from control requirements but are still subject to monitoring and recordkeeping requirements. Data from this monitoring and recordkeeping will aid the Air District in further development of a methane inventory from industrial hydrogen plants from which to evaluate and determine if emissions from these sources are significant. The Air District may determine at a future time that these emissions require controls through amendment of the rule.

Section 13-5-105 – Limited Exemption, Small Scale Industrial Hydrogen Plants: Small scale industrial hydrogen plants that are designed to produce less than 20 tons of hydrogen per day (7.6 million standard cubic feet per day) are exempt from Proposed Rule 13-5. However, this is provided that the owner and/or operator maintains records of annual hydrogen production and basis of this determination as required by Section 13-5-506.3. In the event that these records show the industrial hydrogen plant produces more than 20 tons per day on an annual average, then the facility is no longer exempt from the rule. This production level is roughly one quarter the capacity of the smallest hydrogen plant currently permitted to operate in the Air District.

C. Major Definitions

Proposed Rule 13-5 includes a few definitions that reference existing definitions in existing Air District Rules and several new definitions that are specific to industrial hydrogen plants. Major definitions include the following:

Section 13-5-201 – Alternative Compliance Plan: A document that identifies, among other things, sources, quantities, emissions, and emissions reduction measures that would be implemented to comply with the alternative methane and GHG emissions standard.

Section 13-5-202 – Atmospheric Vent: An opening where a hydrogen gas stream is discharged during hydrogen plant operations. Atmospheric vents include openings where gas streams are discharged directly to the atmosphere and excludes openings where gas streams are discharged to the atmosphere after being routed to a control device or a gas recovery device. Abated vents would require an Air District permit and so long as the abatement device operates within permitted parameters, it would not be subject to the emissions standards or monitoring requirements of Proposed Rule 13-5. For the purposes of this rule, an atmospheric vent may be physically located in any portion of an Industrial Hydrogen Plant. For the purposes of Proposed Rule 13-5, pressure relief devices, as defined in and subject to Regulation 8: Organic Compounds; Rule 28: Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants, Section 8-28-210 are not considered atmospheric vents when operated as designed and properly maintained.

Section 13-5-203 – Carbon Dioxide Scrubbing Vent: The atmospheric vent from a device or process unit that adsorbs carbon dioxide from a gas stream.

Section 13-5-204 – Deaerator Vent: The atmospheric vent from a device that removes oxygen and other dissolved gases from liquids.

Section 13-5-205 – Effective Date: This definition is included to ensure that monitoring and recordkeeping begins upon adoption of Proposed Rule 13-5, but emission limits will go into effect no later than three years after Air District permits are issued as required by Section 13-5-401 and 13-5-405. This timeline allows facilities to undertake all necessary construction and permitting actions necessary to control emissions as required by the Rule.

Section 13-5-206 – Global Warming Potential: Proposed Rule 13-5 provides a means of comparison of potential climate change effects associated with different GHGs. The comparison utilizes a 100-year timeframe consistent with Schedule T of Air District Regulation 3: Fees.

Section 13-5-207 – Greenhouse Gas: This definition lists the gases included in the category of climate forcing compounds consistent with AB 32, California Health, and Safety Code Section 38505(g).

Section 13-5-208 – Industrial Hydrogen Plant: The comprehensive hydrogen operation, including but not limited to, all operations that produce hydrogen using the steam-methane reformation process, and the hydrogen distribution system, including all compression operations.

Section 13-5-211 – Steam-Methane Reformation Process: An industrial chemical process in which steam is used to produce hydrogen from a hydrocarbon source such as methane or any other hydrocarbon source. The definition provides example chemical formulae for steam-methane reforming and water-gas shift reactions.

Section 13-5-212 – Total Organic Compound (TOC): Any organic compound or mixture of organic compounds, including methane.

D. Standards

Section 13-5-301 – Emission Limits for Industrial Hydrogen Plants: The proposed emission limits for Proposed Rule 13-5 are 15 pounds (6.8 kilograms) per day of total organic compound and 300 parts per million by volume total organic compound, as methane on a dry basis for industrial hydrogen plants.

Section 13-5-302 – Prohibition of Comingling and Dilution: Circumvention of the emissions standard through comingling or dilution of hydrocarbon streams to atmospheric vents as a means to comply with the standard is expressly prohibited by this section. The emission limits of Proposed Rule 13-5 apply to atmospheric vents that emit gases directly to the atmosphere and not those routed to a control device. Any streams that are comingled prior to abatement would not be subject to the emissions standards in Section 13-5-301 and therefore would not result in a violation of Section 13-5-302.

Section 13-5-303 – Alternative Methane and Other Greenhouse Gas Emissions Standard Option: Proposed Rule 13-5 includes an alternative methane and other GHG emissions standard option that allows a facility to comply with the rule by reducing emissions by 90 percent from an established baseline. The 90 percent GHG emissions reduction requirement was derived based on overall control efficiency based on a flaring calculated as shown below. The detailed calculations for the emissions rates presented in Table 1 are provided in Appendix B of EIR. The owner or operator of a hydrogen plant must notify the Air District that they intend to pursue this option within six months of adoption of the rule and within one year, provide an estimate of the methane emissions baseline to be validated by the Air District. Within one year of that validation, the owner or operator shall submit a plan that details how these emissions reductions will be accomplished for review and approval by the Air District. Up to 20 percent of the total emission reductions may be substituted for methane by reductions of other climate pollutant reductions from the hydrogen plant on a GHG equivalent basis. These limits will go into effect no later than three years after Air District permits are issued in accordance with Section 13-5-401 and 405. For

the facilities that chose this option, the hydrogen plant vents would remain subject to the requirements of Rule 8-2: Miscellaneous Operations.

In the event that the Air District denies approval of the submitted Alternative Compliance Plan, the owner and/or operator of the hydrogen production facility must comply with Sections 13-5-301 and 401. This does not preclude an owner/operator with an approved ACP from complying with Sections 13-5-301 and 401, should they choose. The timelines for the two compliance options in Section 13-5-301 and 303 are aligned and allow for this possibility.

It should be noted that only the hydrogen plants at PBF and Valero refineries are anticipated to require modifications to comply with the emission standards of the proposal and that the three other Bay Area refineries would not be impacted by the emission standards. Other requirements of Proposed Rule 13-5 may affect operations at industrial hydrogen plants at the other Bay Area refineries.

Table 1
Overall Flare Control Efficiency Calculation [8]

Description	**Emissions** (MT CO_2e/year**)**	**Note**
Average Baseline GHG Emissions	**85,783[9]**	-
Net GHG Reduction from Flare Use	**77,543**	GHG Reduction - GHG Emissions Increase
GHG Reduction due to control of methane using a flare	84,067	98% of Average Baseline Emissions
GHG Emissions Increase from Purge and Pilot Gas	148	(CO_2+N_2O*GWP N_2O+CH_4*GWP CH_4)
GHG Emissions Increase from Combustion of Methane	6,349	(CO_2+N_2O*GWP N_2O)
GHG Emissions Increase from Combustion of Hydrogen	27	(CO_2+N_2O*GWP N_2O)
Overall Flare Control Efficiency	**90.4%**	(Net GHG Reduction from Flare Use/Average Baseline Emissions)

Note: GHG reduction due to control of methane = (average baseline emissions) (98%) = (85,783 metric ton of CO_2e) (98%) = 84,067 metric ton (MT) of Carbon Dioxide Equivalent (CO_2e)

Net GHG reduction from flare use = (GHG reduction due to control of methane) - (GHG emissions increase from purge and pilot gas + GHG emissions increase from combustion of methane + GHG emissions increase from combustion of hydrogen) = (84,067) MT of CO_2e – (148 + 6,349 + 27) MT of CO_2e = 77,543 MT of CO_2e

Overall flare control efficiency = (Net GHG reduction from flare use / average baseline emissions)(100%) = (77,543 / 85,783) (100%) = 90.4% MT of CO_2e

The detailed calculations for the emissions rates presented in Table 1 are provided in Appendix B of the EIR. The net GHG emissions were calculated by subtracting the GHG emissions increase

[8] Methane GWP value of 34 and nitrous oxide GWP of 298 from Schedule T of Regulation 3 was used to convert the mass emissions to CO_2e mass emissions.
[9] Average baseline emission was reported by hydrogen plant owners and operators in response to Air District hydrogen plant emissions questionnaire. This number was calculated by summing the average emissions for Valero and PBF for 2016 to 2018 period.

due to operation of flare, which includes carbon dioxide, nitrous oxide, and methane emissions that results from purge and pilot gas, methane, and hydrogen combustion, from the GHG reduction resulting from operation a flare assuming control efficiency of 98 percent. For the emission standard in Section 13-5-303, the emission standard was rounded from 90.4 percent to 90 percent based on the overall flare control efficiency calculation presented in Table 1.

Example Calculation of Section 13-5-303 Alternative Methane and Other Greenhouse Gas Emissions Standard Option

S-1 Hydrogen Plant

Baseline Emissions:

- Total Hydrogen Plant Methane Emissions = 10,000 lbs /year
- Carbon Dioxide Scrubbing Vent = 100,000 lbs/year of carbon dioxide
- Methane GWP value of 34 from Schedule T of Regulation 3 was used to convert the mass emissions of methene to CO_2e mass emissions.

Baseline Methane CO_2e Emissions
= (10,000 lbs of methane)(34) = 340,000 CO_2e lbs/year

Methane Emissions Reductions Required with 20% Substitution with Other GHG

Annual Plant-wide Methane Emissions Reduction Required
= (340,000 CO_2e lbs/year)(90%)
= 306,000 CO_2e lbs/year

20% of Carbon Dioxide Emissions Reductions Allowance
= (306,000 CO_2e lbs/year)(20%)
= 61,200 CO_2e lbs/year

Annual Carbon Dioxide Scrubbing Vent Emissions Allowance
= (100,000-61,200) lbs/year of carbon dioxide
= 38,800 lbs/year of carbon dioxide

Annual Plant-wide Methane Emissions Reduction Required with the 20% Substitution
= (306,000-61,0,200) CO_2e lbs/year
= 244,800 CO_2e lbs/year

Annual Plant-wide Methane Emissions Limit
= (340,000-244,8000) CO_2e lbs/year
= (95,2000 CO_2e lbs/year)(1/34) = 2,800 lbs/year of methane

Summary of Hydrogen Plant-wide Emissions Allowances:
Annual methane emissions: 2,800 lbs/year of methane
Annual carbon dioxide emissions allowance:38,800 lbs/year of carbon dioxide

E. Administrative Requirements

Section 13-5-401 – Control Device Requirements for Industrial Hydrogen Plants: This section provides a schedule for application of permits for control technology, construction, commencement of operation, and eventual compliance with control requirements in the previous standards section of the rule. If an owner or operator of an industrial hydrogen plant does not already comply with the emissions standards of Section 13-5-301, within three years of rule adoption, they must submit an application for an Authority to Construct and/or Permit to Operate a control device to bring their facility in to compliance. Operation of the control device is required within three years of receipt of the Authority to Construct. This section does not apply to an owner and/or operator who will comply with Section 13-5-303 by implementing an Alternative Compliance Plan.

Section 13-5-402 – Reporting Requirements for Total Organic Compounds Vented from Industrial Hydrogen Plants: This section details the notification and reporting requirements for total organic compounds vented from hydrogen plants exceeding rule limits and is consistent with the notification and reporting requirements for equipment breakdown provided in Air District Regulation 1: General Provisions and Definitions. When such venting occurs, the owner or operator must notify the Air District immediately upon discovery and within 30 days report the cause of the venting occurrence; the date, time, and duration of the occurrence; the make, model, and type of control device; the operating parameters of the control device including temperature, pressure, flow rate, and concentrations of each constituent in the gaseous stream; and the mass emissions for each constituent in the gaseous stream including total organic compound.

Section 13-5-403 – Baseline Methane and Other Greenhouse Gas Emissions Calculation Procedures: This section establishes the calculation procedures for determining baseline methane and other GHG emissions. Annual baseline emissions must be determined from verifiable records of operations during the three-year period from January 1, 2016, to December 31, 2018.

Section 13-5-404 – Plan Submission for the Alternative Methane and Other Greenhouse Gas Emissions Standard Option: This section provides the elements required to be submitted and submittal deadline for owners or operators of industrial hydrogen plants seeking to comply with the alternative methane and GHG emissions standard option. This section also specifies that the global warming potentials provided in Regulation 3, Schedule T be used when determining GHG equivalency.

Section 13-5-405 – Implementation of the Alternative Methane and Other Greenhouse Gas Emissions Standard Option: This section provides a schedule for application of permits necessary for implementation of the Alternative Compliance Plan including control technology, construction, commencement of operation, and eventual compliance with control requirements in section 13-5-303 of the rule. The owner or operator of an industrial hydrogen plant seeking this compliance option is required to submit an application for an Authority to Construct and/or Permit to Operate to comply with the Alternative Compliance plan within one year of Air District approval and commence operation of equipment to implement the plan within three years of receipt of the Authority to Construct.

F. Monitoring and Records

Section 13-5-501 – Monitoring Requirements, General: Proposed Rule 13-5 includes a monitoring requirement for total organic compound emissions from atmospheric vents. Effective two years after the adoption of the Rule, by the next turnaround and no later than five years from the adoption of this Rule, the owner or operator of any industrial hydrogen plant shall monitor total organic compound emissions on a daily basis, in total pounds per day and parts per million by volume (ppmv) total organic compound, as methane, on a dry basis from hydrogen plant atmospheric vents. The monitoring must include the continuous recording of data of gas composition, temperature, pressure, flow rate and volume in million standard cubic feet per day. All emissions data must be converted into mass emissions, in pounds per day, for both methane and organic compound emissions. Within the same time limits described above, the owner or operator of any industrial hydrogen plant must install, operate, and maintain in good working order, a sampling port for the purpose of testing emissions from the atmospheric vents, and provide a piping and instrumentation diagram. All records must be retained for all vents and any information deemed necessary by the Air District to approve the sampling port.

Section 13-5-502 – Monitoring Requirements, Alternative Methane and Other Greenhouse Gas Emissions Standard Option: For the owners or operators of industrial hydrogen plants that opt to comply by the alternative methane and other GHG emissions standard, Proposed Rule 13-5 provides monitoring requirements to verify compliance with this alternative standard. Effective two years after adoption, by the next turnaround and no later than five years from adoption, the Rule specifies daily monitoring of methane emissions from atmospheric vents, and daily monitoring of methane and GHG emissions reductions from all atmospheric vents, CO_2 deaerator vents, and deaerator vents. Owners or operators will be required to continuously record temperature, pressure, flow rate and volume from all vents as part of this option and will need to convert this data into mass emissions in pounds per day for both methane and other GHG emissions. This information will be used to determine compliance with the alternative methane and other GHG emissions standard addressed in Section 13-5-303 of the rule.

Section 13-5-503 – Reporting Requirements, Alternative Methane and Other Greenhouse Gas Emissions Standard Option: This section requires that information gathered as per the previous section be summarized and reported to the Air District annually.

Section 13-5-504 – Monitoring Requirements, Deaerator Vents and Carbon Dioxide Scrubbing Vents: Proposed Rule 13-5 also includes a quarterly monitoring requirement for deaerator vents and CO_2 scrubbing vents that is effective two years after adoption of this Rule, and must be implemented by the next turnaround and no later than five years from adoption. The owner or operator of any industrial hydrogen plant that operates deaerators or CO_2 scrubbing equipment must monitor total organic compound emissions on a quarterly basis, in total pounds per day and ppmv total organic compound, as methane, on a dry basis from hydrogen plant atmospheric deaerator vents and CO_2 scrubbing vents. All emissions data must be converted into mass emissions, in pounds per day, for both methane and organic compound emissions. The owner or operator of any industrial hydrogen plant that operates deaerators or CO_2 scrubbing equipment must install, operate, and maintain in good working order, a sampling port for the purpose of testing emissions from the atmospheric vents, and provide a piping and instrumentation diagram. All records are required to be retained for all vents and any information deemed necessary by the Air District to approve the sampling port.

Section 13-5-505 – Monitoring Requirements, Pressure Swing Adsorption Vents: Proposed Rule 13-5 includes monitoring requirements of pressure swing adsorption vents to demonstrate

hydrogen gas percent purity of pressure swing adsorption vents via a hydrogen gas analyzer. The owner or operator of the facility may present the engineering means of verifying the purity of these streams as an alternative method which may be approved by the APCO as sufficient. Purity verifications are required to be recorded quarterly, and all records must be retained for a minimum of five years and made available to the APCO upon request.

Section 13-5-506 – Recordkeeping Requirements: The owner or operator of any industrial hydrogen plant is required to keep records of all industrial hydrogen plant atmospheric venting during normal operating conditions and venting due to startups, shutdowns, malfunctions, and emergencies. Records must include temperature; mass emissions of both methane and organic compounds, in pounds per day; parts per million emissions by volume, as methane, on a dry basis; venting duration; gas composition; volume vented in million standard cubic feet per day; and for any startup, shutdown, malfunction or emergency, the reason for such startup, shutdown, malfunction or emergency. The owner or operator of a small-scale industrial hydrogen plant is required to maintain records and basis for meeting the exemption limits found in Section 13-5-105.

G. Manual of Procedures

Section 13-5-601 – Determination of Compliance and Monitoring of TOC Emissions: This section includes test methods for determining compliance and monitoring of total organic compound emissions. SCAQMD Method 25.3 (modified as approved by APCO) or any other method approved by the APCO are provided for the total organic compound emissions

Section 13-5-504 – Monitoring Requirements, Deaerator Vents and Carbon Dioxide Scrubbing Vents: This section includes test methods for determining compliance and monitoring of methane, and GHG emissions. The section references EPA method 18 or any other method approved by the APCO.

H. Exclusion from Regulation 8, Organic Compounds, Rule 2: Miscellaneous Operations (Rule 8-2)

Because Rule 8-2 currently regulates non-methane organic compound emissions from miscellaneous sources, to avoid potential regulatory overlap with Proposed Rule 13-5, staff proposes the following amendment to language in Rule 8-2-201:

8-2-201 **Miscellaneous Operations**: Any operation other than those limited by the other Rules of this Regulation 8, the Rules of Regulation 10, ~~or~~ Rule 12 of Regulation 12, or limited by compliance with Section 301 of Rule 5 of Regulation 13.

Hydrogen plant operations that are currently subject to Rule 8-2 emission limits for non-methane emissions will continue to be subject until the total organic compound emission requirements of Proposed Rule 13-5 become applicable. Those owners or operators of industrial hydrogen plants that opt to comply with Section 13-5-303 through the alternative methane and other GHG emissions standard option will remain subject to the organic compound emission requirements of Rule 8-2.

Staff is also proposing amendments to the Section 600 Manual of Procedures section to allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the material they are handling. This additional amendment to Rule

8-2 is being made at this time to ensure consistency with other recently amended rules and is unrelated to Proposed Rule 13-5. Staff proposes the following amendment to language in Rule 8-2, Section 8-2-601:

8-2-601 **Determination of Compliance**: Emissions of organic compounds as specified in Section 8-2-301 shall be measured as prescribed by any of the following methods 1) BAAQMD Manual of Procedures, Volume IV, ST-7, 2) EPA Method 25 or 25A, or 3) any other method approved by the APCO. A source shall be considered in violation if the VOC emissions measured by any of the referenced test methods exceed the standards of this rule.

I. Comparative Analysis

There are no rules or regulations, federal or state, that limit GHG emissions from industrial hydrogen plant operations. Although California regulates GHG emissions from petroleum refineries and other large sources via California's Cap-and-Trade program, methane-specific emission reductions are not required. The South Coast Air Quality Management District has a hydrogen plant rule—Rule 1189—that limits volatile organic compound emissions (mainly methanol) from hydrogen plant process vents during normal operations. Because South Coast Rule 1189 does not control methane emissions from hydrogen plant process vents, it cannot be compared to Proposed Rule 13-5. Rule 13-5 will be the most stringent and only GHG regulation in the United States for industrial hydrogen plant operations.

IV. EMISSIONS AND EMISSIONS REDUCTIONS

The Air District established a baseline emissions inventory for estimating emissions reductions from industrial hydrogen plants by reviewing emissions data submitted by hydrogen plant owners and operators. These data include methane emissions from the venting of hydrogen gas produced, distributed, and used in industrial hydrogen plants. According to these data, the average total yearly methane emissions for each of the past three calendar years (2016 through 2018) from all industrial hydrogen plants is approximately 2,555 metric tons per year; this is equivalent to about 86,878 metric tons of CO_2 on a 100-year time horizon and 219,751 metric tons of CO_2 based on 20-year time horizon. However, this value does not include methane emissions from deaerator vents or from CO_2 scrubbing vents because most hydrogen plant operators do not know the extent of methane emissions from these particular types of atmospheric vents. In past years, occasional source tests performed on deaerator vents and CO_2 scrubbing vents did not focus on methane emissions because, at the time, these source types were not suspected of emitting methane. While the total amount of total organic compound emissions from all hydrogen plant operations is, therefore, not fully known, deaerator vent and carbon monoxide vent monitoring requirements in Proposed Rule 13-5 will ultimately provide the Air District the data necessary to determine these emissions.

Table 2
Hydrogen Plant Methane Emissions from Bay Area Petroleum Refineries

Facility	2016 Methane Emissions (metric tons per year)	2017 Methane Emissions (metric tons per year)	2018 Methane Emissions (metric tons[a] per year)	Average Annual Emissions for 2016–2018 (metric tons[a] per year)
Air Liquide [P66] [a]	0	0	0	**0**
Air Products [Marathon] [a]	0	0	0	**0**
Air Products [PBF] [a]	15	4	76	**32**
Chevron Refinery [a]	0	0	0	**0**
Marathon Refinery [a]	0	0	0	**0**
P66 Refinery [a]	0	0	0	**0**
PBF Refinery	907	1,520	589	**1,005**
Valero Refinery	988	2,752	814	**1,518**
TOTALS	**1,911**	**4,276**	**1,479**	**2,555**

Source: Emissions reported in metric tons per year by hydrogen plant owners/operators in response to Air District hydrogen plant emissions questionnaire.

a. Hydrogen plants reporting zero emissions already control methane and other hydrocarbon emissions by either operating a pressure swing adsorption system to remove methane and hydrocarbons prior to venting, recovering potential emissions and routing them to the refinery fuel gas system, or they route hydrogen vent gas to a flare where the gases are combusted.

In addition, Air District staff reviewed emissions data measured from aerial flights conducted by NASA Jet Propulsion Laboratory to ensure consistency with the emissions data submitted by hydrogen plant owners and operators.[xvii] To further ensure the baseline emissions inventory is accurate, staff reviewed emissions data collected by the Air District during compliance and testing activities.

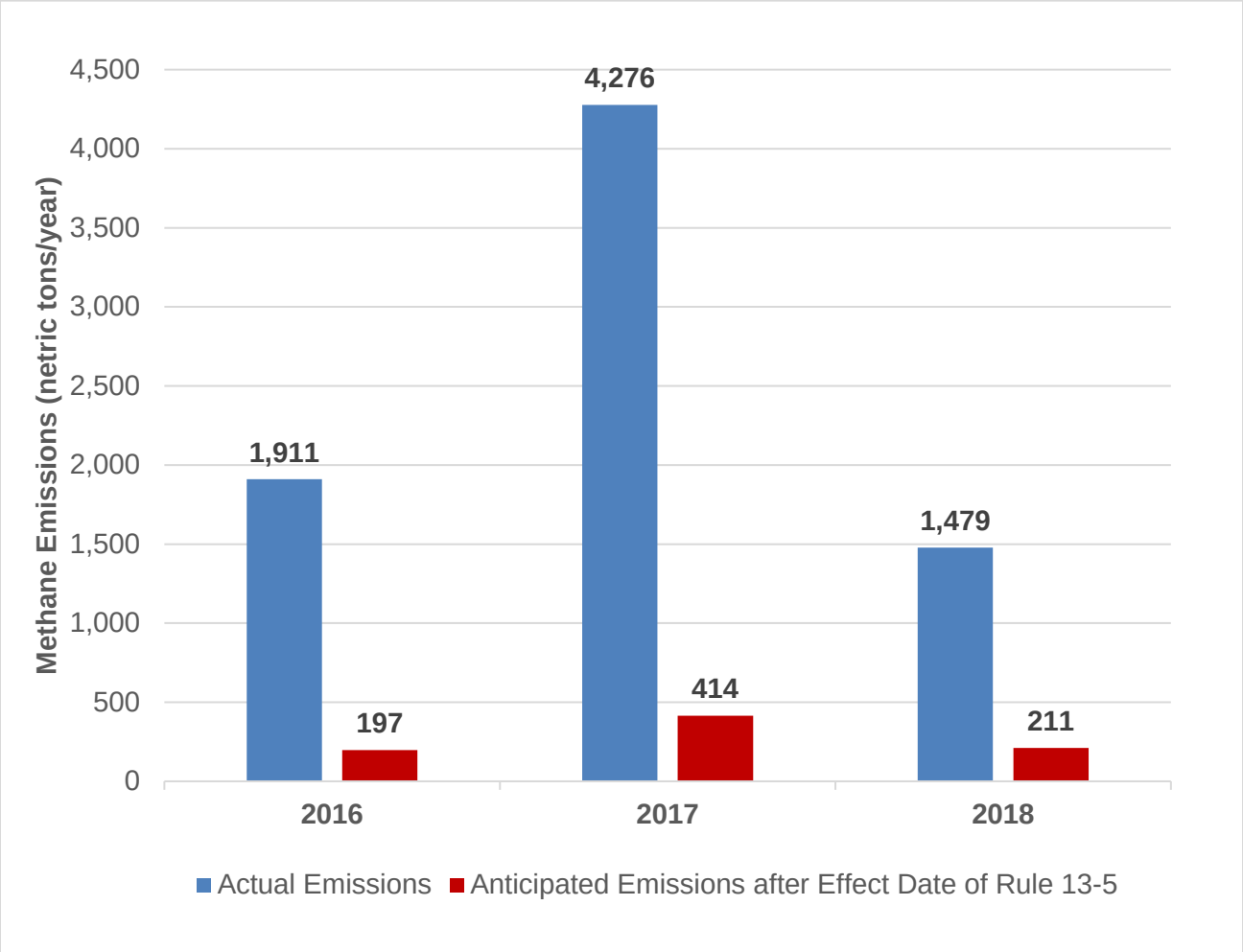
The extent of non-methane organic compounds vented from industrial hydrogen plants is unknown because hydrogen plant operators do not monitor atmospheric vents for non-methane organic compound emissions. Non-methane organic compounds can be present in hydrogen gas depending on the separation method and operational scheme utilized at a hydrogen plant.

Hydrogen gas from a hydrogen plant which combines hydrogen generated from a steam-methane reformation process and that from a catalytic reforming unit may contain trace amount of non-methane organic compounds, whereas hydrogen vent gas from a hydrogen plant that operates a pressure swing adsorption system will contain a negligible amount of non-methane hydrocarbons. Thus, non-methane hydrocarbon emissions from petroleum hydrogen plants will vary.

The graph below provides actual methane emissions and anticipated methane emissions that would have been achieved with the standards of Proposed Rule 13-5 in place assuming at least 90 percent reduction in methane for the years 2016 to 2018. Note that if flares are used to control methane, the actual methane reductions would be approximately 98 percent. However, since the flare is converting the methane to CO_2, the net GHG reduction would roughly 90 percent as shown in Table 1.

Actual emission reductions will vary from year-to-year depending on production rates at each facility. On average, the emission reductions will be approximately 2,514 tons per year or 2,281 metric tons.

Figure 7: Actual and Anticipated Methane Emissions after Effective date of Rule 13-5



V. ECONOMIC IMPACTS

The Air District conducted two different types of economic analyses for rule development activities. The two analyses conducted were (1) a socioeconomic analysis under the California Health and Safety Code (H&SC) section 40728.5, and (2) an incremental cost analysis under H&SC section 40920.6. "In developing regulations to achieve air quality objectives, air districts shall consider the cost effectiveness of their air quality programs, rules, regulations, and enforcement practices in addition to other relevant factors, and shall strive to achieve the most efficient methods of air pollution control. However, priority shall be placed upon expeditious progress toward the goal of healthful air."

The requirements in Proposed Rule 13-5 will have economic impacts on industrial hydrogen plant operators in two different ways: the cost to comply with Proposed Rule 13-5 emission limit

requirements, and a separate cost to comply with emissions monitoring requirements. Based on multiple conversations with representatives from each refinery and independent third-party hydrogen plant operators, and, based on six years of hydrogen plant emissions data submitted to Air District staff, operators of industrial hydrogen plants servicing two of the refineries—Valero and PBF PBF—will have to design, purchase, install and maintain control technology to comply with the Proposed Rule 13-5 emission requirements. Recently, the Air Products Company, an independent third-party operator of hydrogen plants that produces hydrogen for the PBF refinery, purchased two hydrogen plants previously owned and operated by PBF. PBF staff has confirmed with Air District staff that even though they no longer own any of the hydrogen plants, PBF will cover the entire cost to comply with the requirements of Proposed Rule 13-5. Two of the refineries will incur costs to install total organic compound emission monitoring equipment on deaerator vents and CO_2 scrubbing vents. All refineries will incur costs to monitor total organic compound emissions from CO_2 scrubbing and deaerator vents. The base cost information presented in the following sections were provided to the Air District by Valero and PBF. The details regarding the cost information used to calculate the total control cost and cost effectiveness values are available in Appendix C.

A. Control Cost and Cost Effectiveness

P66 refinery and the Marathon refinery recently announced they will be shutting down their crude oil refining operations at their respective facilities. However, staff assumed that both refineries will be operating their hydrogen plants when Proposed Rule 13-5 goes into effect for the purposes of this discussion on cost and cost effectiveness. In addition, as noted above, PBF informed staff they will cover the costs for Air Products' hydrogen plats to comply with Proposed Rule 13-5-301. Air Products recently purchased both of PBF's hydrogen plants so they now own and operate a total of three hydrogen plants for PBF.

Staff determined the total capital cost to reduce total organic compound emissions from hydrogen plant operations with flares at each of the hydrogen plants associated with PBF and Valero will be $70 million dollars. For the purpose of the cost effectiveness analysis, it was assumed methane emissions are equivalent to total organic compound emissions since hydrogen gas vented from atmospheric vents consist mostly of methane. In addition, the cost and emissions reductions for a flare was used for the cost-effectiveness analysis since this was one of the most cost-effective scenarios that will lead to compliance with this rule. The total cost for a flare includes total capital investment, direct installation, indirect installation, direct annual, and indirect annual costs. Total capital investment costs include but are not limited to the hydrogen system flare, piping, piping insulation, piping support structures, monitoring equipment, utility costs, instrumentation, sales tax, and freight. Direct installation costs include site preparation, foundation and supports, handling and erection, electrical, piping insulation and painting. Indirect installation costs include engineering and design, construction and field expenses, contractors' fees, start-up, performance testing and contingency costs. Table 3 summarizes the total annualized cost associated with compliance with Rule 13-5 using a flare.

Table 3
Total Annualized Costs Associated with Compliance with the Emissions Standards of Proposed Rule 13-5: Hydrogen Plants

Facility	Total Compliance Cost - Flare
PBF	$7.8 – 8.6 million
Valero	$6.1 – 6.8 million

Staff estimated the annualized cost for all hydrogen plants to comply with requirement to install flowrate meters to range between $637,200 to $700,920, the annualized cost to perform quarterly emissions monitoring to range between $504,000 to $1,440,000, the annualized cost to install sampling ports in deaerator vents and carbon monoxide scrubbing vents to range between $25,488 to $38,232 and the annualized cost to install emissions monitoring equipment in atmospheric vents to range between $4,855,887 to $6,169,887. The annualized total cost to the refinery industry to comply with Rule 13-5 monitoring-related requirements would range from approximately $15,327,522 to $17,653,986. The reason a range of annualized costs is provided for each monitoring requirement category is because it is not known if scaffolding equipment will be required when monitoring equipment is installed or when source testing for emissions is conducted.[10] Thus, the cost for scaffolding is built in as an added cost. In some cases, operators may have some of the required monitoring equipment already installed. As noted in Appendix C, estimated costs stated above represent the upper end of potential costs for each facility to comply with monitoring requirements. Most facilities currently collect hydrogen gas composition, temperature, pressure, and flow rate data using parametric monitoring equipment or other methods such as modeling techniques. The cost to install atmospheric monitoring equipment for primary hydrogen plant atmospheric vents can be avoided if a facility can demonstrate that atmospheric vents have the capability to vent to atmosphere after vent control technology is installed and operational. Therefore, staff anticipates the annualized cost to comply with the monitoring requirements to be considerably less than stated above for all industrial hydrogen operators to comply with all requirements in Section 13-5-500.

Cost effectiveness is defined as the ratio between the annualized cost and the amount of annual emission reductions in dollars per ton. The cost effectiveness to comply with proposed Rule 13-5 emission limit requirements is presented in Table 4.

[10] See Costs in Appendix C

Table 4
Annualized Costs, Emissions Reductions and Cost Effectiveness for Methane

Facility	Annualized Costs ($ millions)	Methane Emissions Reductions[11] (tons/year)	Cost Effectiveness ($/ton)	Methane Emissions Reductions (metric tons/year)	Cost Effectiveness ($/metric ton)
PBF	$8.6	1,002	$8,627	909	$9,510
Valero	$6.8	1,513	$4,519	1,372	$4,981
TOTALS	**$15.5**	**2,514**	**$6,156**	**2,281**	**$6,786**

Furthermore, staff has determined the CO_2 equivalent cost effectiveness as follows:

Total Methane Reduced (MT)
= (2,523 MT)(90.4%)
= 2,281 MT

2,281 metric tons converted to CO_2e
= (2,281) metric tons x 34 (GWP)
= 77,543 MT of CO_2e

Total annualized cost to reduce emissions for PBF and Valero = $15.5 million

Total CO_2e Cost Effectiveness
= $15.5 million annualized costs / 77,543 MT of CO_2e
= $200 / MT of CO_2e reduced

A CO_2e cost effectiveness compares at roughly 6 times the current California market value for carbon emission credits of $29.15 per metric ton of CO_2 equivalent reduction.[xviii]

[11] The net methane control efficiency of a flare was assumed to be 90% for the cost effectiveness analysis. Though flare has an abatement efficiency of 98 percent for total organic compounds, staff determined that this is equivalent to net control efficiency of 90 percent respective to GHG benefits due to usage of purge gas, and pilot gas required and conversion of methane to carbon dioxide with the operation of a flare.

Table 5
Annualized Costs, Emissions Reductions and Cost Effectiveness for CO_2e

Facility	Annualized Costs ($ millions)	Methane Emissions Reductions (metric tons/year)	CO_2e Emission Reductions 20-yr Time Horizon (metric tons/year)	Cost Effectiveness 20-yr Time Horizon ($/$CO_2e$ metric ton)	CO_2e Emission Reductions 100-yr Time Horizon (metric tons/year)	Cost Effectiveness 100-yr Time Horizon ($/$CO_2e$ metric ton)
PBF	$8.6	909	77,174	$111	30,906	$280
Valero	$6.8	1,372	117,965	$58	46,637	$147
TOTALS	**$15.5**	**2,281**	**196,139**	**$79**	**77,543**	**$200**

In addition to evaluating a flare as a control measure, staff reviewed the alternative control measures proposed by Valero and PBF.

Valero proposed the following alternative emissions reduction measures and is expected to reduce methane emissions from the hydrogen plant by at least 30 percent with the measures below:

- Installing control valves at the existing atmospheric vents to reduce flow and allow for improved pressure control.
- Improving the existing process control system to improve the response time to change in demand to hydrogen gas production.
- Installing flowmeter to the existing atmospheric vents to increase certainty and performing feasibility analysis to determine if the existing flare and gas recovery system can utilize the excess hydrogen gas.
- Installing letdown station with valves and manifold to allow excess hydrogen gas to be routed to the existing LPFG system.

PBF proposed to implement the following alternative emissions reduction measures and is expected to reduce methane emissions from the hydrogen plant from 65 to 85 percent with the measures below:

- Combusting the excess hydrogen gas with lower hydrogen purity using existing control device.
- Routing the excess hydrogen gas with lower hydrogen purity to the existing fuel recovery system.
- Prioritizing the use of hydrogen gas with lower purity by the hydrogen consumers while preferentially venting hydrogen gas with higher purity.

The total capital cost to implement the alternative reduction measures proposed by Valero and PBF ranged from $5,000,000 to $10,000,000. Additional details related to cost of the alternative reduction measure is available in Appendix C. Since the proposed alternative reduction measures would not meet the required emission reduction to comply with this Rule, the proposed alternative reduction measures were not used as the bases for the cost-effectiveness analysis.

B. Incremental Cost Effectiveness

The Air District also assessed the incremental cost-effectiveness for this regulation, since more than one control option could be used to meet the same emission reduction objectives. The H&SC 40920.6 defines incremental cost-effectiveness as the difference in costs divided by the difference in emission reductions between one level of control and the next. As discussed above, the cost-effectiveness for the requirement to use flare control technology to comply with a total organic compound emission limit of 15 pounds per day and 300 ppm total carbon by volume on a dry basis is estimated to be $6,786 per metric ton of total organic compound emissions reduced.

Another option hydrogen plant operators have to reduce total organic compounds is to utilize pressure swing adsorption system to remove contaminants including methane and non-methane hydrocarbons from the hydrogen gas stream. This separation process would produce hydrogen gas, which had hydrogen purity previously ranging between 95 percent to 97 percent, with minimum hydrogen purity of 99.99 percent concentration with the removal of majority of methane and non-methane hydrocarbons. Thus, the total organic compound emissions occurring from a hydrogen plant utilizing a pressure swing adsorption system will be negligible given the high hydrogen purity.

For the incremental cost effectiveness analysis, it was assumed that 100 percent of the methane contained in the hydrogen vent gas would be controlled. This would amount to a reduction of 2,523 metric tons/year of total organic compound emissions in a typical year.

Staff estimated that the total capital cost to install a pressure swing adsorption system at both Valero and PBF were $307 million. The total annualized costs for the two pressure swing adsorption systems ranged from $59 to $63 million per year.

The incremental cost between two options is calculated as follows:

Total Annualized Cost for Valero and PBF
= ($60.7 million – $15.5 million) / (2,523– 2,281) metric tons
= $45.2 million / 242 metric tons/year
= $186,518 / metric ton or $169,206 / ton

C. Socioeconomic Impacts

Section 40728.5 of the California Health and Safety Code requires an air district to assess the socioeconomic impacts of the adoption, amendment, or repeal of a rule if the rule is one that "will significantly affect air quality or emissions limitations." Applied Development Economics of Walnut Creek, California has prepared a socioeconomic analysis Proposed Rule 13-5. This analysis is based on the costs of compliance with the Proposed New Rule, and is attached to this report as Appendix D. It would cost the industrial hydrogen production industry between $15.3 and 17.7 million per year to comply with total organic compound emission limits, with costs for individual facilities ranging from $0.2 to 8.6 million per year. The upper range of costs expressed as a percent of annual income for individual facilities range between 0.2 to 11.3.

For the Air Liquide hydrogen plant, which is a smaller facility, the annualized monitoring costs represent 7.6 to 11.3 percent of estimated net income. The upper end of the cost estimate range exceeds the 10 percent threshold of significance for the Air Liquide plant. While the high-end estimate should be considered as a worst-case scenario, the costs may be substantially lower

than this estimated value. Nevertheless, the potential impacts associated with costs above the threshold of significance were estimated based on this high-end estimate. Of particular concern under the Health and Safety Code would be the potential for lost jobs at the plant to compensate for the impact to net income. At $270,000 per year, the upper end impact is about $30,000 above the 10 percent impact threshold. The average salary and benefits for workers in the gas production industry in California is $92,300. The maximum cost impact exceeding the threshold, therefore, represents less than a third of the cost for one employee at Air Liquide. We conclude that it is unlikely the company would choose to reduce employment to mitigate this impact.

D. Potential Cost Mitigation

While staff economic analyses indicate that Proposed Rule 13-5 will be cost effective and will not impose significant socioeconomic impacts on the affected facilities; these analyses do not reflect cost mitigations options potentially available to the affected facilities. One such potential cost mitigation is that the GHG emissions reductions realized as a result of the implementation of Proposed Rule 13-5 may be eligible to be traded as carbon credits on the national and international markets. Carbon credits allow for business operations that generate carbon emissions to offset those impacts by trading credits with other business operations that reduce, remove, or avoid GHG emissions. The carbon credits market consists of both a voluntary market and a compliance market. The compliance market, which is represented as a cap-and-trade market, currently operates in California.

Under the California Air Resources Board regulations, major sources that generate large amounts of carbon emissions can purchase carbon credits to meet emissions goals. Refineries are subject to cap-and-trade requirements. The California cap-and-trade program has 450 participants.[xix] The market value of carbon credits fluctuates, but the most recent data from the Air Resources Board (ARB) indicates that the median price for a carbon credit ranged from $15.32 (offset) to $24.62 (allowance).[xx] [12] Applied to the proposed reduction of 2,281 metric tons of methane (equivalent of 77,543 tons of CO_2 based on a 34 GWP for methane), this would imply a carbon credit value ranging from $1.30 million (offset) to $2.10 million (allowance). Depending on the allowable cap for each facility, the affected companies may be able to monetize a portion of their carbon reductions under this program.

E. Social Costs of Greenhouse Gases (GHG)

Compliance with Proposed Rule 13-5 will impose costs on the affected refineries and hydrogen producers in the Bay Area. However, failure to reduce emissions of GHG imposes ongoing costs on society in terms of contributing to climate change and the long-term effects it will have on a wide range of human activities and the built and natural environment. The social cost of carbon takes a holistic view of how carbon emissions create societal impacts and uses various data measures to put a cost on it. At a simplistic level, social cost of carbon attempts to measure the economic harm caused by climate change based on the dollar value per ton of CO_2 emissions.[xxi]

The legal rationale for including social cost of carbon in socioeconomic impact studies of new regulations dates back to a 2007 court decision in which the US Court of Appeals for the Ninth

[12] An offset carbon credit means that the GHG emission will be offset by a mitigating project, such as reforestation or agricultural projects. An allowance carbon credit functions more like a permit to emit.

Circuit ruled that federal agencies needed to account for the cumulative effects of GHG emissions in a cost-benefit analyses.[xxii]

The methodologies for quantifying social cost of carbon are highly varied. The monetary values assigned to social cost of carbon depend on several assumptions about socioeconomic forecasts (population and economic growth, and the resulting carbon emissions), climate projections (rising temperatures and sea levels compared to CO_2 levels, etc.), benefits and costs; and the discount rate (indication of rate at which society trades off present for future benefits).[xxiii]

At the federal level, the Interagency Working Group (IWG) was formed as a result of the 2007 court decision discussed above and has issued and updated social cost of carbon estimates since 2010. While the estimates have covered a wide range, depending on the measures used, the Biden administration announced an initial estimated social cost of carbon of about $51 per metric ton of CO_2. This figure is the one most frequently cited in media reports; and is based on work previously completed during the Obama administration (adjusted for inflation). The social cost of carbon estimate assumes a discount rate of 3.0 percent, which moderately trades off present costs into the future.[xxiv] It should be noted that the current social cost of carbon estimates from the IWG range from $14 to $152 per metric ton, depending on the discount rate assumption.[13]

In addition, the IWG separately assigned interim social cost values to methane and nitrous oxide (N_2O) of $1,500 and $18,000 per ton of emissions, respectively, using a 3.0 percent discount rate assumption.[14]

When applied to Bay Area refineries, the Proposed Rule 13-5 will eliminate about 2,281 metric tons of methane emissions. Using the alternate discount rate assumptions cited in the most current IWG report, the social cost reduction would range from $1.7 million to $9.8 million. The anticipated costs of compliance for Rule 13-5 fall within the range of $15.3 to $17.7 million per year. The IWG began the peer review process of a revised report in January 2022 that will account for more up-to-date climate change analysis and feedback.

F. Air District Impacts

Staff has determined that Proposed Rule 13-5 will require additional staff time and resources in a number of areas. Implementation of Proposed Rule 13-5 would affect three staffing demands on Air District Divisions with estimates of additional staffing needs: 1) Engineering, two additional full-time equivalents (FTEs); 2) Compliance and Enforcement, one additional FTE; and 3) Meteorology and Measurements, one additional FTE. Rule 13-5 is structured so that the effective dates of requirements in the standards section are far enough into the future that additional staffing needs can be fully evaluated and changes to Regulation 3: Fees may be implemented to assure Air District recovery of increased staffing costs associated with implementing and enforcing the requirements of Rule 13-5.

The administrative procedures in Proposed Rule 13-5 represent a moderate workload increase for the Air District's Engineering Division during the permitting process for emissions control systems because the owners or operators of industrial hydrogen plants must comply with control

[13] The IWG's SCC estimates are based on averages of model runs using multiple different inputs. The scenarios include 5.0, 3.0, and 2.5 percent discount rates, with an additional scenario that uses a 3.0 percent discount rate at the 95th percentile of the modeling results.

[14] The cost factor assumes 2020 dollar values, using the previous estimates dating back to 2016 and adjusted for inflation using the US Bureau of Economic Analysis' GDP price deflator values.

equipment permitting timelines delineated in Section 13-5-401. The owners or operators may need to permit modifications of existing equipment as part of the permitting process for control equipment or as part of implementing necessary equipment to meet the alternative compliance option of Section 13-5-303. As a result of the two- to three-year timeline for permitting, evaluation of total organic compound control technology will be a high priority for Engineering staff assigned to those specific hydrogen plant operations. If the owners or operators opt for the alternative compliance plan provisions of Section 13-5-303, additional staff time will be necessary for evaluation of methane and other GHG emissions baselines, and review and approval of emissions reductions plans. Staff estimate that two additional FTEs will be necessary to accommodate the increased demand on staff time from the Engineering Division for processing of permits and evaluation of emissions inventories, reductions, and alternative compliance plans.

Field staff from the Compliance and Enforcement Division normally investigate occasional hydrogen plant events such as malfunctions, upsets and power outages that require hydrogen plant operations to shut down and eventually start up again. To verify compliance with the emissions standard in Section 13-5-301, field staff will need to verify hydrogen gas emissions from hydrogen plants are adequately controlled and will have to verify that effected hydrogen plant owners or operators comply with the control technology implementation schedule, along with reporting requirements for hydrogen plant owners or operators in the event of venting of organic compound emissions after Proposed Rule 13-5 becomes effective. Compliance and Enforcement staff may be required to consult with Engineering staff on review and approval of emissions reduction plans as a result of facilities opting to comply with Section 13-5-303. Field staff will also have to verify hydrogen plants compliance with monitoring requirements for deaerator vents, and CO_2 scrubbing vents, review compliance records addressed in Section 13-5-506, and verify installation of flowrate meters and total organic compound analyzers. Staff estimate that one additional FTE will be necessary to accommodate the increased demand on staff time from the Compliance and Enforcement Division for additional compliance verification, review of records and incident reports, and consultation with Engineering staff for review of emissions reductions plans.

Source test staff from the Meteorology and Measurements Division will be required to evaluate total organic compound emissions monitoring methodologies and emissions monitoring data. Source Test staff must approve installation locations on vents for emissions monitoring technologies as required by Sections 13-5-501 and 502, and Source Test staff will also need to review quarterly emissions monitoring data from deaerator vents and CO_2 scrubbing vents. Staff estimate that one additional FTE will be necessary to accommodate the increased demand on staff time from Meteorology and Measurements Division for evaluation and approval of emissions testing and monitoring requirements contained in Proposed Rule 13-5.

As part of Air District cost recovery efforts, staff will propose updated fee requirements in Regulation 3: Fees (Reg 3) for the Air District Board of Directors' consideration for adoption in 2022, which will likely take effect on July 1, 2022. Staff has determined that Reg 3 will need to include a new fee to address the requirements for hydrogen plant operations consistent with additional staffing and resource requirements to implement the provisions of Proposed Rule 13-5. Many of the required actions of the rule will not take effect until after this date and staff may continue to evaluate the need for fee updates as these provisions come into effect.

G. Air District Cost Recovery

The Air District has the authority to assess fees to regulated entities for the purpose of recovering the reasonable costs of implementing and enforcing applicable regulatory requirements. In 2012, the Air District's Board of Directors adopted a Cost Recovery Policy which specifies that newly adopted regulatory measures should include fees that are designed to recover increased regulatory program activity costs associated with the measure, unless the Board of Directors determines that a portion of those costs should be covered by tax revenue.

In accordance with the adopted Cost Recovery Policy, the Air District staff has determined that Regulation 3: Fees will need to be amended to include a new fee to address the increased administrative time that will be necessary to process applications to comply with the provisions of the Proposed Rule 13-5. Regulation 3: Fees to ensure consistency and cost recovery.

VI. REGULATORY IMPACTS

Section 40727.2 of the California Health and Safety Code requires an air district, in adopting, amending, or repealing an air district regulation, to identify existing federal and air district air pollution control requirements for the equipment or source type affected by a proposed change in air district rules. The air district must then note any differences between these existing requirements and the requirements imposed by the proposed changes.

There are currently no federal or state regulations addressing methane emissions resulting from the production of hydrogen. The California Air Resources Board adopted a regulation to control emissions of methane from oil and gas production in 2017, but this regulation is limited to oil and natural gas production, processing and storage and does not extend to refining operations or steam-methane reformation operations. In November of 2021, the United States Environmental Protection Agency proposed New Source Performance Standard updates and emissions guidelines to reduce methane emissions from existing sources in the oil and natural gas industry. These proposals do not currently address emissions of methane from hydrogen production.

As stated previously in Section III of this report, Air District Rule 8-2 currently regulates non-methane organic compound emissions from miscellaneous operations, which includes industrial hydrogen plants. Proposed Rule 13-5 applies the same numerical standard as that found in Rule 8-2, but to total organic compounds including methane, whereas the standard in Rule 8-2 excludes methane. In respects to emissions of non-methane hydrocarbons, applying this standard to total organic compounds including methane is at least as stringent as applying it to organic compounds excluding methane. To prevent regulatory overlap, Rule 8-2 will also be amended as part of this rulemaking effort to exclude from that rule facilities complying with Section 13-5-301. Regulation 8-2 will still apply to facilities that opt to comply with Section 13-5-303 since that standard does not address emissions of organic compounds other than GHGs.

Proposed Rule 13-5 does not violate the provisions of the California Global Warming Solutions Act of 2006 (H&SC Section 38594). Section 13-5-303 includes an allowance for methane emissions to be offset up to 20 percent by other GHG emission reductions on a CO_2e basis. This option is not specifically limited to carbon dioxide, and is a voluntary option, not a requirement of the Rule. Rule 13-5 does not directly regulate carbon dioxide but rather provides additional regulatory flexibility to comply with its required methane reductions. Section 38594(c)(1) of the California Health and Safety Code provides that the Air District retains authority to adopt a rule

for purposes other than to reduce carbon dioxide from sources subject to a market-based compliance mechanism adopted by the state board. Thus, Section 13-5-303 does not violate Section 38594(b) of the California Health & Safety Code.

VII. ENVIRONMENTAL IMPACTS

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid identified significant adverse environmental impacts of these projects be identified. The Air District contracts with an independent consultant to conduct a CEQA analysis of potential environmental impacts from any rule making projects.

A. Notice of Preparation / Initial Study

The Air District prepared a Notice of Preparation and an Initial Study (NOP/IS) in anticipation of a Draft EIR for Proposed Rule 13-5 and this NOP/IS was distributed to responsible agencies and interested parties for a 30-day review on June 30, 2021. A notice of availability of this document was distributed and was published on the Air District's website and newspapers throughout the area of the Air District's jurisdiction and a CEQA scoping meeting was conducted on July 27, 2021, to solicit public comment regarding the scope and content of the environmental information to be included in the Draft Environmental Impact Report.

The NOP/IS initially identified the following environmental resources as being potentially significant, requiring further analysis in the Draft EIR:

- Aesthetics,
- Air Quality, and
- Greenhouse Gas Emissions.

Public comments received on the NOP/IS raised additional concerns related to potential impacts on biological resources, those associated with the use of supplemental natural gas, those associated with project alternatives, and a recommendation to consult with Native American Tribes. Evaluation of these additional potential impacts were included in the Draft EIR as part of the evaluation of the impacts identified in the NOP/IS. With respect to consultation with Native American Tribes, impacts to cultural or tribal cultural resources are not expected. No Native American Tribes have requested consultation under Assembly Bill 52; but individual projects may be examined when the precise location compliance methods are known so that consultation with Tribes may prove more constructive.

Impacts to the following environmental resources were considered to be less than significant in the NOP/IS:

- Agriculture & Forestry Resources,
- Cultural Resources,
- Energy,
- Geology & Soils,
- Hazards & Hazardous Materials,
- Hydrology & Water Quality,
- Land Use & Planning,
- Mineral Resources,
- Noise,

- Population & Housing,
- Public Services,
- Recreation,
- Transportation,
- Tribal Cultural Resources,
- Utilities & Services Systems, and
- Wildfire.

B. Draft Environmental Impact Report

Pursuant to CEQA, the Air District prepared a Draft EIR to address the potential environmental impacts associated with the Rule 13-5. The Draft EIR was published on January 24, 2022 for review and comment. Aesthetic and GHG impacts were found to be less than significant. With respect to air quality impacts, hydrogen plants at two refineries are expected to need additional control technology to comply with Proposed Rule 13-5, the Valero Refinery in Benicia and the hydrogen plants that provide hydrogen to the PBF Refinery in Martinez. Compliance options could include installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan. The impacts associated with an Alternative Compliance Plan may vary but would be expected to include the addition of piping, valves, and flanges and similar equipment to reroute gas streams within the facility. Worst case emissions of pollutants associated with construction and operation of control equipment were found to be less than significant with the exception of emissions of NOx which may be significant should a flare be utilized for control. Operational emissions of NOx were estimated to be approximately 30 tons per year if the affected facilities opted to use flaring as the method of control. Because of potential NOx emissions, cumulative air quality impacts were also found to be potentially significant. Implementation of the alternative control option in Proposed Rule 13-5 would be expected to result in much lower NOx emissions. Table 6 summarizes these air quality impacts, mitigation measures, and residual impacts, as well as other potential impacts evaluated in the DEIR.

Table 6
Summary of Air Quality Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
Aesthetics		
The addition of flares at the facilities may add visible structures to the skyline, which are not expected to change the visual character of either the PBF Martinez or Valero Benicia Refinery, respectively. Multiple structures at the refineries are similar in height and width as potential new flares. Aesthetic impacts would be less than significant.	None required.	Aesthetic impacts associated with implementation of Rule 13-5 would be less than significant.
Air Quality		
The construction activities may include construction of two flare systems. The construction emissions may exceed the CEQA significance thresholds for NOx and are potentially significant.	The Air District's Basic Construction Mitigation Measures are expected to be implemented.	Construction emissions of NOx, may remain significant.
Worst-case operational activities associated with the implementation of Proposed Rule 13-5 may include the operation of two flares. The emissions calculations determined that NOx emissions from flares could exceed the CEQA thresholds and are potentially significant. The emissions of other criteria pollutants would be less than significant.	Any new equipment may be required to comply with BACT. Compliance with the BACT requirements would minimize emissions from the source to the maximum degree feasible	Operational emissions of ROG, CO, SOx, PM_{10}, and $PM_{2.5}$ would be less than significant. The operational emissions of NOx may be significant.
Implementation of Proposed Rule 13-5 would likely result in a reduction in TAC emissions from the control of the non-methane hydrocarbons that are potentially in the vent stream, or at worst result in no increase in TAC emissions. Therefore, TAC emissions and the related health risks associated with implementation of Rule 13-5 are expected to be less than significant.	None Required	Potential TAC emissions would be less than significant.
Greenhouse Gases		
Implementation of Proposed Rule 13-5 by the Air District may result in a minor increase in GHG emissions associated with the pilot gas for the flares (6,524 MT/year). Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477 CO_2e MT/year (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant thresholds and less than significant.	None Required	Implementation of Rule 13-5 is expected to result in a reduction in GHG emissions providing a beneficial impact.
Cumulative Air Quality		
Air quality impacts associated with the implementation of Proposed Rule 13-5 are potentially significant for NOx if both affected facilities install a new flare. Given that the Bay Area is not in attainment with the federal and state ozone standard, and that implementation of Proposed Rule 13-5 could result in significant air quality impacts, cumulative air quality impacts are also potentially significant.	Any new equipment may be required to comply with Air District BACT requirements. Compliance with the BACT requirements would minimize emissions from the source to the maximum degree feasible	The use of a flare would be expected to reduce VOCs by about 98 percent, leading to a beneficial impact of reducing TAC emissions. The cumulative operational emissions of NOx may be potentially significant.

C. Final Environmental Impact Report

Two comment letters were received during the comment period that address issues raised in the DEIR, and responses to those comments are included in the proposed Final EIR. Minor clarifications and revisions to the DEIR have been incorporated in the proposed Final EIR, none of which affect the environmental impacts of the project or otherwise represent "significant new information" requiring recirculation within the meaning of CEQA Guidelines Section 15088.

Prior to making a decision on the adoption of the Proposed Rule 13-5 and the proposed Amendments to Rule 8-2, the Air District's Board of Directors must review and certify the Final EIR as providing adequate information on the potential adverse environmental impacts of these actions. The proposed Final EIR concludes that NOx impacts during the construction and operation of flares, which may occur in order to comply with the Rule, were found to remain potentially significant after mitigation and cumulatively considerable. The EIR estimates that potentially significant air quality impacts associated with construction of air pollution control equipment to comply with the Proposed Project would be expected to be, in the worst-case, 55.31 pounds per day of NOx (in light of Bay Area emissions of approximately 298 tons of NOx per day). The EIR estimates that potentially significant air quality impacts associated with operation of air pollution control equipment to comply with the Proposed Project would be expected to be, in the worst-case, 35.2 tons per year of NOx (in light of Bay Area emissions of approximately 298 tons of NOx per day).

Because NOx impacts remain potentially significant, the Board of Directors must also adopt a Statement of Overriding Considerations in order to move forward with the adoption of the Proposed Rule 13-5 and the proposed Amendments to Rule 8-2. Air District staff recommends that the Board adopt a Statement of Overriding Considerations as the Proposed Project benefits in reducing methane emissions outweigh the Proposed Project's adverse NOx impacts, as detailed throughout this Staff Report and in the Final EIR for the Proposed Project.

VII. RULE DEVELOPMENT / PUBLIC PARTICIPATION PROCESS

As part of the Proposed Rule 13-5 rule development process, staff reached out to petroleum refinery industry experts and environmental advocacy and community groups. Staff conducted a briefing with the Refinery Rules Technical Working Group community members on June 27, 2019, to familiarize them on the basic operations and primary processes of hydrogen plants, and thus, to better enable them to participate in Refinery Rules Technical Working Group discussions for the Proposed Rule 13-5 rule development project. Staff conducted a Refinery Technical Working Group meeting on July 17, 2019, to discuss the availability and feasibility of all potential vented methane emission controls for hydrogen production equipment/processes. Staff submitted a comprehensive questionnaire to all hydrogen plant operators requesting pertinent parametric and emissions data relating to all hydrogen venting occurrences during the past six years. The questionnaire was divided into two phases with a due date of November 18, 2019, for Phase I and a due date of January 10, 2020, for Phase II. In July and August of 2019, Air District staff visited all of the ten hydrogen plants at least once for a total of 15 visits spread among the five refineries within the Air District's jurisdiction. Staff typically had pre-meetings with refinery staff, including hydrogen plant operators, conducted tours of the hydrogen plants and, when necessary, held post-tour meetings to ask more questions and clarify information. A second round of tours

were concluded in January 2020 to help staff identify possible controls for each hydrogen plant as each refinery is designed differently, and thus, may not be capable of using the same types of controls or install gas recovery systems in the same locations or with similar configurations as other refineries.

A workshop for Proposed Draft Rule 13-5 was held in January 2020, at Air District headquarters. Staff met with Western States Petroleum Association (WSPA) and industrial hydrogen plant operators in March of 2020 to discuss the Draft New Rule. As initially drafted, Proposed Rule 13-5 was based on the concept of controlling methane and organic compound emissions by requiring a minimum hydrogen gas purity when vented from hydrogen plant operations. Any control method currently used, including hydrogen gas recovery or hydrogen gas flaring would have resulted in the reduction of methane emissions and organic compound emissions based on control efficiency requirements. After the preliminary staff report was published on September 4, 2020, Air District staff met with WSPA, refinery representatives and third-party operators on October 6, 2020, to discuss outstanding Proposed Rule 13-5 issues and comments.

Comments from industry included requests to change the emphasis in Proposed Rule 13-5 from controlling hydrogen gas purity to instead focus on addressing methane gas emissions. Furthermore, it was stressed that the four-year timeline to design, permit, purchase, and install controls for methane gas was not enough time, especially for the initial steps of designing and permitting controls. Other comments included concerns with potential duplication with existing Organic Rules; requests for exemptions for low-level methane emissions; and switching from percent weight standards to percent volume standards. The above concerns were addressed in the subsequent revision of Proposed Draft Rule 13-5 published on the Air District website in June 2021 along with the NOP/IS for the DEIR to be prepared for the rule. Proposed Draft Rule 13-5 was revised to address methane emissions in the form of “Total Organic Compounds,” which include both methane and other organic compounds. The draft emissions standard in Section 13-5- 301 was modeled after the requirements in Regulation 8, Rule 2: Miscellaneous Operations, with an emission limit of 15 pounds per day and 300 parts per million for total organic compounds.

Staff held a scoping meeting on July 27, 2021, to solicit public comment regarding the scope and content of the environmental information to be included in the Draft EIR, with a deadline of July 30, 2021, for comments on both the environmental analysis discussed in the NOP/IS as well as any comments on the draft rule language. Staff also updated the Stationary Source and Climate Impacts Committee on rule development activities for Proposed Rule 13-5 on July 19, 2021. At that committee meeting, concerns were raised about the potential use of flares to control emissions from these sources.

Air District staff received industry comments from WSPA and individual refinery representatives regarding monitoring requirements contained in Draft Rule 13-5 along with proposals from representatives of two facilities to control emissions of methane and other GHGs through means other than the draft standard in Section 13-5-301. Air District staff met with industry staff on two separate occasions in September 2021 to discuss these alternatives and subsequently requested more information to better understand these proposals. Air District staff also met with WSPA and other industry representatives in October 2021 to discuss the monitoring requirements contained in the Rule.

Review of the alternative methods to reduce emissions as presented in these October meetings found them to be insufficient to meet the air quality goals of this rule development effort, but continued development of the emissions reductions methods described could potentially result in sufficient reductions to be deemed equivalent. Air District staff revised Proposed Rule 13-5 to

include an Alternative Compliance Plan option (Section 13-5-303) as an alternative to the total organic compound emissions standard of Section 13-5-301. The Alternative Compliance Plan provisions contained in all subsequent versions of Proposed Rule 13-5 allow for sufficient review by Air District Staff to determine equivalency.

On January 24, 2022, Air District Staff posted a revised Draft Rule 13-5, DEIR, Draft Staff Report, and other supporting documents to solicit public comment, with the 45-day comment period ending March 10, 2022. Air District Staff met with Industry representatives on three occasions to discuss the revised proposal and industry comments. Staff considered all comments received and made further revisions to Draft Rule 13-5 to clarify monitoring requirements and resolve impediments to meeting compliance deadlines. On March 25, 2022, the revised rule was posted along with a Rescheduling of Public Hearing Notice to allow for public comment on the revisions to be submitted by April 15, 2022, with the Board Hearing rescheduled from April 6 to May 4, 2022. Air District Staff considered all comments received and a Response to Comments Summary is included as Appendix F of this report.

VIII. CONCLUSION / RECOMMENDATIONS

Pursuant to the California Health and Safety Code Section 40727, before adopting, amending, or repealing a rule the Board of Directors must make findings of necessity, authority, clarity, consistency, non-duplication, and reference. This section addresses each of these findings.

A. Necessity

"Necessity" is defined in Section 40727(b) to mean that "a need exists for the regulation, or for its amendment or repeal, as demonstrated by the record of the rulemaking authority." The meaning of "necessity" in Section 40727(a) is further illuminated by Health & Safety Code Section 40001(c) which provides that "prior to adopting any rule or regulation to reduce criteria pollutants, a district shall determine that there is a problem that the proposed rule or regulation will alleviate and that the rule or regulation will promote attainment or maintenance of state or federal ambient air quality standards."

The adoption of Proposed Rule 13-5 is necessary because industrial hydrogen plant operations are a major source of methane emissions. It is imperative to reduce GHG emissions that are within the Air District's authority to ensure the Region meets its climate protection goals and further expedite the reduction of methane. At the recent climate summit in Glasgow, over 100 countries (including the United States) signed the Climate Change Conference Global Methane Pledge to commit to collectively reduce global methane emissions by 30 percent by 2030.[xxv]

As previously discussed, the Air District adopted a policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Recognizing the importance of reducing methane emissions in the Bay Area, the Air District developed a comprehensive Basin-wide Methane Strategy as part of its 2017 Clean Air Plan to better quantify and reduce the Region's methane emissions. This rule would be one of the Air District's first GHG regulations that will serve to reduce emissions of methane, a potent GHG, in the form of total organic compounds.

B. Authority

"'Authority' means that a provision of law or of a state or federal regulation permits or requires the regional agency to adopt, amend, or repeal the regulation." H&SC Section 40727(b)(2)

The Air District has the authority to adopt this rule under Sections 40000, 40001, 40702, and 40725 through 40728.5 of the California Health and Safety Code.

C. Clarity

"'Clarity' means that the regulation is written or displayed so that its meaning can be easily understood by the persons directly affected by it." H&SC Section 40727(b)(3)

Proposed Rule 13-5 is clear, in that the rule specifically delineates the affected industry, compliance options, and administrative requirements for industry subject to this rule, so that its meaning can be easily understood by the persons directly affected by it.

D. Consistency

"'Consistency' means that the regulation is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations." H&SC Section 40727(b)(4)

Proposed Rule 13-5 is consistent with other Air District rules, and not in conflict with state or federal law.

E. Non-Duplication

"'Nonduplication' means that a regulation does not impose the same requirements as an existing state or federal regulation unless a district finds that the requirements are necessary or proper to execute the powers and duties granted to, and imposed upon, a district." H&SC Section 40727(b)(5)

As the regulatory analysis indicated, Proposed Rule 13-5 is non-duplicative of other statutes, rules, or regulations.

F. Reference

"'Reference' means the statute, court decision, or other provision of law that the district implements, interprets, or makes specific by adopting, amending, or repealing a regulation." H&SC Section 40727(b)(6)

By adopting the Proposed Rule and Proposed Amendments, the Air District Board of Directors will implement, interpret and/or make specific the provisions of Sections 38594, 40000, 40001 and 40702 of the California Health & Safety Code.

Proposed Rule 13-5 met all legal noticing requirements, was discussed with the regulated community and other interested parties, and reflects consideration of the input and comments of many affected and interested stakeholders.

G. Recommendations

Air District staff recommends adoption of proposed Regulation 13, Climate Pollutants, Rule 5: Industrial Hydrogen Plants and adoption of amendments to Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations and certification of the CEQA Final EIR and adoption of a Statement of Overriding Considerations.

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT

APPENDIX A

Proposed Revised
New Regulation 13: Climate Pollutants,
Rule 5: Industrial Hydrogen Plants

REGULATION 13
CLIMATE POLLUTANTS
RULE 5
INDUSTRIAL HYDROGEN PLANTS

(Adopted _____, 2022___)

13-5-100 GENERAL

13-5-101 Description: The purpose of this Rule is to limit total organic compounds (TOC) emissions—including methane—from industrial hydrogen plants.

13-5-102 Applicability: Upon adoption, this Rule applies to industrial hydrogen plants including third parties.

13-5-103 Exemption, Specific Operations: Specific operations of methane and/or organic compound emissions already subject to methane and/or organic compound emission requirements in Regulation 8: Organic Compounds, Rule 5: Storage of Organic Liquids; Regulation 8: Organic Compounds, Rule 10: Process Vessel Depressurization, Regulation 8: Organic Compounds, Rule 18: Equipment Leaks; and Regulation 8: Organic Compounds, Rule 28: Episodic Releases From Pressure Relief Devices at Petroleum Refineries and Chemical Plants shall be exempt from this Rule.

13-5-104 Limited Exemption, Deaerator Vents and Carbon Dioxide Scrubbing Vents: Deaerator vents and carbon dioxide scrubbing vents shall be exempt from the requirements in Section 13-5-300 of this Rule.

13-5-105 Limited Exemption, Small-Scale Industrial Hydrogen Plants: With the exception of Section 13-5-506.3, the requirements of this Rule shall not apply to industrial hydrogen plants that have a maximum design production capacity that is less than 20 tons of hydrogen per day. The owner and/or operator of a small-scale industrial hydrogen plant shall meet the recordkeeping requirements of Section 13-5-506.3.

13-5-200 DEFINITIONS

13-5-201 Alternative Compliance Plan: A document meeting the requirements of Section 13-5-404 that identifies, among other things, sources, quantities, emissions, and emissions reduction measures that would be implemented to comply with the standards and deadlines set forth in Section 13-5-303.

13-5-202 Atmospheric Vent: An opening where a gas or gases are continuously or periodically discharged during hydrogen plant operations. Atmospheric vents include openings where a gas or gases are discharged directly to the atmosphere. For the purposes of this Rule, an atmospheric vent may be physically located in any portion of an industrial hydrogen plant.

13-5-203 Carbon Dioxide Scrubbing Vent: The atmospheric vent from a device or process unit that adsorbs carbon dioxide from a mixture of gases.

13-5-204 Deaerator Vent: The atmospheric vent from a device that removes oxygen and other dissolved gases from liquids.

13-5-205 Effective Date: This Rule is effective upon adoption. However, the date when the requirements of Section 13-5-301 take effect shall be as set forth in Section 13-5-401. The date when the requirements of Section 13-5-303 take effect shall be as set forth in Section 13-5-405.

13-5-206 **Global Warming Potential:** A comparison of the integrated radiative forcing over a specified period (i.e., 100 years) from a unit mass pulse emission to compare the potential climate change associated with emissions of different greenhouse gases. GWPs listed include climate-carbon feedbacks. This Rule incorporates GWPs as listed in Regulation 3, Schedule T, Greenhouse Gas Fees, Global Warming Potential Relative to Carbon Dioxide.

13-5-207 **Greenhouse Gas:** "Greenhouse gas" (GHG) or "greenhouse gases" (GHGs) includes all of the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

13-5-208 **Industrial Hydrogen Plant:** For the purposes of this Rule, an industrial hydrogen plant is a comprehensive hydrogen operation including, but not limited to, all operations that produce hydrogen via steam-methane reformation, and the hydrogen distribution system, including all compression operations, and the hydrogen delivery system that delivers hydrogen streams to the process unit consumers.

13-5-209 **Organic Compound:** As defined in Regulation 1: General Provisions and Definitions, Section 1-233.

13-5-210 **Owner and/or Operator:** A representative of the facility or corporation who possesses sufficient authority to take actions required for compliance with this Rule.

13-5-211 **Steam-Methane Reformation Process:** an industrial chemical process in which steam is used to produce hydrogen from a hydrocarbon source, such as natural gas in accordance with the following chemical reaction:

Steam-methane reforming reaction

$$CH_4 + H_2O \rightarrow CO + 3H_2$$

In a subsequently process called the "water-gas shift reaction," the carbon monoxide and steam are reacted using a catalyst to produce carbon dioxide and more hydrogen in accordance with the following chemical reaction:

Water-gas shift reaction:

$$CO + H_2O \rightarrow CO_2 + H_2$$

13-5-212 **Total Organic Compound (TOC):** Any organic compound or mixture of organic compounds, including methane.

13-5-300 **STANDARDS**

13-5-301 **Emission Limits for Industrial Hydrogen Plants:** By the Effective Date, the owner and/or operator of an industrial hydrogen plant shall not vent to the atmosphere out of any atmospheric vent any emissions containing more than 15 pounds (6.8 kilograms) per day and 300 parts per million by volume (TOC, expressed as methane, on a dry basis determined as specified in Section 13-5-601). A source shall be considered in violation of this section if the TOC emissions measured in accordance with Sections 13-5-501 and 13-5-601 exceed the standards of this Rule.

13-5-302 **Prohibition of Comingling and Dilution**: The dilution of any atmospheric vent that is in service prior to the adoption of this Rule, or the comingling of two or more atmospheric vents, or both, to reduce the TOC concentration to comply with the emission standard set forth in Section 13-5-301 are prohibited.

13-5-303 Alternative Methane and Other Greenhouse Gas Emissions Standard Option: In lieu of compliance with Section 13-5-301, the owner and/or operator of an industrial hydrogen plant may opt to comply with this Rule by reducing the baseline methane emissions from the industrial hydrogen plant by at least 90 percent on a calendar year basis from atmospheric vents. Up to 20 percent of the methane reductions required may take the form of other GHG reductions from vents at the industrial hydrogen plant. These substituted emission reductions of other GHGs shall be adjusted based on global warming potential. To comply with this option, all of following conditions shall be met:

303.1 No later than six months after the adoption date of this Rule, the owner and/or operator shall notify the APCO in writing that the owner and/or operator of an industrial hydrogen plant have opted to comply with the Rule by means of this section;

303.2 No later than one year following the adoption date of this Rule, the owner and/or operator shall make an estimate of the baseline methane and other GHG emissions to be considered under this option for the industrial hydrogen plant in accordance with Section 13-5-403 and submit the estimate to the APCO for validation;

303.3 No later than six months following the validation by the APCO of the baseline methane and other GHG emissions calculated pursuant to Section 13-5-403, the owner and/or operator shall submit to the APCO for review and approval an Alternative Compliance Plan that demonstrates how methane and other GHG emission reductions would be achieved based on the validated baseline methane emissions as determined according to Section 13-5-403. The Alternative Compliance Plan shall be submitted in accordance with Section 13-5-404 and shall contain all information deemed necessary for the APCO to determine the efficacy of the plan. The APCO may request additional information to complete the review and approval of the Alternative Compliance Plan;

303.4 No later than two years following the adoption date of this Rule, the APCO shall approve or deny the Alternative Compliance Plan to meet this alternative standard. In the event that the plan is denied, the owner and/or operator of an industrial hydrogen plant may not utilize this optional standard and must comply with Sections 13-5-301 and 13-5-401.

13-5-400 ADMINISTRATIVE REQUIREMENTS

13-5-401 Control Device Requirements for Industrial Hydrogen Plants: The owner and/or operator of an industrial hydrogen plant shall comply with the following requirements provided the hydrogen plant does not already comply with the requirements of Section 13-5-301:

401.1 Within three years of adoption of this Rule, the owner and/or operator, including the owner and/or operator that submits an Alternative Compliance Plan pursuant to Section 13-5-303 that is not approved, shall submit a permit application to the APCO for an Authority to Construct and/or Permit to Operate a TOC control device to comply with Section 13-5-301 requirements.

401.2 Within three years of receiving an Authority to Construct from the Air District, the owner and/or operator of an industrial hydrogen plant shall commence operation of the control device to comply with Section 13-5-301 requirements.

This section does not apply to the owner and/or operator who will comply with Section 13-5-303 by implementing an Alternative Compliance Plan pursuant to Section 13-5-404 that is approved by the APCO.

13-5-402 Reporting Requirements for Total Organic Compounds Vented from Industrial Hydrogen Plants: Should an existing industrial hydrogen plant with a fully operational TOC control device vent TOC from atmospheric vents in excess of the standards required by Section 13-5-301, the owner and/or operator shall do the following:

402.1 Notify the APCO of the venting occurrence immediately upon discovery of the occurrence that the TOC emissions exceeded the limits in Section 13-5-301.

Such notification shall include the time, specific location, equipment involved and to the extent possible the cause of the occurrence.

402.2 Within 30 days of the discovery of the occurrence, the owner and/or operator shall report the following information to the APCO: the cause of the occurrence; the date and time of the occurrence; data for the duration of the occurrence; the make, model and type of control device; the operating parameters of the control device including temperature, pressure, flow rate, and concentrations of each constituent in the gaseous stream; and the mass emissions for each constituent in the gaseous stream including TOC.

13-5-403 Baseline Methane and Other Greenhouse Gas Emissions Calculation Procedures: The following methodology shall be used to determine baseline methane and GHG emissions for an industrial hydrogen plant for the purposes of determining compliance with Section 13-5-303:

403.1 Determine Baseline Period: The baseline period is the three-year period from January 1, 2016, through December 31, 2018.

403.2 Determine Baseline Methane and Other Greenhouse Gas Emissions: Baseline methane and other GHG emissions are the actual average annual emissions during the baseline period. The applicant must have sufficient verifiable records of the industrial hydrogen plant's operation to substantiate the emission rate during the entire baseline period.

13-5-404 Plan Submission for the Alternative Methane and Other Greenhouse Gas Emissions Standard Option: No later than six months following the validation by the APCO of the baseline methane and other GHG emissions calculated pursuant to Section 13-5-403, the owner and/or operator of an industrial hydrogen plant who has opted to comply with this Rule pursuant to Section 13-5-303 shall provide an Alternative Compliance Plan with the following information to the APCO:

404.1 Piping and instrumentation diagrams identifying all atmospheric vents, carbon dioxide scrubbing vents, and deaerator vents at the industrial hydrogen plant.

404.2 Estimates of the annual methane emissions for each atmospheric vent.

404.3 Methane concentration data and flowrate, temperature, flowrate, and volume data that were used to estimate the methane emissions for each atmospheric vent.

404.4 Identification of the vents that would be included in the Alternative Compliance Plan and the method and degree to which each atmospheric vent, deaerator vent and/or carbon dioxide scrubbing vent would be controlled.

404.5 Estimates of other GHG reductions (expressed as GHG equivalent reductions) for each atmospheric vent, deaerator vent, and/or carbon dioxide scrubbing vent.

404.6 Any information deemed necessary to verify the estimate of GHG-equivalent reductions in Section 13-5-404.5.

13-5-405 Implementation of the Alternative Methane and Other Greenhouse Gas Emissions Standard Option: The owner and/or operator of an industrial hydrogen plant with the Alternative Compliance Plan approved pursuant to Section 13-5-303 shall implement the as follows:

405.1 Within one year of approval of the Alternative Compliance Plan pursuant to Section 13-5-303, the owner and/or operator shall submit a permit application to the APCO for an Authority to Construct and Permit to Operate to comply with the plan approved pursuant to Section 13-5-303.

405.2 Within three years of receiving an Authority to Construct from the Air District to comply with the Alternative Compliance Plan approved pursuant to Section 13-5-303, the owner and/or operator of an industrial hydrogen plant shall commence operation of the equipment to comply with Section 13-5-303 requirements.

13-5-500 MONITORING AND RECORDS

13-5-501 Monitoring Requirements, General This section shall take effect two years after adoption of this Rule. The owner and/or operator of any industrial hydrogen plant that will comply with Section 13-5-301 shall, by the next turnaround and no later than five years from the adoption of this Rule:

501.1 Monitor on a daily basis, TOC emissions in total pounds per day and measurement of TOC concentrations in parts per million by volume TOC, expressed as methane, on a dry basis for each atmospheric vent.

501.2 Continuously record temperature, pressure, flow rate and volume in million standard cubic feet per day for each atmospheric vent.

501.3 Convert TOC emissions data into mass emissions, in pounds per day, for both methane and organic compound emissions for each atmospheric vent.

501.4 Install, operate, and maintain in good working order, a sampling point approved by the APCO for the purpose of testing emissions from each atmospheric vent.

501.5 Provide a piping and instrumentation diagram for each atmospheric vent and any information deemed necessary by the APCO to approve the sampling point.

13-5-502 Monitoring Requirements, Alternative Methane and Other Greenhouse Gas Emissions Standard Option: This section shall take effect two years after adoption of this Rule. The owner and/or operator of an industrial hydrogen plant who has opted to comply with this Rule pursuant to Section 13-5-303 shall, by the next turnaround and no later than five years from the adoption of this Rule:

502.1 Monitor on a daily basis, methane emissions in total pounds per day and measurement of methane concentration in parts per million by volume, on a dry basis for each atmospheric vent.

502.2 Monitor on a daily basis, GHG emissions in total pounds per day and measurement of GHG compound concentrations in parts per million by volume, on a dry basis for each carbon dioxide scrubbing vent and/or deaerator vent.

502.3 Continuously record temperature, pressure, flow rate and volume in million standard cubic feet per day for each atmospheric vent, carbon dioxide scrubbing vent, and/or deaerator vent at the industrial hydrogen plant.

502.4 Convert methane and other GHG emissions data into mass emissions, in pounds per day, for both methane and other GHG emissions for each atmospheric vent, carbon dioxide scrubbing vent and/or deaerator vent.

502.5 Install, operate, and maintain in good working order, a sampling point approved by the APCO for the purpose of testing emissions from each atmospheric vent, carbon dioxide scrubbing vent and/or deaerator vent.

502.6 Provide a piping and instrumentation diagram for each atmospheric vent, carbon dioxide scrubbing vent, and/or deaerator vent and any information deemed necessary by the APCO to approve the sampling point.

13-5-503 Reporting Requirements, Alternative Methane and Other Greenhouse Gas Emissions Standard Option: The owner and/or operator of any industrial hydrogen plant who has opted to comply with this Rule pursuant to Section 13-5-303 shall submit a summary of the annual methane and other GHG emissions and emissions reductions calculated from the baseline emissions determined in accordance with Section 13-5-403 that indicates compliance with Section 13-5-303 at the end of the 30th day following the end of each year after the effective date of this Rule.

13-5-504 Monitoring Requirements, Deaerator Vents and Carbon Dioxide Scrubbing Vents: This section shall take effect two years after adoption of this Rule. The owner and/or operator of any industrial hydrogen plant that operates deaerators vent or carbon dioxide scrubbing vents shall, by the next turnaround and no later than five years from the adoption of this Rule:

504.1 Install, operate and maintain in good working order, a gas flowrate meter equipped with a readout and recorder for each deaerator vent and/or carbon dioxide scrubbing vent.

504.2 Monitor TOC emissions in parts per million by volume TOC, expressed as methane, on a dry basis from each deaerator vent and/or carbon dioxide vent on a quarterly basis. After eight quarterly samples have been obtained from each deaerator vent and/or carbon dioxide scrubbing vent, the owner and/or operator of an industrial hydrogen plant may submit a request to the APCO for a decreased monitoring frequency.

504.3 TOC emissions data from each deaerator vent and/or carbon dioxide scrubbing vent shall be recorded in mass emissions in pounds per day for both methane and organic compounds.

504.4 Install, operate, and maintain in good working order, a sampling point approved by the APCO for the purpose of testing emissions from each deaerator vent and/or carbon dioxide vent.

504.5 Provide a piping and instrumentation diagram for each deaerator vent and/or carbon dioxide scrubbing vent and any information deemed necessary by the APCO to approve the sampling point.

13-5-505 Monitoring Requirements, Pressure Swing Adsorption Vents: Effective within a year from the adoption date of this Rule, the owner and/or operator of an industrial hydrogen plant shall demonstrate hydrogen gas percent purity of pressure swing adsorption vents via the use of a hydrogen gas analyzer or an alternative method approved by the APCO. Purity verification shall be recorded quarterly and will be available upon request by the APCO. All records shall be retained for a minimum of five years and shall be submitted to the APCO upon request.

13-5-506 Recordkeeping Requirements: The owner and/or operator of an industrial hydrogen plant shall keep the following records in a form suitable for inspection for a period of at least five years and made available to the APCO upon request.

506.1 For the owner and/or operator of an industrial hydrogen plant subject to the requirements of Section 13-5-301, these records shall include, but are not limited to the following:

1.1 Laboratory reports for the daily measurement of TOC concentrations in parts per million by volume TOC, expressed as methane, on a dry basis for each atmospheric vent.

1.2 Continuously recorded temperature, pressure, flow rate and volume in million standard cubic feet per day data for each atmospheric vent.

1.3 Daily TOC mass emissions data, in pounds per day, for each atmospheric vent.

1.4 Daily TOC mass emissions data converted to methane and organic compound emissions, in pounds per day, for each atmospheric vent.

506.2 For the owner and/or operator of any industrial hydrogen plant who has opted to comply with this Rule pursuant to Section 13-5-303, these records shall include, but are not limited to the following:

2.1 Laboratory reports for the daily measurement of methane concentrations in parts per million by volume, on a dry basis for each atmospheric vent.

2.2 Laboratory reports for the daily measurement of GHG concentrations in parts per million by volume, on a dry basis for each carbon dioxide scrubbing vent and/or deaerator vent.

2.3 Continuously recorded temperature, pressure, flow rate and volume in million standard cubic feet per day data for each atmospheric vent, carbon dioxide scrubbing vent and/or deaerator vent.

2.4 Daily methane mass emissions data, in pounds per day, for each atmospheric vent.

2.5 Daily GHG mass emissions data in total pounds per day for each carbon dioxide scrubbing vent and/or deaerator vent.

506.3 The owner and/or operator of any small-scale industrial hydrogen plant shall maintain records of the annual hydrogen production and basis for the production determination for a minimum of five years. The owner and/or operator shall

make the records available to the APCO or a designee of the APCO upon request.

13-5-600 MANUAL OF PROCEDURES

13-5-601 Determination of Compliance and Monitoring of TOC Emissions: Emissions of TOC as specified in Sections 13-5-301, 13-5-501, and 13-5-504 shall be measured using any of the following methods:

601.1 SCAQMD Method 25.3 (modified as approved by APCO); or

601.2 Any other method approved by the APCO.

13-5-602 Determination of Compliance and Monitoring of Methane and Other Greenhouse Gas Emissions: Emissions of methane and other GHGs as specified in Sections 13-5-303, 13-5-502, and 13-5-503 shall be measured using any of the following methods:

602.1 EPA Method 18; or

602.2 Any other method approved by the APCO.

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APPENDIX B

Proposed Amendment
Regulation 8: Organic Compounds,
Rule 2: Miscellaneous Operations

REGULATION 8
ORGANIC COMPOUNDS
RULE 2
MISCELLANEOUS OPERATIONS

INDEX

REGULATION 8
ORGANIC COMPOUNDS
RULE 2
MISCELLANEOUS OPERATIONS

8-2-100 GENERAL

8-2-101 Description: The purpose of this Rule is to reduce emissions of precursor organic compounds from miscellaneous operations.

(Amended March 17, 1982)

8-2-110 Exemption, Natural Gas: Emissions from any operations consisting entirely of natural gas, provided best modern practices are used, are exempt from this Rule.

8-2-111 Exemption, Preparation of Food: Emissions from the preparation of food for human consumption provided best modern practices are used, are exempt from this Rule.

8-2-112 Exemption, Cold Reduction Equipment Used in Metal Forming: The emissions from any cold reduction equipment used in metal forming are exempt from this rule provided the cooling oil introduced in the cold reduction system is not less than 90 percent (by weight) normal paraffins of a carbon number 12 or higher and that such oil shall have a Reid vapor pressure not greater than 52 mm Hg (1.0 psia).

(Amended September 2, 1981)

8-2-113 Exemption, Blind Changing: Emissions from blind changing are exempt from this Rule, providing best modern practices are used.

(Amended March 17, 1982)

8-2-114 Exemption, Miscellaneous Plants: Emissions from cooling towers, railroad tank cars, marine vessels and crude oil production operations are exempt from this Rule, provided best modern practices are used.

8-2-115 Exemption, Equipment: The following equipment is exempt from this Rule, provided best modern practices are used:

115.1 Presses used for the curing of rubber products or plastic products.

115.2 Ovens used exclusively for the curing of plastics which are concurrently being vacuum held to a mold or for the softening or annealing of plastics.

115.3 Ovens used exclusively for the curing of vinyl plastisols by the closed mold curing process.

115.4 Equipment used exclusively for the melting or applying of wax.

115.5 Equipment used exclusively for the packaging of lubricants and greases.

115.6 Equipment used exclusively for the manufacture of water emulsions of waxes, greases or oils.

115.7 Vacuum producing devices in laboratory operations or which are used exclusively in connection with other equipment which is excluded or exempted by this Regulation.

115.8 Vacuum producing devices which do not remove or convey air contaminants from another source.

115.9 Porcelain enameling furnaces, porcelain enameling drying ovens, vitreous enameling furnaces or vitreous enamel drying ovens.

115.10 All printing presses other than rotogravure printing presses.

115.11 Equipment used exclusively for bonding lining to brake shoes.

115.12 Equipment used for hydraulic and hydrostatic testing.

115.13 Ovens and furnaces used for heat treating and annealing metals.

115.14 Oil quench tanks used for tempering heated metals.

115.15 Crucible type or pot type furnaces with a brimful capacity of less than 450 in^3 of molten metal.

115.16 Space heating and heat transfer operations using gas fuel and rated at less than one million BTU's per hour.

115.17 Equipment used exclusively for steam cleaning.

8-2-116 Exemption, Equipment or Exhaust System: The following equipment or any exhaust system or collector exclusively serving such equipment is exempt from this Rule providing best modern practices are used:

116.1 Ovens used exclusively for curing potting materials or for castings made with epoxy resins.

116.2 Equipment used for compression molding or injection molding of plastics.
116.3 Dipping operations for coating objects with oils, waxes, or greases.
116.4 Dipping operations for applying coatings of natural or synthetic resins which contain no organic solvents.
116.5 Unheated solvent dispensing containers, unheated solvent rinsing containers, or unheated coating dip tanks, all of 100 gal. capacity or less.
116.6 Kilns used for firing ceramic ware, heated exclusively by natural gas, liquefied petroleum gas, electricity or any combination thereof.
116.7 Shell core and shell molding machines.
116.8 Die casting machines.
116.9 Laboratory equipment used exclusively for chemical or physical analyses and bench scale laboratory equipment.

8-2-117 **Exemption, Open Outdoor Fires**: The limitations of this Rule shall not apply to emissions arising from open outdoor fires.

(Adopted December 19, 1990)

8-2-200 DEFINITIONS

8-2-201 **Miscellaneous Operations:** Any operation other than those limited by the other Rules of this Regulation 8, the Rules of Regulation 10, ~~or~~ Rule 12 of Regulation 12, or limited by compliance with Section 301 of Rule 5 of Regulation 13.

(Amended July 20, 2005)

8-2-202 **Total Carbon:** Organic compounds calculated as total carbon shall be determined as follows:

202.1 Total carbon of an individual organic compound is equal to the ppm of that compound in an emission multiplied by the number of carbon atoms present in the molecule.
202.2 Total carbon in an emission is the sum of the total carbon of all of the individual organic compounds present in the effluent. 1,1,1, trichloroethane, methylene chloride, methane and chlorofluorocarbons shall not be included in the calculation of total carbon.

8-2-300 STANDARDS

8-2-301 **Miscellaneous Operations:** A person shall not discharge into the atmosphere from any miscellaneous operation an emission containing more than 6.8 kg. (15 lbs.) per day and containing a concentration of more than 300 PPM total carbon on a dry basis.

(Amended May 21, 1980)

8-2-600 MANUAL OF PROCEDURES

8-2-601 **Determination of Compliance:** Emissions of organic compounds as specified in Section 8-2-301 shall be measured as prescribed by any of the following methods 1) BAAQMD Manual of Procedures, Volume IV, ST-7, 2) EPA Method 25 or 25A. A source shall be considered in violation if the VOC emissions measured by any of the referenced test methods exceed the standards of this rule.

(Adopted 3/17/82; Amended 6/15/94)

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APPENDIX C

Cost Information

Cost Information for Proposed New Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants

This appendix to the Rule 13-5 Staff Report lists various costs petroleum refinery hydrogen plant operators may incur to comply with Rule 13-5 emission requirements for total organic compounds and costs to comply with monitoring in Section 400 of Rule 13-5.

Costs to Comply with Emission Limits

Hydrogen plants at two petroleum refineries, Valero and PBF Energy, are the only industrial hydrogen plants that do not presently comply with the total organic compound emission limits in Rule 13-5-301. All other hydrogen producers, including the Chevron, Marathon and P66 refineries, as well as Air Liquide, a third-party hydrogen supplier to the P66 Refinery, currently comply with the emission limits in Rule 13-5-301. The Air Products hydrogen plant associated with the Marathon refinery will also be in compliance with Rule 13-5-301 when it goes into effect whereas the Air Products hydrogen plant associated with the PBF refinery does not comply with Rule 13-5-301 limits. As stated in the Staff Report, representatives from the PBF refinery have confirmed with Air District staff they will cover the costs for the Air Products' hydrogen plants to comply with Rule 13-5.

The following is a list of cost estimates for each facility to comply Rule 13-5-301 total organic compound emission limits:

1. Valero
    a. Staff estimates the cost for Valero to purchase and install a flare system to be approximately $30,000,000.[1]
    b. Staff estimates the cost for Valero to install a hydrogen plant flare gas recovery system , an alternative control, to range between approximately $40,000,000 to $45,000,000. **Error! Bookmark not defined.**
    c. Staff estimates the cost for Valero to install a pressure swing adsorption (PSA) system is $177,666,667. The PSA system cost was estimated by scaling the maximum hydrogen production rate of the hydrogen plan to the cost estimate provided by PBF as shown below:
    Maximum Hydrogen Production Rate for Valero = 164 MMscf/day
    Maximum Hydrogen Production Rate for PBF for HP-1 and HP-2 = 120 MMscf/day
    Total PBF PSA Cost for HP-1 and HP-2 = $130,000,000
    Valero PSA Cost = ($130,000,000)(164 MMscf/day / 120 MMscf/day)) = $177,666,667
2. PBF Energy
    a. Staff estimates the cost for PBF Energy to purchase and install a flare system to be approximately $40,000,000. [2]
    b. Staff estimates the cost for PBF Energy to install a hydrogen plant flare gas recovery system, an alternative control, to range between approximately $50,000,000 to $55,000,000.[3]

[1] The cost estimate provided in this section was submitted to the Air District by Valero.
[2] The cost estimate provided in this section was submitted to the Air District by PBF Energy.
[3] The cost estimate provided in this section was submitted to the Air District by PBF Energy.

c. Staff estimates the cost for PBF Energy to install a pressure swing adsorption system is $130,000,000.[3]

Annualized Cost for Flare

Table 1 – Total Annualized Cost for Flare - PBF

Total Capital Cost for a Flare		$	40,000,000
	Factors used		
Amortization/Capital Recovery	0.087 [4]	$	3,487,382
Tax	0.01 [5]	$	400,000
Insurance	0.01 [5]	$	400,000
G&A (General & Administrative)	0.02 [5]	$	800,000
O&M (Operating and Maintenance)	*Specific costs used*	$	195,261 [6]
Total annual cost (amortized capital + operating)		**$**	**5,282,643**

Table 2 – Total Annualized Cost for Flare - Valero

Total Capital Cost for a Flare		$	30,000,000
	Factors used		
Amortization/Capital Recovery	0.087 [4]	$	2,615,537
Tax	0.01[5]	$	300,000
Insurance	0.01[5]	$	300,000
G&A (General & Administrative)	0.02 [5]	$	600,000
O&M (Operating and Maintenance)	*Specific costs used*	$	197,257 [6]
Total annual cost (amortized capital + operating)		**$**	**4,012,793**

Due to confidentiality requirements of the refineries, staff cannot itemize all of the costs listed above in great detail. However, some of major costs are referenced in general figures as follows:

[4] Capital recovery factor based on lifetime of 20 years, interest rate of 6%.
[5] Default factor per Cost Effectiveness BACT Policy and Implementation Procedure.
[6] Operating and maintenance cost calculated based on EPA Control Cost Manual.

- Total Capital Investment — $20,000,000 to $25,000,000 [7]
  - Flare ($3,500,000 to $5,000,000)
  - Knockout Drum ($450,000 to $600,000 per drum)
  - Gas Transport Piping including insulation and support structures (at a cost of $2500 to $3000 per linear foot for several thousand feet)
  - Monitoring Equipment ($450,000 to $600,000)
  - Instrumentation, Sales Tax & Freight ($950,000 to $1,400,000)

- Direct Installation — $2,750,000 to $3,850,000 [7]
  - Foundations/Supports & Handling/Erection ($2,500,000 to 3,500,000)
  - Electrical, Insulation and Painting ($250,000 to 350,000)

- Indirect Installation: [7]
  - Engineering/Construction/Contractor Fees ($2,500,000 to $3,500,000)
  - Startup/Performance Testing/Continency Fee ($2,500,000 to $3,000,000)

Annualized Cost for PSA System

Table 3 - Total Annualized Cost for PSA System - Valero

Total Capital Cost for a PSA		$	130,000,000
	Factors used		
Amortization/Capital Recovery	0.087 [7]	$	11,333,992
Tax	0.01 [8]	$	1,300,000
Insurance	0.01 [8]	$	1,300,000
G&A (General & Administrative)	0.02 [8]	$	2,600,000
O&M (Operating and Maintenance)	*0.05* [8]	$	6,500,000
Total annual cost (amortized capital + operating)		**$**	**23,033,992**

[7] The cost estimate provided in this section was submitted to the Air District by Valero and PBF Energy.

Table 4 - Total Annualized Cost for PSA System - PBF

Total Capital Cost for a PSA		$	177,666,667
	Factors used		
Amortization/Capital Recovery	0.087 [8]	$	15,489,790
Tax	0.01 [9]	$	1,776,667
Insurance	0.01 [8]	$	1,776,667
G&A (General & Administrative)	0.02 [8]	$	3,553,333
O&M (Operating and Maintenance)	*0.05* [8]	$	8,883,333
Total annual cost (amortized capital + operating)		**$**	**31,479,790**

Costs to Comply with Emission Monitoring Requirements

To help determine the costs to comply with monitoring requirements, staff has listed the number of vents for the different types of hydrogen plan vents in Table 1 below. The cost to comply with each specific vent monitoring requirement is multiplied by the number of vents.

TABLE 5 – Vent Count at Each Facility

Facility	Number of Deaerator Vents	Number of CO_2 Scrubbing Vents	Total Number of Atmospheric Vents
Valero	2	2	9
PBF / Air Products	4	2	9
Marathon	2	2	0
P66	1	0	0
Chevron	2	0	0
Air Liquide	1	0	0

Based on multiple sources of information, including a 2017 EPA Flare Cost Manual, discussions with two separate flare system vendors and discussions with refinery representatives, the following price information was used estimate hydrogen plant operator costs to comply with monitoring requirements in Section 500 of Rule 13-15: [10] [11] [12] [13]

Capital Cost

[8] Capital recovery factor based on lifetime of 20 years, interest rate of 6%.
[9] Default factor per Cost Effectiveness BACT Policy and Implementation Procedure.
[10] https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution (see flare calculation tab)
[11] Discussions with Zeeco Inc., a vendor of flare systems
[12] Discussions with John Zink, Hamworthy-Combustion, a vendor of flare systems
[13] Discussions with Marathon Refinery representative

- Cost to purchase and install a flowrate meter – $100,000 to $110,000 per flowmeter
  Total # of flowmeters required = (# of Deaerator Vent + # of CO_2 Scrubbing Vent + # of Atmospheric Vent)
  Valero -Total # of flowmeter = 2+2+9 = 13
  -Flowmeter Cost = $1,300,000 to $1,430,000
  PBF/Air Products -Total # of flowmeter = 4+2+9 = 15
  -Flowmeter Cost = $1,500,000 to $1,650,000
  Marathon -Total # of flowmeter = 2+2 = 4
  -Flowmeter Cost = $400,000 to $440,000
  P66 -Total # of flowmeter = 1 = 1
  -Flowmeter Cost = $100,000 to $110,000
  Chevron -Total # of flowmeter = 2 = 2
  -Flowmeter Cost = $200,000 to $220,000
  Air Liquide -Total # of flowmeter = 1 = 1
  -Flowmeter Cost = $100,000 to $110,000

- Cost to purchase and install a sampling port – $4,000 to $6,000 per sampling port
  Total # of sampling port required = (# of Deaerator Vent + # of CO_2 Scrubbing Vent + # of Atmospheric Vent)
  Valero -Total # of flowmeter = 2+2+9 = 13
  -Sampling Port Cost = $52,000 to $78,000
  PBF/Air Products -Total # of flowmeter = 4+2+9 = 15
  - Sampling Port Cost = $60,000 to $90,000
  Marathon -Total # of flowmeter = 2+2 = 4
  - Sampling Port Cost = $16,000 to $24,000
  P66 -Total # of flowmeter = 1 = 1
  - Sampling Port Cost = $4,000 to $6,000
  Chevron -Total # of flowmeter = 2 = 2
  - Sampling Port Cost = $8,000 to $12,000
  Air Liquide -Total # of flowmeter = 1 = 1
  - Sampling Port Cost = $4,000 to $6,000

- Total Capital Cost for Monitoring
  Valero – $1,352,000 to $1,508,000
  PBF/Air Products – $1,560,000 to $1,740,000
  Marathon – $416,000 to $464,000
  P66 – $104,000 to $116,000
  Chevron – $208,000 to $232,000
  Air Liquide – $104,000 to $116,000

- Total Capital Cost for Monitoring – Amortized using capital recovery factor based on lifetime of 20 years, interest rate of 6%.

Table 5 – Annualized Monitoring Equipment Cost with Capital Recovery Factor based on Lifetime of 20 years and Interest rate of 6%.

Facility	Total Flowmeter Cost - Amortized ($/year)		Total Sampling Port Cost - Amortized ($/year)	
	Min	Max	Min	Max
Valero	$ 230,100	$ 253,110	$ 9,204	$ 13,806
PBF / Air Products	$ 265,500	$ 292,050	$ 10,620	$ 15,930
Marathon	$ 70,800	$ 77,880	$ 2,832	$ 4,248
P66	$ 17,700	$ 19,470	$ 708	$ 1,062
Chevron	$ 35,400	$ 38,940	$ 1,416	$ 2,124
Air Liquide	$ 17,700	$ 19,470	$ 708	$ 1,062
Total	$ 637,200	$ 700,920	$ 25,488	$ 38,232

Annual Costs

- For quarterly monitoring and composition monitoring via manual sample, there are no capital costs associated with these monitoring items other than the installation of sampling port which has been calculated and included as presented above.

- Cost to perform quarterly monitoring – $28,000 to $80,000 per year-vent (if scaffolding required)
  Total # of vents require quarterly monitoring
  = (# of Deaerator Vent + # of CO_2 Scrubbing Vent)
  Valero -Total # of vents = 2+2 = 4
  -Quarterly Monitoring Cost = $112,000 to $320,000 per year
  PBF/Air Products -Total # of vents = 4+2 = 6
  -Quarterly Monitoring Cost = $168,000 to $480,000 per year
  Marathon -Total # of vents = 2+2 = 4
  -Quarterly Monitoring Cost = $112,000 to $320,000 per year
  P66 -Total # of vents = 1 = 1
  -Quarterly Monitoring Cost = $28,000 to $80,000 per year
  Chevron -Total # of vents = 2 = 2
  -Quarterly Monitoring Cost = $56,000 to $160,000 per year
  Air Liquide -Total # of vents = 1 = 1
  -Quarterly Monitoring Cost = $28,000 to $80,000 per year

- Cost to perform gas composition monitoring via manual sample - $134,886 to $171,386 per year-vent
  Total # of vents require composition monitoring = (# of Deaerator Vent + # of CO_2 Scrubbing Vent + # of Atmospheric Vent)

  Valero -Total # of vents = 2+2+9 = 13
  - Gas Composition Monitoring Cost = $1,753,515 to $2,228,015 per year
  PBF/Air Products -Total # of vents = 4+2+9 = 15
  - Gas Composition Monitoring Cost = $2,023,286 to $2,570,786 per year
  Marathon -Total # of vents = 2+2 = 4
  - Gas Composition Monitoring Cost = $539,543 to $685,543 per year

P66 -Total # of vents = 1 = 1

- Gas Composition Monitoring Cost = $134,886 to $171,386 per year

Chevron -Total # of vents = 2 = 2

- Gas Composition Monitoring Cost = $269,772 to $342,772 per year

Air Liquide -Total # of vents = 1 = 1

-Composition Monitoring Cost = $134,886 to $171,386 per year

Table 2 below lists a range of costs to comply with each monitoring requirement.

Table 6 – Total Annualized Cost for the Emissions and Monitoring Requirement

Facility	Capital Cost to Comply with Section 13-5-301	Annualized Cost to Install Flowmeter	Annualized Cost for Quarterly Monitoring at Deaerator/CO_2 Vents	Annualized Cost to Install Sampling Port at Deaerator/CO_2 Vents	Annualized Cost to Monitor Gas Composition
Valero	$30,000,000 ($4,020,114 annualized)	$230,100 to $253,110 - annualized	$112,000 to $320,000 - annualized	$9,204 to $13,806 - annualized	$1,753,515 to $2,228,015 - annualized
PBF Energy	$40,000,000 ($5,284,833 annualized)	$265,500 to $292,050 - annualized	$168,000 to $480,000 - annualized	$10,620 to $15,930 - annualized	$2,023,286 to $2,570,786 - annualized
Marathon	N/A – therefore no cost	$70,800 to $77,880 - annualized	$112,000 to $320,000 - annualized	$2,832 to $4,248 - annualized	$539,543 to $685,543 - annualized
Phillips 66	N/A – therefore no cost	$17,700 to $19,470 - annualized	$28,000 to $80,000 - annualized	$708 to $1,062 - annualized	$134,886 to $171,386 - annualized
Chevron	N/A – therefore no cost	$35,400 to $38,940 - annualized	$56,000 to $160,000 - annualized	$1,416 to $2,124 - annualized	$269,772 to $342,772 - annualized
Air Liquide	N/A – therefore no cost	$17,700 to $19,470 - annualized	$28,000 to $80,000 - annualized	$708 to $1,062 - annualized	$134,886 to $171,386 - annualized
Total	$70,000,000 ($8,040,227 annualized)	$637,200 to $700,920 - annualized	$504,000 to $1,440,000 - annualized	$25,488 to $38,232 - annualized	$4,855,887 to $6,169,887 - annualized

Total Annualized Cost = (Annualized Cost to Comply with Section 13-5-301) + (Annualized Cost to Install Flowmeter) + (Annualized Cost to for Quarterly Monitoring) + (Annualized Cost to Install Sampling Port) + (Annualized Cost to Monitor Gas Composition)

Table 7 – Total Annualized Cost for Each Facility

Facility	Total Annualized Cost - Minimum ($/year)	Total Annualized Cost - Maximum ($/year)
Valero	$6,124,932	$6,835,044
PBF Energy	$7,752,240	$8,643,600
Marathon	$725,175	$1,087,671
Phillips 66	$181,294	$271,918
Chevron	$362,588	$543,836
Air Liquide	$181,294	$271,918
Total	$15,327,522	$17,653,986

Annualized potential cost for all hydrogen plants to comply with emissions standards and monitoring requirements of Rule 13-5 is estimated from approximately $15,327,522 to $17,653,986. It should be noted that estimated costs in Table 7 above represent the upper end of potential costs for each facility to comply with the requirement of the Rule, since the most facilities likely already collect the data required to comply with the monitoring requirement of this Rule. It should also be noted that the cost to install atmospheric monitoring equipment can be avoided if a facility can demonstrate that atmospheric vents can no longer vent to atmosphere after the vent control technology is installed and operational. Therefore, staff anticipates the cost to comply with monitoring requirements to be less than the figures in Table 7.

Costs for the Alternative Reduction Measures proposed by Valero and PBF

Due to confidentiality requirements of the refineries, staff cannot itemize all of the costs listed above in detail.

The cost for the alternative reduction measures proposed by Valero is estimated to be $6,000,000.[14] This includes the cost of equipment, piping, painting, insulation, foundation, instrumentation, electrical, scaffolding, engineering, permitting, tax, freight, project contingency, infrastructure, and operation costs.

The cost for the alternative reduction measures proposed by PBF is estimated to range from $5,000,000 to $10,000,000. The [15]cost includes computer control, equipment, existing equipment upgrade, and engineering costs.

[14] The cost estimate provided in this section was submitted to the Air District by the Valero.
[15] The cost estimate provided in this section was submitted to the Air District by the PBF Energy.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

APPENDIX D

Socioeconomic Impact Analysis

April, 2022

Socioeconomic Impact Analysis of Proposed Regulation 13, Climate Pollutants: Rule 5, Industrial Hydrogen Plants

Prepared for:

Bay Area Air Quality Management District

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APPLIED DEVELOPMENT ECONOMICS

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1. INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD or Air District) is proposing a new rule, Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants (Rule 13-5). Proposed Rule 13-5 would limit vented emissions of total organic compounds from hydrogen production and hydrogen carrying and delivery systems. Total organic compounds as proposed in Rule 13-5 are defined to include organic compounds and methane. Currently, nearly all hydrogen production plants in the Bay Area operate integrally or in support of petroleum refinery operations; however, if demand for hydrogen increases to fuel vehicles among other purposes, more stand-alone hydrogen facilities may be required. Proposed Rule 13-5 seeks to control emissions from all hydrogen production plants that utilize steam-methane reformation, as this process can result in venting of methane and other organic compounds.

The State of California made the reduction of greenhouse gas (GHG) emissions a priority, adopting Senate Bill 32, which mandated a greenhouse gas emissions reduction target of 40 percent below 1990 emission levels by 2030. In addition, Senate Bill 605 and Senate Bill 1383 require the California Air Resources Board (CARB) to approve and implement a plan by January 2018 to achieve GHG reductions. Pursuant to this legislation, the CARB subsequently developed the Short-Lived Climate Pollutant Reduction Strategy, adopted in March 2017.

Further, the Air District has a policy goal of reducing Bay Area greenhouse gas emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Methane is a potent and short-lived climate pollutant; its global warming potential is 86 times greater than that of carbon dioxide (CO_2), when compared on a 20-year time horizon and 34 times that of CO_2 on a 100-year time horizon.[1,2] Methane represents the second largest emissions of greenhouse gases in the region, after carbon dioxide. Reducing emissions of short-lived climate pollutants, including methane, can have a dramatic effect on climate change in the near term as their atmospheric lifetime is much less than longer-lived greenhouse gasses, such as carbon dioxide. Given the importance of controlling methane, the Air District developed a comprehensive Basin-wide Methane Strategy as part of its 2017 Clean Air Plan. Proposed Rule 13-5 would be one of the first rules developed as part of this Strategy. Other source-specific methane rules are under development to address emissions from additional source-specific operations.

Petroleum refineries are a large source of methane emissions in the Bay Area. Proposed Rule 13-5 would address one of the largest sources of methane emissions from Bay Area petroleum refineries—hydrogen production plants and systems. There are currently nine permitted industrial hydrogen plants associated with five petroleum refineries within the Air District's jurisdiction. Industrial hydrogen plants vent hydrogen gas that can contain methane and other hydrocarbons under a variety

[1] Based on the 20-year global warming potential reported for methane in the Intergovernmental Panel on Climate Change Fifth Assessment Report.

[2] Unless otherwise stated, this report uses the 20-year global warming potential GWP of 86 when calculating the carbon dioxide equivalent of methane emissions since the emission reduction actions being considered are within that time frame.

of circumstances including normal operating conditions as well as startups, shutdowns, malfunctions, upsets and emergencies.

The intent of Proposed Rule 13-5 is to minimize the combination of both methane (a GHG) and other organic compound emissions which is defined as "total organic compound" emissions. The reduction in total organic compound emissions would be achieved by providing hydrogen system operators the flexibility to use any gas control technology that is appropriate for minimizing total organic compound emissions in accordance with the requirements in Proposed Rule 13-5. Typically, hydrogen plant operations either capture and reuse hydrogen gases containing methane and other constituents, including organic compounds, for incorporation into refinery gas fuel systems or they use flares to burn the mixture of hydrogen gas, methane, and other constituents. Capturing hydrogen and other gases and reusing them in the refinery system could control total organic compound emissions up to 100 percent; routing these gases to an abatement device would result in a lower control efficiency. The proposed Rule includes an Alternative Methane and Greenhouse Gas Emissions Standard Option (Alternative Standard) whereby emissions of methane are required to be controlled to 90 percent. In the case that this option is utilized, organic compounds would continue to be subject to emissions standards in Air District Regulation 8: Organic Compounds, Rule 2, Miscellaneous Operations (Rule 8-2). Installation of a flare to control total organic compound emissions is one potential compliance option. Hydrogen gases containing total organic compounds routed directly to a flare would have to meet a 98 percent control efficiency to comply with federal standards for refinery flares.

After this introduction, this report discusses in greater detail proposed Rule 13-5 (Section Two). After that discussion, the report describes the socioeconomic impact analysis methodology and data sources (Section Three). The report describes population and economic trends in the nine-county San Francisco Bay Area (Section Four), which serves as a backdrop against which the Air District is contemplating the rule. Finally, the socioeconomic impacts stemming from the proposed rule changes are discussed in Section Five. The report is prepared pursuant to Section 40728.5 of the California Health and Safety Code, which requires an assessment of socioeconomic impacts of proposed air quality rules. The findings in this report can assist Air District staff in understanding the socioeconomic impacts of the proposed requirements and can assist staff in preparing a refined version of the rule.

2. BACKGROUND AND OVERVIEW OF PROPOSED RULE 13-5

INTRODUCTION

Proposed Rule 13-5 is being developed to reduce methane, as well as other organic compound and toxic air contaminant, emissions from industrial hydrogen plants. Methane and organic compound emissions would therefore be minimized during the production of hydrogen and the distribution of hydrogen to various refinery process units.

Proposed Rule 13-5 would apply to industrial hydrogen plants using the steam-methane reformation process to produce hydrogen. This is the case for all the current industrial hydrogen plants servicing refineries, including third-party operators that produce hydrogen in hydrogen plants. Recently, Air Products, a third-party operator, purchased two hydrogen plants from PBF Energy, a petroleum company that recently purchased the Shell petroleum refinery in the City of Martinez. Therefore, the PBF refinery will be the only Bay Area refinery that does not own and operate at least one industrial hydrogen plant.

Facility owner/operators that are subject to Rule 13-5 with respect to non-methane organic compounds will be exempt from overlapping requirements from other Air District regulations, such as Rule 8-2 as discussed below.

Upon adoption of Proposed Rule 13-5 the owner or operator of an existing industrial hydrogen plant not already in compliance with the emission requirements in Rule 13-5 must apply for a permit to operate equipment to control total organic compound emissions. The owner or operator will have a total of six calendar years to design, purchase, install and operate total organic compound control equipment to comply with the requirements of Section 13-5-301. The proposed Rule includes an Alternative Standard in Section 13-5-303, whereby emissions of methane are required to be controlled to 90 percent (up to 20 percent of the total emission reductions may be GHGs other than methane substituted on a GHG equivalent mass basis). In the case that this option is utilized, an owner or operator would still be subject to the organic compound emissions standards in Air District Regulation 8: Organic Compounds, Rule 2, Miscellaneous Operations (Rule 8-2).

Proposed Rule 13-5 includes reporting requirements for owners or operators to notify the Air District of hydrogen plant atmospheric venting occurrences when total organic compound emissions exceed 15 pounds per day and the concentrations exceed 300 ppmv measured as methane on a dry basis.

The operator of an industrial hydrogen plant subject to the proposed rule would have to monitor and record all parameters necessary to demonstrate compliance with the provisions contained in the standards section of Proposed Rule 13-5. Hydrogen plant atmospheric vents would be required to have flowrate meters installed. Operators of hydrogen plant deaerator vents and carbon dioxide scrubbing vents would have to install flowrate meters, recorders, sampling ports and must monitor

total organic compound emissions. Because atmospheric venting from a pressure swing absorption unit that is properly maintained and operated should never exceed the total organic compound emission standards in Section 300 of Rule 13-5, the owner or operator of a hydrogen plant with a pressure swing absorption vent would not be required to maintain emission records from the pressure swing absorption vent unless the unit malfunctions, which would likely lead to an exceedance of the emissions standards in Section 13-5-300.

REFINERY HYDROGEN USE

Hydrogen, the most abundant substance in the universe, is a colorless, odorless, tasteless and non-toxic gas at standard temperature and pressure (normal conditions). Hydrogen gas is highly flammable, is considered to be an energy carrier — similar to electricity and natural gas — and is used in an extensive range of industrial applications. While this report references the production and consumption of hydrogen at petroleum refineries, the purpose of this Rule is to reduce the methane, as well as other organic compounds, emissions that is often a component of the hydrogen gas stream vented to atmosphere under various operational conditions. For example, venting may occur during normal operational conditions or during startups and shutdowns. Reducing hydrogen gas emissions results in the reduction of methane and other emissions.

In the petroleum refining industry, hydrogen is used extensively in the processing of crude oil into refined fuels such as gasoline and diesel. Hydrogen is consumed in desulfurization units to remove contaminants from fuels and feedstocks. Additionally, hydrogen is used in the refinery fuel system. As petroleum refinery product specifications become more stringent to meet environmental requirements, refinery demand for hydrogen has continually increased to supply the refinery hydrogen consumers (process units). The two primary hydrogen consumers at Bay Area petroleum refineries are process units known as hydrotreating and hydrocracking.

EMISSION CONTROL METHODS

Because vented methane emissions from industrial hydrogen plants are not currently subject to emission limits, such emissions are usually uncontrolled unless the methane is a constituent of a gaseous stream that includes other air pollutants, such as volatile organic compounds, subject to emission limit requirements of other Air District regulations. However, not all volatile organic compound abatement technology will capture or control methane emissions. For example, activated carbon is commonly used to extract volatile organic compounds from gaseous streams via an adsorption process that traps volatile organic compound molecules onto the surface of carbon molecules while the remainder of the gaseous stream continues to flow through the carbon bed. However, methane is not typically captured by activated carbon so it flows through unabated.

One example of control technology that reduces methane as a co-benefit of reducing other air contaminants is a flare. Refinery flares are primarily used as a safety device, not as control devices to reduce refinery gases that often may include a mixture of gases including volatile organic compounds, toxic air contaminants, oxides of nitrogen, sulfur oxides and methane. Nevertheless, one Bay Area refinery and one third-party operator use flares dedicated specifically to control hydrogen gas emissions, and thus, methane emissions and any associated organic compound emissions. These

particular types of flares destroy total organic compound emissions at a minimum 98 percent control efficiency.

Thermal oxidizers are another example of control technology used to thermally destroy industrial vapor streams. They are commonly used in refineries and chemical plants to control hydrocarbon-based vapors. Typically, thermal oxidizers are available in four different types depending on a variety of operational factors. They include direct-fired, recuperative, catalytic and regenerative thermal oxidizers. Thermal oxidizers can be used for planned atmospheric venting occurrences such as startups and some shutdowns; however, they generally cannot be used for unplanned events such as malfunctions and emergencies.

A third method of controlling total organic compound emissions already employed at two local refineries is the use of a closed loop system, via flare headers, that captures hydrogen system gas streams, sometimes vented at other refineries, and reintroduces the captured gas into the refinery's fuel gas system. Only a small amount of captured total organic compound gas is vented to atmosphere because the gas recovery system only sends recovered gas to the flare for combustion for safety-related reasons such as malfunctions, unplanned shutdowns, upsets and trips in the refinery system. The balance of captured gas is used in the gas recovery system. Less than two percent of flare header gas is emitted to the atmosphere post combustion. Flare headers, a collection system for refinery waste vapor streams, contains a mixture of refinery gases, including hydrogen gas.

Although not technically considered a control technology, use of pressure swing adsorption can significantly reduce methane and other organic compound emissions. Pressure swing adsorption purification is a method of separating one or more gas species from a gaseous stream containing additional (desirable) gas species. Pressure swing adsorption is used in hydrogen production as a final purification step to separate hydrogen gas molecules from other (impure) gas molecules, such as methane, carbon monoxide and carbon dioxide. Under continuous pressure, an adsorbent material targets gas with dissimilar adsorption properties as an effective way of extracting very pure hydrogen. Tail-gas, a byproduct of the pressure swing adsorption process containing the removed impurities, can then be sent back to the steam methane reformer as fuel for the steam methane reforming process. Normally, pressure swing adsorption purification removes methane molecules from the hydrogen gas stream only at the back end of the steam methane reforming process unit. Atmospheric venting prior to the pressure swing adsorption step contains methane and other air contaminants.

There are several other means of process control that may be employed collectively or in conjunction with those described above to comply with the Alternative Standard included in Rule 13-5. One facility operator has proposed installation of smaller control valves for atmospheric vents and improved process control as a means of decreasing the volume of releases and improved response time to reduce production rates when a hydrogen gas imbalance occurs. Another facility with multiple hydrogen plants that produce hydrogen of varying purity has proposed a prioritization scheme so that only the purest hydrogen is vented to the atmosphere while routing the remaining hydrogen vent gas to the existing refinery fuel gas system and hydrogen flare ring, thereby reducing excess methane emissions.

3. METHODOLOGY

Applied Development Economics (ADE) began this analysis by preparing a statistical description of the industry groups of which the affected sources are a part, analyzing data on the number of establishments, jobs, and payroll. We also estimated sales generated by impacted industries, as well as net profits for each affected industry.

This report relies heavily on the most current data available from a variety of sources, including Corporate reports filed with the Securities Exchange Commission (SEC), data from the US Census County Business Patterns and Census of Manufactures, the US Internal Revenue Service, and reports published by the California Energy Commission (CEC) that track gasoline prices and cost components as well as refinery production levels. ADE also utilized employment data from the California Employment Development Department – Labor Market Information Division (EDD LMID).

With the above information, ADE was able to estimate net after tax profit ratios for sources affected by the proposed rule. ADE calculated ratios of profit per dollar of revenue for affected industries. The result of the socioeconomic analysis shows what proportion of profits the compliance costs represent. Based on assumed thresholds of significance, ADE discusses in the report whether the affected sources are likely to reduce jobs as a means of recouping the cost of rule compliance or as a result of reducing business operations. In some instances, particularly where consumers are the ultimately end-users of goods and services provided by the affected sources, we also analyzed whether costs could be passed to households in the region.

When analyzing the socioeconomic impacts of proposed new rules and amendments, ADE attempts to work closely within the parameters of accepted methodologies discussed in a 1995 California Air Resources Board (ARB) report called “Development of a Methodology to Assess the Economic Impact Required by SB 513/AB 969” (by Peter Berck, PhD, UC Berkeley Department of Agricultural and Resources Economics, Contract No. 93-314, August 1995). The author of this report reviewed a methodology to assess the impact that California Environmental Protection Agency proposed regulations would have on the ability of California businesses to compete. The ARB has incorporated the methodologies described in this report in its own assessment of socioeconomic impacts of rules generated by the ARB. One methodology relates to determining a level above or below which a rule and its associated costs is deemed to have significant impacts. When analyzing the degree to which its rules are significant or insignificant, the ARB employs a threshold of significance that ADE follows. Berck reviewed the threshold in his analysis and wrote, “The Air Resources Board’s (ARB) use of a 10 percent change in [Return on Equity] ROE (i.e., a change in ROE from 10 percent to a ROE of 9 percent) as a threshold for a finding of no significant, adverse impact on either competitiveness or jobs seems reasonable or even conservative.”

4. ECONOMIC AND DEMOGRAPHIC TRENDS

This section of the report discusses the larger context within which the Air District is contemplating Proposed Rule 13-5. This section begins with a broad overview of demographic and economic trends, with discussion then narrowing to industries and sources affected by the proposed rule.

REGIONAL POPULATION TRENDS

Table 1 tracks population growth in the nine-county San Francisco Bay Area between 2008 and 2021, including data for the year 2015. Between 2008 and 2015, the region grew by 0.6 per year, compared to 0.3 percent for the state as a whole. Since 2015, the Bay Area region has had a lower growth rate than the state. Overall, there are 7,703,016 people in the region. At 1,934,171, Santa Clara County has the most people, while Napa has the least, at 137,637. Contra Costa grew the fastest between 2008 and 2021, at 0.7 percent a year, while Marin and Sonoma lost population.

Table 1: Population Trends: Bay Area Counties, Region, and California, 2008-2021

JURISDICTION	2008	2015	2021	08-15 CAGR	15-21 CAGR	08-21 CAGR
California	38,292,687	39,131,307	39,782,870	0.3%	0.3%	0.3%
SF Bay Area	7,375,678	7,671,279	7,703,016	0.6%	0.1%	0.3%
Alameda	1,556,657	1,632,599	1,656,591	0.7%	0.2%	0.5%
Contra Costa	1,060,435	1,128,405	1,153,854	0.9%	0.4%	0.7%
Marin	258,618	263,327	257,774	0.3%	-0.4%	0.0%
Napa	137,571	141,607	137,637	0.4%	-0.5%	0.0%
San Francisco	845,559	872,723	875,010	0.5%	0.0%	0.3%
San Mateo	745,858	767,921	765,245	0.4%	-0.1%	0.2%
Santa Clara	1,857,621	1,931,565	1,934,171	0.6%	0.0%	0.3%
Solano	426,729	430,530	438,527	0.1%	0.3%	0.2%
Sonoma	486,630	502,602	484,207	0.5%	-0.6%	0.0%

REGIONAL ECONOMIC TRENDS

Data in Table 2 describe the larger economic context within which officials are contemplating the Proposed Rule 13-5. Employers in the region employ 3.7 million workers. The number of jobs in the region grew annually by 1.3 percent between 2008 and 2015, the period that included the Great Recession. This was almost twice the rate of job growth statewide during this period. Since 2015, the region's job growth showed no growth, as the COVID-19 pandemic had a devastating impact on the leisure and hospitality sectors. By comparison, the state had a modest 0.2 percent job growth.

The economic sectors in Table 2 are sorted by the share of total employment in 2020. The top-five sectors in the Bay Area in terms of total number of workers are Professional and Business Services

(NAICS 54-55) (745,400 workers); Educational and Health Services (NAICS 61-62) (575,300 workers); Trade, Transportation, and Utilities (NAICS 42, 44, 45, 48, 49, & 22) (523,500 workers); Government (443,600 workers), which also includes public sector health and education jobs;; and Manufacturing (NAICS 31-33) (352,700 workers), which includes the petroleum refineries that would be subject to proposed Rule 13-5.

Table 2: San Francisco Bay Area Employment Trends By Sector: 2008 - 2020

Industry Sector		2008	2015	2020	2020 % of Total	2020 CA % of Total	SFBA CAGR* 08-15	SFBA CAGR 15-20	CA CAGR 08-15	CA CAGR 15-20
Total, All Industries		3,377,300	3,692,400	3,693,500	100.0%	100.0%	1.3%	0.0%	0.7%	0.2%
54-56	Professional and Business Services	593,200	699,300	745,400	20.2%	15.9%	2.4%	1.3%	1.5%	0.9%
61-62	Educational and Health Services	455,600	550,500	575,300	15.6%	16.2%	2.7%	0.9%	5.1%	2.2%
42, 44-45, 48-49, 22	Trade, Transportation, and Utilities	552,400	566,300	523,500	14.2%	17.6%	0.4%	-1.6%	0.4%	-0.1%
	Government	478,400	466,200	443,600	12.0%	14.7%	-0.4%	-1.0%	-0.5%	0.3%
31-33	Manufacturing	342,900	334,300	352,700	9.5%	7.7%	-0.4%	1.1%	-1.4%	-0.3%
71-72	Leisure and Hospitality	336,300	405,700	297,400	8.1%	9.1%	2.7%	-6.0%	2.2%	-4.0%
51	Information	118,100	166,000	240,100	6.5%	3.2%	5.0%	7.7%	0.4%	1.8%
11, 21, 23	Natural Resources and Construction	199,600	194,200	219,900	6.0%	7.8%	-0.4%	2.5%	-0.3%	1.8%
52-53	Financial Activities	188,100	187,400	191,600	5.2%	5.0%	-0.1%	0.4%	-0.9%	0.6%
81	Other Services	112,900	122,900	104,000	2.8%	2.8%	1.2%	-3.3%	-5.1%	-2.4%

The fastest job growth rates since 2015 have been in Information Services, which includes many internet businesses, followed by Natural Resources and Construction; Professional and Business Services; and Educational and Health Services.

The table demonstrates the advanced nature of the regional economy, as over 26 percent of all jobs are in the combined Professional, Business, and Information services categories, compared to 19.1 percent for the state. In addition, manufacturing in the Bay Area grew at an average annual rate of 1.1 percent between 2015 and 2020, while the sector declined by 0.3 percent during this period statewide. This is due in large part to the many technology-driven industries that are concentrated in that category in the Bay Area.

TRENDS FOR INDUSTRIES SUBJECT TO PROPOSED RULE 13-5

Proposed Rule 13-5 would affect petroleum refineries (NAICS 324110) of which there are five in the Bay Area. The most recent employment data available for the refineries indicates there were 3,536 workers directly employed at the facilities in 2018 (Table 3). Refinery jobs have been growing slowly since 2014, but have not recovered to the 2009 level of nearly 4,000 jobs at the beginning of the Great Recession.

Table 3: Employment Trends for Large Refineries in the San Francisco Bay Area: 2009-2018

YEAR	JOBS
2009	3,976
2010	3,622
2011	3,620
2012	3,542
2013	3,726
2014	3,269
2015	3,440
2016	3,464
2017	3,503
2018	3,536

With the recession in 2020 due to the COVID-19 pandemic, refinery production levels were affected, with associated financial impacts and job reductions at the facilities. Shelter in place orders that reduced commute and shopping travel dramatically reduced demand for gasoline. In 2021, demand for gas began increasing and gas prices also increased significantly. However, it is not clear whether there may still be longer term effects on the economics of producing refined oil products. ADE researched refinery operations during past recessions to see how this industry has been affected. In the past 20 years there have been two major recessions, in 2001 and 2009.

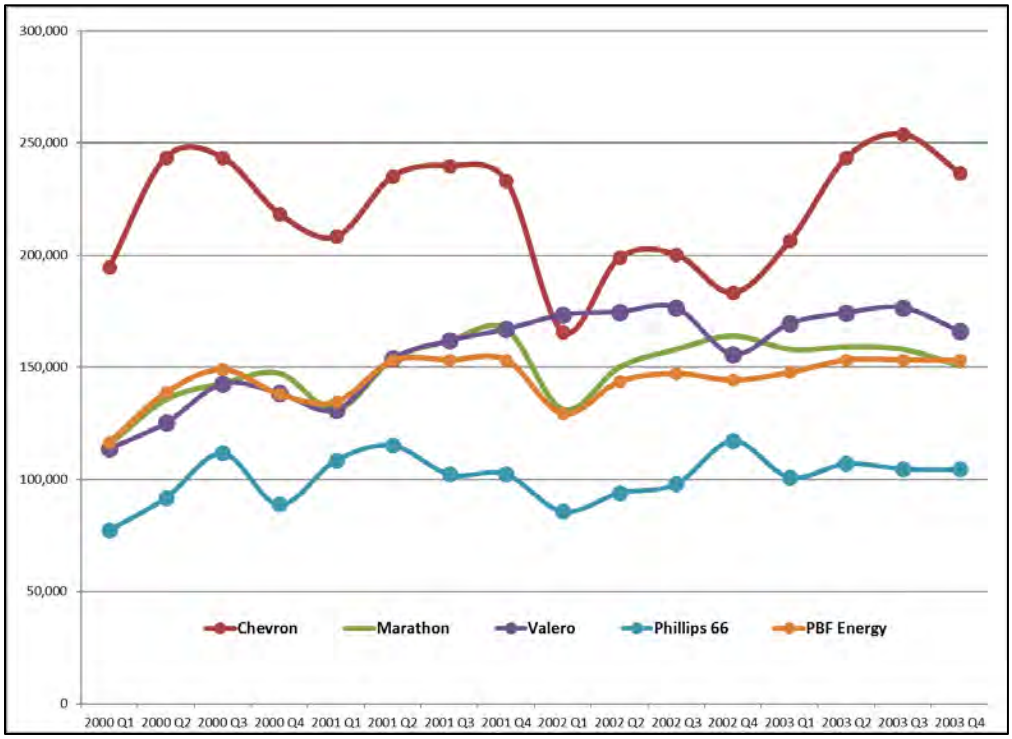
According to the National Bureau of Economic Research (NBER), the 2001 recession began in March, 2001 and was short-lived, reaching its lowest point in November 2001. On a national level, between 2000 and 2001, the number of refineries declined by 17.5 percent, from 565 to 466. The number of refineries with positive net income declined even more, by 69.8 percent, from 538 to 162. By 2002, the number of refineries began to climb back to pre-2001 totals, reaching 524 refineries. However, in 2002, net income dropped to 4.2 percent of sales, down from 8.1 percent the prior year (Table 4).

In the Bay Area, the five major refineries continued to operate, but the levels of production dipped in the first quarter of 2002 for all the refineries except Valero (Figure 1). Chevron and Valero both reduced production at the end of 2002, but by 2003 all of the refineries appear to have resumed normal production levels.

Table 4: Financial Data for US Refineries, 2000-2015

Year	Number of Returns		Total Receipts		Net Income ($Billions)	Net Income as % Of Receipts for All Returns
	Total	With Net Income	All Returns ($Billions)	Returns with Net Income ($Billions)		
2000	565	538	$708.5		$62.7	8.9%
2001	466	162	$633.8	$605.1	$51.2	8.1%
2002	524	210	$669.9	$547.8	$28.4	4.2%
2003	321	33	$878.2	$762.4	$59.5	6.8%
2004	715	43	$1,233.4	$1,208.0	$101.0	8.2%
2005	1067	408	$1,586.4	$1,582.6	$136.1	8.6%
2006	928	171	$1,772.7	$1,760.2	$142.0	8.0%
2007	661	160	$1,885.8	$1,858.9	$140.0	7.4%
2008	569	150	$2,317.4	$2,272.1	$146.0	6.3%
2009	241	159	$1,467.9	$1,011.0	$103.8	7.1%
2010	246	169	$1,884.3	$1,471.1	$133.4	7.1%
2011	202	162	$2,405.5	$2,323.7	$128.1	5.3%
2012	217	159	$2,396.8	$2,113.6	$152.7	6.4%
2013	207	67	$2,202.1	$1,894.1	$123.9	5.6%
2014	203	161	$2,086.0	$1,781.3	$103.1	4.9%
2015	143	116	$1,330.0	NA	$67.0	5.0%

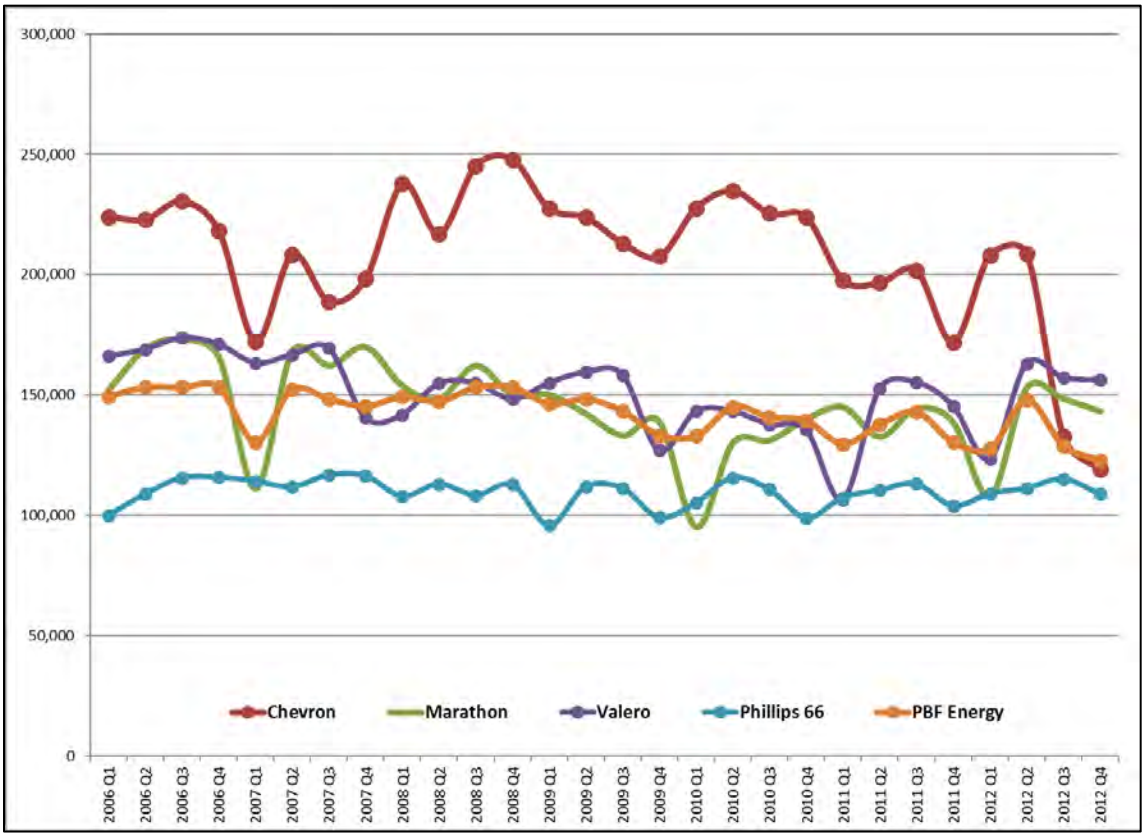
Figure 1: Bay Area Refinery Production Levels, 2001 Recession



According to the NBER, the 2008 Great Recession began officially in December 2007, and extended downward to its lowest point in June 2009. But the actual recovery after June 2009 was "flat", in contrast to the earlier 2001 recession. The full effect of the recession that began in December 2007 became evident in 2009, when there were 241 US refineries as compared to 569 in 2008, for a loss of 57.6 percent (Table 4). Average net income per refinery went from $973 million to $653 million for a 32.8 percent decline, although net income as a percent of sales did not decline as much as in 2002. In 2008 it was 6.3 percent, down from 8.0 percent in 2006. However, this figure has never again reached 8.0 percent on a national level. Also, in the years immediately prior to and including 2008, there were 928 US refineries in 2006 and 661 in 2007. Since 2009, there have consistently been less than 300.

At the Bay Area refineries, production levels had dropped at the beginning of 2007 and did not really show the effects of the recession until late 2009, with additional dips in 2012 (Figure 2).

Figure 2: Production Levels at Bay Area Refineries, 2006-2012



This historical review suggests that there have been long lasting structural changes to the refining industry from past economic downturns, combined with shifts in consumer demand from technological changes in the auto industry. Profit ratios for refineries have been declining since the Great Recession. The analysis described below suggests that for the Bay Area refineries, profit levels slipped below 3 percent by 2019. It may be expected that profits dropped further in 2020 due to the COVID-19 pandemic. It is difficult to predict the time frame for recovery from this recession, as there remains much uncertainty despite the development of COVID vaccines about the pace of when

consumers and businesses will resume previous levels of economic activity. However Proposed Rule 13-5 provides a five-year period for the refineries to reach compliance. For purposes of this analysis, we use the 2019 financial performance of the refineries as a benchmark for the effects of the compliance costs in 2026.

In 2017, the US Bureau of the Census counted 18 refineries in California. In aggregate, the net income for these facilities was 4.1 percent of sales (Table 5), slightly lower than the national figure of 5.0 percent in 2015.

Table 5: Operating Characteristics for California Refineries, 2017

OPERATING PARAMETER	2017 VALUE
Number of firms	11
Number of establishments	18
Sales, value of shipments, or revenue ($1,000)	$56,216,881
Annual payroll ($1,000)	$1,174,919
Total fringe benefits ($1,000)	$398,409
Total cost of supplies and/or materials ($1,000)	$46,126,161
Total capital expenditures for buildings, structures, machinery, and equipment (new and used) ($1,000)	$1,709,789
Total depreciation during year ($1,000)	$1,423,320
Total rental payments or lease payments ($1,000)	$118,057
Total other operating expenses ($1,000)	$2,950,272
Net operating income	$2,315,954
Percent of sales	4.1%

Table 6 below identifies the businesses in the Bay Area that are full-scale refineries. The California Energy Commission (CEC) tracks each refinery's throughput capacity; however, for Marathon and Phillips 66 we have used projected capacities reported by the companies since these refineries are converting to new operations to produce renewable fuels. Of the five operating refineries in the region, Chevron is the largest, with the capacity to refine 245,300 42-gallon barrels of crude oil per day (BPD). The five affected sources employ approximately 3,500 workers, who make an average wage of $127,000, not including benefits, based on the data in Table 5.

The five affected sources' combined throughput capacity is approximately 646,500 barrels per day (BPD). Based on average utilization rates for refineries as provided in the US Census of Manufactures, we estimate the actual effective throughput of the refineries is about 578,000 BPD. Refined products exceeded the crude oil inputs by about 3.5 percent in 2019, resulting in an estimate of 598,200 BPD of refined products produced by the Bay Area refineries.[3]

[3] California Energy Commission, Weekly Fuels Watch, 2019.

Table 6: Bay Area Refineries (California Energy Commission) and Crude Oil Capacity

REFINERY	BARRELS PER DAY
Chevron U.S.A. Inc., Richmond Refinery	245,300
Marathon Petroleum Corp., Golden Eagle (Avon/Martinez) Refinery	47,600
PBF Energy, Martinez Refinery	156,400
Valero Benicia Refinery	145,000
Phillips 66, Rodeo San Francisco Refinery	52,200

Source: Applied Development Economics, Inc., based on California Energy Commission

All five of the refineries, plus the Air Liquide Hydrogen plant, see increased costs from implementation of Rule 13-5. For these plants, we have estimated annual sales (revenues) and profit levels, for use in analysis of the economic impacts of the rule in the next section of the report (Table 7). The Marathon refinery is not currently in operation, but has planned a conversion to renewable fuels. When it resumes operations, it will be subject to the Rule 13-5 requirements. Similarly, the Phillips 66 plant is proposed for conversion to a non-petroleum biofuels plant. However, for purposes of this analysis, we have assumed the plant would be subject to Proposed Rule 13-5 when it first becomes effective.

The effective capacities in barrels per day for each of the refineries shown in Table 7 are based on the factors described above. The revenue information is based on an estimate of the wholesale value of gasoline at $121.04, based on 2019 data provided by the CEC.[4] The net profits estimates are based on data from corporate reports for each of the petroleum companies, described further below

Chevron Richmond. In its 2019 annual report, Chevron reports $1.559 billion in earnings from its US downstream refining operations. This was down from $2.1 billion in 2018, which Chevron ascribes to lower margins on sales for refined products, but also was affected by a higher depreciation expense of $100 million following first production at the new hydrogen plant at the Richmond refinery. Chevron reported sales of 1,250 (million barrels per day) of gasoline and other refined products. We estimate, then, that Chevron earned $1,247 per barrel of refined product. This amount is applied to the output estimate in Table 7 of 226,820 barrels per day, resulting in an estimate of the net income from the Richmond refinery of $282.8 million. This is down from a 2017 estimate of $332.6 million, which was 4.1 percent of sales for that year. The current estimate is 2.8 percent of sales.

PBF Energy Martinez. PBF completed the purchase of this refinery from Shell in February 2020, so there is no 2019 operating or financial data for the refinery under PBF ownership. Consequently, we have reviewed the Shell annual report for 2019 to estimate the operating performance of the Martinez refinery (operated as Martinez Refining Company).

[4] California Energy Commission, Estimated 2019 Gasoline Price Breakdown and Margins Details.

Shell reported downstream refinery net earnings of $6.7 billion for all its refining operations, and indicates that 19 percent of its refined products sales occurred from US operations, so we have prorated net earnings to $1.27 billion for US refineries. Shell reports that total US refining capacity was 1,117,000 barrels per day, which yields a return of $1,136 per barrel of refined product, slightly below the comparable figure for Chevron.

Based on these factors, we estimate the net income from the Martinez refinery was $177.7 million, which is also lower than the 2017 estimate of $212.1 million for that facility. The 2019 net income represents 2.8 percent of estimated sales revenue.

Marathon Martinez. Marathon Petroleum Company (MPC) plans to convert its refinery to produce 730 million gallons per year of lower carbon-intensity renewable fuels, or about 47,600 barrels per day (BBL/Day).[5] The most recent data for this refinery when operated as a petroleum refinery indicated a throughput capacity of 161,500 BBL/Day. Renewable fuels have the same chemical composition as petroleum-based fuels and can be used in existing internal combustion engines. For purposes of this analysis, we use the same wholesale prices as the other refineries to estimate total sales from the new Marathon operation as well as Phillips 66 below. Currently, there are not many renewable fuels refineries in the United States and detailed operating data is not available. For this analysis, we use the average refinery profit levels as a percent of sales to evaluate the socioeconomic impacts of the proposed Rule 13-5.

Valero. In its 2019 Annual Report, Valero reports net income of $4 billion from its refining operations, on a throughput of 2.95 million barrels per day. This represents a return per BPD of $1,362, which when applied to the daily throughput of the Benicia refinery results in annual net income of $182.6 million. This is a profit rate of 3.1 percent, down from the 2017 estimate of 3.8 percent.

Phillips 66. The Rodeo plant conversion would create capacity to produce 680 million gallons annually of renewable diesel, renewable gasoline, and sustainable jet fuel. Combined with an additional project onsite that is under development, the plant would produce a total of 800 million gallons per year, or about 52,200 BPD. The most recent data for this plant as a petroleum refinery indicates that it had a capacity for 120,200 BPD.

The company's website states that, "This capital efficient investment is expected to deliver strong returns through the sale of high value products while lowering the plant's operating costs."[6] The plant is expected to employ 400 workers when operations are fully stabilized.

As discussed above for the Marathon refinery we have used average wholesale prices and net income ratios from the other refineries to estimate the financial characteristics of the planned renewable fuels plant in Rodeo.

[5] https://www.marathonpetroleum.com/Newsroom/Company-News/Marathon-Petroleum-to-Proceed-with-Conversion-of-Martinez-Refinery-to-Renewable-Fuels-Facility/

[6] https://investor.phillips66.com/financial-information/news-releases/news-release-details/2020/Phillips-66-Plans-to-Transform-San-Francisco-Refinery-into-Worlds-Largest-Renewable-Fuels-Plant/default.aspx

Air Liquide. This facility is the largest hydrogen plant in the area. The US Census indicates that there are six establishments in the gas production industry in Contra Costa County, employing 74 workers. Nationally, firms in this industry generate nearly $670,000 in annual sales per worker employed. Using this metric and estimating 20 jobs at the plant, we estimate the Air Liquide plant generates about $13.4 million in annual sales. The national data also indicate firms in this industry enjoyed a 40 percent return on sales in 2017; however, Air Liquide reports a net income ratio of 18.1 percent for its gas operations in the western hemisphere. Using this ratio, we estimate annual profits at the Contra Costa plant at $2.4 million.

Table 7: Estimated Revenues and Net Profits for Businesses Affected by Rule 13-5

	Chevron	Marathon	PBF Energy Martinez	Valero	Phillips 66	Air Liquide
Effective Barrels Per Day	219,150	44,019	139,743	134,092	48,273	NA
Est. Revenues	$10.0 bil.	$1.9 bil.	$6.4 bil.	$5.9 bil.	$2.1 bil.	$13.4 mil.
Est. Net Profits	$282.8 mil.	$56.3 mil.	$177.7 mil.	$182.6 mil.	$21.9 mil.	9.5 mil.

5. SOCIOECONOMIC IMPACT ANALYSIS OF PROPOSED RULE 13-5

COSTS OF RULE COMPLIANCE

This section of the report analyzes socioeconomic impacts stemming from Proposed Rule 13-5. Compliance with the Rule will require emissions reductions at two refineries: Valero and PBF Energy. Air District staff has estimated costs at both these facilities to a) install a flare system, and b) to install a hydrogen plant flare gas recovery system to achieve the required emissions reductions. In both cases, the flare systems are less expensive and those costs are the ones shown in Table 8 below. The facilities have also proposed alternative emissions reduction measures that may further substantially reduce costs. However, according to Air District staff it is not clear that these measures would be sufficient to meet the required emissions reductions, so for purposes of this analysis, we have used the dedicated flare costs shown in Table 8. In addition, all of the affected facilities will need to install flow meters and sampling ports in their CO_2 and deaerator lines and perform quarterly monitoring.

Table 8: Compliance Costs by Facility for Rule 13-5

Facility	Capital Cost to Comply with Section 13-5-301	Cost to Install Flowrate Meter	Cost for Quarterly Monitoring in Deaerator/CO_2 Vents	Cost to Install Sampling Port in Deaerator/CO_2 Vents	Cost to install atmospheric vent monitoring equipment
Valero	$30,000,000 ($4,020,114 annualized)	$230,100 to $253,110 - annualized	$112,000 to $320,000 - annualized	$9,204 to $13,806 - annualized	$1,753,515 to $2,228,015 - annualized
PBF Energy	$40,000,000 ($5,284,833 annualized)	$265,500 to $292,050 - annualized	$168,000 to $480,000 - annualized	$10,620 to $15,930 - annualized	$2,023,286 to $2,570,786 - annualized
Marathon	N/A – therefore no cost	$70,800 to $77,880 - annualized	$112,000 to $320,000 - annualized	$2,832 to $4,248 - annualized	$539,543 to $685,543 - annualized
Phillips 66	N/A – therefore no cost	$17,700 to $19,470 - annualized	$28,000 to $80,000 - annualized	$708 to $1,062 - annualized	$134,886 to $171,386 - annualized
Chevron	N/A – therefore no cost	$35,400 to $38,940 - annualized	$56,000 to $160,000 - annualized	$1,416 to $2,124 - annualized	$269,772 to $342,772 - annualized
Air Liquide	N/A – therefore no cost	$17,700 to $19,470 - annualized	$28,000 to $80,000 - annualized	$708 to $1,062 - annualized	$134,886 to $171,386 - annualized
Total	$70,000,000 ($8,040,227 annualized)	$637,200 to $700,920 - annualized	$504,000 to $1,440,000 - annualized	$25,488 to $38,232 - annualized	$4,855,887 to $6,169,887 - annualized

The methodology section above explains that compliance costs that exceed ten percent of return on equity have the potential to create significant adverse socioeconomic impacts on the affected facilities. Table 9 compares the total annual costs to the estimated annual net income for the plants, from Table 7 above. The total annual compliance costs range from about $15.3 million to $17.7 million for all facilities combined. This represents 1.9 to 2.2 percent of the estimated net income of the affected facilities combined. For the Valero and PBF Energy plants which require major capital expenditures, the upper range cost estimates represent 3.7 and 4.9 percent of net income, respectively.

For the Air Liquide plant, which is a smaller facility, the annualized monitoring costs represent 7.6 to 11.3 percent of estimated net income. While the upper end of this range would exceed the 10 percent threshold of significance, this high-end estimate should be considered a worst-case scenario. In addition, Air District staff believe that most of these companies already collect the information required for the monitoring, so the actual monitoring costs may only be 20 to 30 percent of the range shown in Table 8 above.

As discussed above, the upper end cost estimate range may represent costs exceeding the 10 percent threshold of significance for the Air Liquide plant. While the high-end estimate should be considered as a worst-case scenario, the costs may be substantially lower than this estimated value. Nevertheless, the potential impacts associated with costs above the threshold of significance were estimated based on this high-end estimate. Of particular concern under the Health and Safety Code would be the potential for lost jobs at the plan to compensate for the impact to net income. At $270,000 per year, the upper end impact is about $30,000 above the 10 percent impact threshold. The average salary and benefits for workers in the gas production industry in California is $92,300.[7] The maximum cost impact exceeding the threshold, therefore, represents less than a third of the cost for one employee at Air Liquide. We conclude that it is unlikely the company would choose to reduce employment to mitigate this impact.

Also, both Valero and PBF Energy have proposed alternative emission reduction measures that would potentially replace the need for the dedicated flare gas recovery systems. Valero estimates the capital cost of the alternative reduction methods at $6 million and Marathon Refining Company (PBF Energy) estimates capital cost of the alternative measures to cost between $5 million and $10 million. While the specific measures proposed by the companies have not been approved by the Air District, there is a possibility that the ultimate costs the companies will incur will be less than shown in Table 8 and Table 9.

[7] 2019 Census of Manufactures.

Table 9: Impact of Rule 13-5 Annual Compliance Costs on Facility Net Income

Facility	Total Annual Cost ($Millions)			Annual Net Income ($Millions)	Costs as Percent of Income
Valero	$6.12	to	$6.83	$182.60	3.35% to 3.74%
PBF Energy Martinez	$7.75	to	$8.64	$177.70	4.36% to 4.86%
Marathon	$0.73	to	$1.09	$146.50	0.50% to 0.74%
Phillips 66	$0.18	to	$0.27	$22.00	0.82% to 1.24%
Chevron	$0.36	to	$0.54	$282.80	0.13% to 0.19%
Air Liquide	$0.18	to	$0.27	$2.40	7.55% to 11.33%
Total	$15.33	to	$17.65	$813.90	1.88% to 2.17%

CARBON CREDITS

An additional potential cost mitigation for refineries would be to trade carbon credits on the international markets.

The carbon credits market consists of both a voluntary market and a compliance market. The compliance market, which is represented as a cap-and-trade market, currently operates in California. California is the only state that individually operates a cap-and-trade market. The Regional Greenhouse Gas Initiative operates on the East Coast with about a dozen states participating.

Under the California Air Resources Board regulations, major sources that generate large amounts of carbon emissions can purchase carbon credits to meet emissions goals. Refineries are subject to cap-and-trade requirements. The California cap-and-trade program has 450 participants.[8] The market value of carbon credits fluctuates, but the most recent data from the Air Resources Board (ARB) indicates that the median price for a carbon credit ranged from $15.32 (offset) to $24.62 (allowance).[9] [10] Applied to the proposed reduction of 2,514 tons of methane (equivalent of 85,492 tons of carbon dioxide based on a 34 GWP for methane), this would imply a carbon credit value ranging from $1.3 (offset) million to $2.1 million (allowance). Depending on the allowable cap for each facility, the affected companies may be able to monetize a portion of their carbon reductions under this program.

Up to this point, the voluntary carbon credit markets have largely operated on a relatively informal basis. Nonetheless, the voluntary carbon credits market has steadily grown, and was projected to reach an annual market value of $1 billion for the first time in 2021, with an all-time market value of

[8] Thompson, Lucas, Leticia Miranda, and NBC News; "What are carbon credits? How fighting climate change became a billion-dollar industry"; October 30, 2021. https://www.nbcnews.com/business/business-news/are-carbon-credits-fighting-climate-change-became-billion-dollar-indus-rcna3228

[9] https://ww2.arb.ca.gov/sites/default/files/2021-11/nc-2021_q3_transfersummary.xlsx

[10] An offset carbon credit means that the greenhouse gas emission will be offset by a mitigating project, such as reforestation or agricultural projects. An allowance carbon credit functions more like a permit to emit.

$6.7 billion.[11] McKinsey projects that the market for carbon credits could grow to $50 billion around 2030.[12]

In November 2021, the United Nations convened the COP26 conference in Glasgow, which established several new international agreements on carbon reductions. One of the more significant outcomes of the conference was implementation standards for Article 6, which was established under the Paris Agreement in 2016.

Article 6 laid out international standards for trading carbon credits, and the Glasgow conference created the necessary mechanisms and rules to implement it. According to S&P Global Platts, "Article 6 is the final article to be implemented of the 29 separate articles that make up the 2015 Paris Climate Agreement and sets up the carbon crediting mechanism used by governments to meet their reduction targets under the nationally determined contributions system. Paragraph 6.4 sets the United Nations as a certifier of carbon projects that can generate credits for governments to reach these NDCs."[13] While the rules established under Article 6 largely apply to governments, the agreement promises to greatly expand the voluntary carbon credits market by boosting the credibility of carbon credit markets and establishing international standards.[14]

SOCIAL COSTS OF GREENHOUSE GASES (GHG)

Compliance with Rule 13-5 will impose costs on the affected refineries and hydrogen producers in the Bay Area. However, failure to reduce emissions of GHG imposes ongoing costs on society in terms of contributing to climate change and the long-term effects of that on a wide range of human activities and the built and natural environment. The social cost of carbon (SCC) takes a holistic view of how carbon emissions create societal impacts and uses various data measures to put a cost on it. At a simplistic level, SCC attempts to measure the economic harm caused by climate change based on the dollar value per ton of carbon dioxide (CO_2) emissions.[15]

[11] Ecosystem Marketplace; "Voluntary Carbon Markets Rocket in 2021, On Track to Break $1B for the First Time"; September 15, 2021.
https://www.ecosystemmarketplace.com/articles/press-release-voluntary-carbon-markets-rocket-in-2021-on-track-to-break-1b-for-first-time/

[12] Favasuli, Silvia, Vandana Sebastian and S&P Global Platts; "Voluntary carbon markets: how they work, how they're priced, and who's involved"; June 10, 2021.
https://www.spglobal.com/platts/en/market-insights/blogs/energy-transition/061021-voluntary-carbon-markets-pricing-participants-trading-corsia-credits

[13] Favasuli, Silvia, and S&P Global Platts; "Paris Accord Article 6 approval set to jump-start evolution of voluntary carbon market"; November 17, 2021.
https://www.spglobal.com/platts/en/market-insights/latest-news/energy-transition/111721-paris-accord-article-6-approval-set-to-jump-start-evolution-of-voluntary-carbon-market

[14] Krukowska, Ewa, and Bloomberg Green; "COP26 Finally Sets Rules On Carbon Markets. What Does It Mean?"; November 13, 2021.
https://www.bloomberg.com/news/articles/2021-11-13/cop26-finally-set-rules-on-carbon-markets-what-does-it-mean

[15] Patton, Vickie, and Environmental Defense Fund; "The true cost of carbon pollution"; 2020.
https://www.edf.org/true-cost-carbon-pollution

The legal rationale for including SCC in socioeconomic impact studies of new regulations dates back to a 2007 court decision in which the US Court of Appeals, Ninth Circuit ruled that federal agencies needed to account for the cumulative effects of greenhouse gas emissions in cost-benefit analyses.[16]

The methodologies for quantifying SCC are highly varied. The monetary values assigned to SCC depend on several assumptions about socioeconomic forecasts (population and economic growth, and the resulting carbon emissions), climate projections (rising temperatures and sea levels compared to CO_2 levels, etc.), benefits and costs; and the discount rate (indication of rate at which society trades off present for future benefits).[17]

At the federal level, the Interagency Working Group (IWG) was formed as a result of the 2007 court decision, and has issued and updated SCC estimates since 2010. While the estimates have covered a wide range, depending on the measures used, the Biden administration announced an initial estimated SCC of about $51 per metric ton of CO_2. This figure is the one most frequently cited in media reports; and is based on work previously completed during the Obama administration (adjusted for inflation). The SCC estimate assumes a discount rate of 3.0 percent, which moderately trades off present costs into the future.[18] It should be noted that the current SCC estimates from the IWG range from $14 to $152 per metric ton, depending on the discount rate assumption.[19]

In addition, the IWG separately assigned interim social cost values to methane (CH_4) and nitrous oxide (N_2O) of $1,500 and $18,000 per ton of emissions, respectively, using a 3.0 percent discount rate assumption.[20]

When applied to Bay Area refineries, the proposed rule will eliminate about 2,514 tons of methane emissions. Using the alternate discount rate assumptions cited in the most current IWG report, the social cost reduction would range from $1.7 million to $9.8 million (Table 10). The anticipated costs of compliance for Rule 13-5 fall within the range of $15.3 -$17.7 million per year. The IWG is due to release a revised report in January 2021 that will account for more up-to-date climate change analysis and feedback.

[16] Center for Biological Diversity v. National Highway Traffic Safety Administration; November 15, 2007. https://caselaw.findlaw.com/us-9th-circuit/1024716.html

[17] Cho, Renee, and Columbia Climate School; "Social Cost of Carbon: What Is It, and Why Do We Need to Calculate It?"; April 1, 2021. https://news.climate.columbia.edu/2021/04/01/social-cost-of-carbon/

[18] Interagency Working Group on Social Cost of Greenhouse Gases, United States Government; *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13990*; February 2021.

[19] The IWG's SCC estimates are based on averages of model runs using multiple different inputs. The scenarios include 5.0, 3.0, and 2.5 percent discount rates, with an additional scenario that uses a 3.0 percent discount rate at the 95th percentile of the modeling results.

[20] The cost factor assumes 2020 dollar values, using the previous estimates dating back to 2016 and adjusted for inflation using the US Bureau of Economic Analysis' GDP price deflator values.

Table 10: Estimated Social Cost of Methane Emissions

Discount Rate Assumption	5.0% (50th Percentile)	3.0% (50th Percentile)	2.5% (50th Percentile)	3.0% (95th Percentile)
Social Cost Per Metric Ton of CH4	$670	$1,500	$2,000	$3,900
Social Cost (2,514 tons of CH4)	$1,684,705	$3,771,727	$5,028,969	$9,806,491

Source: ADE, Inc.; data based on Interagency Working Group report, "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13990"; February 2021.

SMALL BUSINESS DISPROPORTIONATE IMPACTS

According to the State of California, among other things, small businesses generate annual sales of less than $10 million.[21] Of the six sources affected by the proposed rule, none are small businesses. As a result, small businesses are not disproportionately impacted by Proposed Rule 13-5.

[21] http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=14001-15000&file=14835-14843

BAY AREA
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APPENDIX E

Final Environmental Impact Report

Response to Comments for the Final Environmental Impact Report for the Bay Area Air Quality Management District

Proposed Regulation 13, Rule 5, Climate Pollutants from Industrial Hydrogen Plants

State Clearing House Number: 2021070007

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April 2022

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Response to Comments
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1.0 INTRODUCTION

This Final Environmental Impact Report (FEIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations Section 15000 et seq.). According to CEQA Guidelines, Section 15132, the FEIR shall consist of:

- The Draft Environmental Impact Report (DEIR) or a revision of the Draft;
- Comments and recommendations received on the DEIR either verbatim or in summary;
- A list of persons, organizations, and public agencies comments on the DEIR;
- The responses of the Lead Agency to significant environmental points raised in the review and consultation process; and,
- Any other information added by the Lead Agency.

This Response to Comments, together with other portions of the DEIR as revised, constitutes the FEIR for the proposed Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants (Rule 13-5).

The DEIR contains a detailed project description, the environmental setting for each of the environmental resources topic areas where the Notice of Preparation and Initial Study (NOP/IS) determined there was a potential significant adverse impact, an analysis of the potentially significant environmental impacts including cumulative impacts, project alternatives, mitigation measures, and other areas of discussion as required by CEQA. The discussion of the project-related and cumulative environmental impacts included a detailed analysis of aesthetics, air quality, and greenhouse gas emissions.

The DEIR was released on January 24, 2022 and circulated for a 45-day public review and comment period that ended on March 10, 2022. The DEIR is available at the Bay Area Air Quality Management District (BAAQMD), 375 Beale Street, Suite 600, San Francisco, California 94105. Copies can also be obtained by accessing the BAAQMD's website at www.baaqmd.gov/reg13rule5. The BAAQMD received two comment letters on the Draft EIR during the public comment period. The comment letters and responses to the comments raised in those letters are provided in this document. The comments are bracketed and numbered. The related responses are identified with the corresponding number and are included following each comment letter.

1.1 FORMAT OF THIS DOCUMENT

The Final EIR for Rule 13-5 consists of the Draft EIR and its technical appendices; the Responses to Comments included herein; and other written documentation prepared during the EIR process. The District would also consider adoption of a Statement of Findings of Fact, and a Statement of Overriding Considerations as part of the approval process for the Project.

This Response to Comments document is organized as follows:

- Section 1 provides a brief introduction to this document.
- Section 2 identifies the Draft EIR commenters.
- Section 3 provides responses to substantive comments received on the Draft EIR. Responses are provided in the form of individual responses to comment letters received. Comment letters are followed immediately by the responses to each letter.
- Section 4 presents clarifications, corrections, and revisions to the Draft EIR, identifying revisions to the text of the document.

1.2 CEQA REQUIREMENTS REGARDING COMMENTS AND RESPONSES

CEQA Guidelines Section 15204 (a) outlines parameters for submitting comments, and reminds persons and public agencies that the focus of review and comment of DEIRs should be "on the sufficiency of the document in identifying and analyzing possible impacts on the environment and ways in which significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good-faith effort at full disclosure is made in the EIR."

CEQA Guidelines Section 15204 (c) further advises, "Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to Section 15064, an effect shall not be considered significant in the absence of substantial evidence." Section 15204 (d) also states, "Each responsible agency and trustee agency shall focus its comments on environmental information germane to that agency's statutory responsibility." Section 15204 (e) states, "This section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section."

2.0 COMMENTS RECEIVED ON THE DRAFT EIR

In accordance with the State CEQA Guidelines Section 15132, the following is a list of public agencies, organizations, individuals, and businesses that submitted comments on the Draft EIR received as of close of the public review period on March 10, 2022. Comments have been numbered and responses have been developed with corresponding numbers.

TABLE 2-1

Comment Letters with Responses Prepared

Comment Letter	Commenter	Date Received
1	Western State Petroleum Association, Kevin Buchan	3/10/2022
2	Martinez Refining Company, Ann Vorderbrueggen	3/10/2022

3.0 RESPONSES TO COMMENTS

This section includes responses to all substantive environmental issues raised in comments received on the Rule 13-5. Responses are provided for each of the comments received. This section is formatted so that the respective comment letters are followed immediately by the corresponding responses. Comment letters and specific comments are given numbers, respectively, for reference purposes. Comments in the letter that do not specifically address the DEIR do not require a response so are not assigned numbers. These comments were addressed in a separate document.

Comment Letter No. 1

Kevin Buchan
Senior Manager
Bay Area Region Regulatory Affairs

March 10, 2022

Victor Douglas
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

sent via e-mail: vdouglas@baaqmd.gov

Re: WSPA Comments on Proposed Regulation 13, Rule 5: Industrial Hydrogen Plants

Dear Mr. Douglas,

The Western States Petroleum Association (WSPA) is a non-profit trade association representing twenty-six companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California, Arizona, Nevada, Oregon, and Washington. Our members in the Bay Area have operations and facilities regulated by the Bay Area Air Quality Management District (BAAQMD or District). WSPA submits the following comments on the Proposed Regulation 13, Rule 5: Industrial Hydrogen Plants.

Textbook Example of What the IPCC Identified as a "Problematic" Regulation

The Staff Report acknowledges that the sources targeted by this rule are covered by California's GHG Cap-and-Trade program, however it fails to clearly identify a known consequence of this to decisionmakers and the public. Even if the proposed rule were to reduce GHGs at individual refineries, it will have no impact for the Cap-and-Trade program sources in aggregate and will create GHG emissions from the associated sources not in the Cap-and-Trade program. Those associated sources include GHGs from steelmaking, fabrication, and the erection of the flares.

The BAAQMD proposed regulation is an example of what the Intergovernmental Panel on Climate Change (IPCC) identified as a "problematic"/"ineffective" rule that would not reduce statewide GHG emissions. Specifically, the IPCC's 5th Assessment Report section on "Interactions between climate policies conducted at different jurisdictional levels" has a subsection on "Problematic interactions" that identified this exact type of policy:

Western States Petroleum Association 1320 Willow Pass Road, Suite 600, Concord, CA 94520 925.266.4083 Kevin@wspa.org

> *"Policies introduced at different levels sometimes interact in ways that compromise or weaken the intended environmental or economic impacts.*
>
> *One particular difficulty that may arise is the problem of emissions leakage. This can occur, for example, when a climate policy introduced at a lower jurisdictional level is 'nested' within a cap-and-trade programme implemented at a higher jurisdictional level. Consider the case where a cap-and-trade programme exists at the national level, and where a sub-national authority introduces a new policy intended to reduce its own (sub-national) emissions beyond what would result from the national programme alone. The sub-national jurisdiction's efforts might indeed yield reductions within that jurisdiction, but facilities in other sub-national jurisdictions covered by the cap-and-trade programme will now use these allowances leading to higher emissions in these jurisdictions completely compensating the abatement effort in the more stringent jurisdiction.*
>
> *Since overall emissions at the higher level are determined by the given national-level cap, the effort by the sub-national jurisdiction does not succeed in reducing nationwide: it just causes emissions leakage — offsetting increases in emissions elsewhere in the nation. The national cap effectively prevents sub-national jurisdictions from achieving further emissions reductions (Goulder and Stavins, 2011; Shobe and Burtraw, 2012)."*[1]

The IPCC's example is of a national cap-and-trade program and a sub-national regulation on sources in that program, however the reasoning is identical for the California cap-and-trade program and the District proposed Regulation 13-5. The GHG impacts of the rule on Bay Area refinery methane emissions are going to be offset by GHG impacts from other sources in the Cap-and-Trade program, and the proposed rule would not result in GHG reductions statewide or globally.

The District's proposed regulation of these methane sources—sources that fall within CARB's definition of "de minimis" GHG sources at the refineries—should not be adopted. The Staff Report is deficient in multiple key areas and should be amended:

[1] IPCC, "Problematic interactions", Section 15.7.2.2 of Somanathan E., T. Sterner, T. Sugiyama, D. Chimanikire, N. K. Dubash, J. Essandoh-Yeddu, S. Fifita, L. Goulder, A. Jaffe, X. Labandeira, S. Managi, C. Mitchell, J. P. Montero, F. Teng, and T. Zylicz, 2014: National and Sub-national Policies and Institutions. In: *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

- It should incorporate the IPCC narrative in the Executive Summary or its two-sentence section on "State Regulations" (Section II.C.2);

- It incorrectly associates societal benefits to the GHG reductions associated with this rule (Section V.E), when those reductions will be offset by other emissions within the Cap-and-Trade program as described by the IPCC; and

- Asserts contrary to the IPCC that the regulation "*is in harmony with, and does not conflict with or contradictory to, existing…state or federal regulations.*" Therefore the Proposed Rule does not meet the statutory requirement for consistency (Section VIII.D).

Global Warming Potentials

The District is proposing a regulation to decrease methane emissions by oxidizing them to CO_2. Since both of these are GHGs, there is a need to gauge the relative importance of these gases. The most significant issue with the values of the methane Global Warming Potentials (GWPs) required by Section 13-5-206 of the proposed rule and cited in the draft EIR (DEIR) is that they are inconsistent with the value of 25 used by US EPA and CARB, and neither the staff report nor the DEIR acknowledges that fact or explains why. There is also no explanation as to why the BAAQMD should have its own GWPs and effectively require a "second set of books" with regard to CO_2e calculations. 1-1

The staff report cites the IPCC's 5th Assessment Report (AR5) as the source of their methane GWPs of 34 (over a 100-year time horizon) and 86 (over a 20-year time horizon). However it fails to mention that AR5 identified a variety of metrics, including GWPs and other metrics such as Global Temperature Potential (GTP),[2] and their own summary of GHG impacts by sector[3] evaluated weightings for methane that were as low as 4.3.[4]

[2] Chapter 8 of AR5 identifies (p. 712) that "by accounting for the climate sensitivity and the exchange of heat between the atmosphere and the ocean, the GTP includes physical processes that the GWP does not".
[3] Myhre, G., D. Shindell, F.-M. Bréon, W. Collins, J. Fuglestvedt, J. Huang, D. Koch, J.-F. Lamarque, D. Lee, B. Mendoza, T. Nakajima, A. Robock, G. Stephens, T. Takemura and H. Zhang, 2013: Anthropogenic and Natural Radiative Forcing. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. pp. 719-720.
[4] Myhre, G., D. Shindell, F.-M. Bréon, W. Collins, J. Fuglestvedt, J. Huang, D. Koch, J.-F. Lamarque, D. Lee, B. Mendoza, T. Nakajima, A. Robock, G. Stephens, T. Takemura and H. Zhang, 2013: Anthropogenic and Natural Radiative Forcing Supplementary Material. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Available from www.climatechange2013.org and www.ipcc.ch. pp. 8SM-39 and 8SM-41.

Rather than specifying relative methane weightings of 34 and 86 as implied by District staff, AR5 concluded that,

> *"Various metrics can be used to compare the contributions to climate change of emissions of different substances. The most appropriate metric and time horizon will depend on which aspects of climate change are considered most important to a particular application. No single metric can accurately compare all consequences of different emissions, and all have limitations and uncertainties."*[5]

The District's Staff Report also explains that, *"Unless otherwise stated, this report uses the 20-year global warming potential (GWP) of 86 when calculating the carbon dioxide equivalent of methane emissions since the emission reduction actions being considered are within that time frame."*[6] However, this reflects a fundamental misunderstanding of what IPCC means by the phrase "time horizon". The "time horizon" is not intended to refer to the timeframe over which actions are being considered, but instead is reflective of the atmospheric lifetime of methane being approximately five times shorter than that of CO_2.

Accordingly, most if not all state, national and global policies (including the Paris Agreement) to address GHGs over the next 20 years are not using the 20-year time horizon GWPs either.

1-1 cont.

Tradeoffs, and Errors in Staff's Analyses

For the refineries that the District anticipates will need to install flares, staff have presented that the proposed rule would create a 1.0% decrease in their GHG in exchange for a 1.3% increase in affected facility total NO_x.[7] However, the tradeoff will be much worse than that, because staff's analysis is erroneously based on the assumption that rule compliance will only require two flares that:

(1) are handling a vent stream that is consistently approximately 95% hydrogen, 4% methane, and 1% natural gas (even though they have been informed otherwise), and therefore will require zero assist gas to boost the heat content;[8]

1-2

[5] IPCC, 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. p. 17.
[6] Staff Report, p. 1, footnote 2.
[7] "Proposed Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plant", presentation given by Victor Douglas at the BAAQMD Stationary Source Committee's February 22, 2022 meeting, slide 11.
[8] DEIR, p. 1-8.

(2) only require consumption of an additional 2.7 million cubic feet of natural gas per year[9] for flare pilots (based on two pilots per flare), whereas (a) modern flare designs likely require 3 or 4 pilots per flare, and (b) EPA's Air Pollution Control Cost Manual estimates an additional 7.9 million cubic feet of natural gas demand for purge gas.[10]

1-2 cont.

With regard to the first assumption, the primary issue is that some hydrogen vent configurations can have substantially different composition and flow, especially during certain startup and shutdown procedures and emergencies, that is they are not always the idealized composition that the District has assumed. With regard to the second assumption, it appears that the District simply neglected the gas demand associated with purge gas, as there is no discussion of purge gas in the body of the analysis.

The District's cost analysis (Appendix C to the staff report) is flawed, for reasons that include and are not limited to the following:

- For the flares, the District annualized capital costs across 20 years simply by dividing by 20. This is not the correct calculation for annualizing capital costs, and substantially underestimates annualized cost in dollars per year and dollars per ton. There are well-known formulas for annualizing costs using a Capital Recovery Factor (CRF) that the District has used previously but has not used here.

- For monitoring costs, the conclusion that "*potential cost for all hydrogen [plants] to comply with emissions monitoring requirements in Section 500 of Rule 13-5 is estimated from approximately $3,540,000 to $5,162,000*" appears to result from adding up the values in the columns in Table 2, without regard to which of these values were capital costs and which were annual costs.

- For monitoring, the District cites EPA's flare cost calculation spreadsheet, but appears to have simply taken vendor capital costs (without the associated costs for sampling systems, air-conditioned placements, etc.), and assumed zero or negligible operating and maintenance costs associated with these complex analyzers; all of which is unrealistic as well as inconsistent with what the District would typically require.

[9] DEIR p. B-21 shows 1.35 mmscf/yr per flare.
[10] US EPA, "Flares", Chapter 1 of Section 3.2 to Air Pollution Control Cost Manual, August 2019, p. 1-24: for a 24" diameter flare, $(7.85 \times 10^{-4}$ kscf/hr) $\times 24^2 \approx 450$ scf/hr per flare, $\times$ 2 flares $\times$ 8760 hr/yr = 7.9 million cf. DEIR, p. B-22.

Timing and Schedule Issues

Deadlines for Control Equipment Operation

The proposed interim deadlines towards commencing operation of control equipment are problematic. The District is already proposing three years from the issuance of the Authority To Construct (ATC), which is one year less than what WSPA requested In our previous comments.

In addition, the proposed rule language effectively makes an additional constraint with regard to how that three-year period is divided up, by requiring that construction of the control equipment commence within two years following issuance of the ATC [13-5-402] and that operation commence within one year of commencing construction [13-5-403]. There is no need for the District to specify those individual steps towards the deadline. If the District is unwilling to extend its current 3-year deadline, WSPA recommends that the following underline/~~strikeout~~ change to the rule language that will result in the same overall operational deadline:

Delete Section 13-5-401.2 and revise Section 13-5-401.3 to be:

> *"Within ~~one year~~ three years of ~~commencing construction of the control device~~ receiving an Authority to Construct…".*

A similar change should be made to Section 13-5-405.2 and 405.3 for the alternative option.

Deadline for Monitoring

The proposed deadline to meet monitoring requirements within one year of rule adoption does not appear to be feasible nor are the requirements clear, as detailed later in this letter and in previous WSPA comment submittals.

WSPA appreciates the proposed rule's recognition that sampling points may need to be installed at a turnaround, but the current language (in several sections) that reads *"By the next turnaround and no later than five years…"* means that a refinery undergoing a turnaround one month after rule adoption would be required to get that work done in a very short timeframe.

As we explained previously, given the extent of work that needs to be conducted during a turnaround and the associated planning, scopes of work for turnarounds are typically set more than one year in advance of the actual turnaround date (with planning having started well before this time).

To recognize this fact, WSPA is proposing that the abovementioned language (which occurs in 13-5-501.4, -502.5, and -504.4) be changed (shown in underline format),

> "By the next turnaround (if the next turnaround is at least two years away from rule adoption) and no later than five years…"

Unfortunately, the proposed rule language does not recognize the same limitations with regard to actual monitoring activities occurring at or around those points. The current language of 13-5-501, -504, and -505 sets deadlines to have monitors installed and operational just one year from rule adoption. This is not feasible for new monitoring systems.

A refinery's installation of a continuous emissions monitoring system for even a typical application where ports and sampling platforms (and associated ladders, etc.) exist requires multiple steps, including:

a. Understanding the requisite analytical specifications (which are not specified in the rule);

b. Engineering evaluations of monitoring system options/compatibility with regard to both those specifications and the specific sources they are being applied to. This includes not just the analyzer itself but also assessing and mitigating the potential for fire hazards (which would be applicable to high hydrogen-content vents), permanent support structures for periodic access to high hazard areas, the potential need for electrically heated sampling lines (for high-moisture vents), sampling line permeability (which may be more of an issue for hydrogen than traditional exhausts), potential need for temperature-controlled sheds and determination of what the associated specifications would need to be for those and where there is space to locate them, gas calibration systems/gas cylinder racks, specifications for sampling line tie-down points and length specifications, etc.;

c. Management of Change reviews and critical safety plan development;

d. Proposals to District staff for evaluation for each specific monitoring location;

e. District staff's approval or disapproval;

f. Once approval has been received, ordering the analyzers and associated equipment (and waiting for delivery, which is typically several weeks and has sometimes been several months) and coordinating with other refinery staff with regard to electronic data handling systems, calibration systems and gases (and for the target gases here, the gas

quality specifications may be unknown or not available), access, safeguards, etc.;

g. Installation of all the relevant equipment mentioned above;

h. Personnel training; and

i. Testing/verification of the monitoring system.

This is not feasible to do within one year. It is not clear what would be a feasible timeframe, given that the precise requirements and specifications are not even clear (as discussed later in this comment letter).

The timing requirement for monitoring conflicts with the timing for control device installation. The District has repeatedly identified that monitors are not required for vents that get controlled (e.g., flared/combusted), but the proposed rule's deadline for monitors to be operational precedes the date by which such vents could get controlled.

It does not make sense to expend exorbitant time, effort, and capital to specify and install a vent monitor to then have it become pointless a few years later when that vent is controlled. WSPA appreciates the text in the District's cost analysis that identifies that "*the cost to install atmospheric monitoring equipment can be avoided if a facility can demonstrate that atmospheric vents can no longer vent to atmosphere after the vent control technology is installed and operational*,"[11] but that language needs to be in the rule itself, and in the body of the staff report.

Reporting Deadlines

As mentioned in our July 2021 comment letter, exceedances typically cannot be identified within three business days of the beginning of the occurrence as required by Section 402.1. Compliance methods include lab work and analyses that routinely require more time than three business days. WSPA recommends the rule be consistent with current Title V deviation reporting requirements which require reporting within 10 days of discovery.

A meaningful root cause analysis of an exceedance cannot be completed in 10 days as identified in Section 402.2. WSPA recommends 60 days after the end of the month of the event, which is consistent with the timeline for reporting a "reportable flaring event" in Regulation 12, Rule 12. The following revisions (in underline/strikeout format) are

[11] Appendix C to Staff Report, p. 6.

recommended in order to be consistent with other BAAQMD reporting requirements and to support good quality cause information.

13-5-402 **Reporting Requirements for Total Organic Compounds Vented from Industrial Hydrogen Plants:** Should an existing industrial hydrogen plant with a fully operational TOC control device vent TOC from atmospheric vents in excess of the standards required by Section 13-5-301, the owner and/or operator shall do the following:

402.1 Notify the APCO of the venting occurrence within ~~*seventy-two hours*~~ *ten days* of the beginning of the occurrence if the TOC emissions exceed limits in Section 13- 5-301.

402.2 If notification to the APCO is required pursuant to Section 13-5-402.1, the owner and/or operator shall report the following information to the APCO: the cause of the occurrence; the date and time of the occurrence; data for the duration of the occurrence; the make, model and type of control device; the operating parameters of the control device including temperature, pressure, flow rate, and concentrations of each constituent in the gaseous stream; and the mass emissions for each constituent in the gaseous stream including TOC. The report is due *within* ~~*ten business*~~ *60 days after the end of the month of the beginning of the occurrence* of the TOC gas venting occurrence.

Clarity in General

Although changes to the rule language initially appeared to have addressed some of our earlier comments, there are multiple instances in which the rule language change made interpretation more ambiguous, while the staff report identifies that the interpretation has not changed at all.

WSPA believes that important details in rule applicability and implementation should be in the rule itself. We disagree with the staff report's one-sentence assertion that the proposed rule meets the statutory requirement for clarity and that "*its meaning can be easily understood by the persons directly affected by it*"[12]. There is no support for this statement and we have provided ample evidence to the contrary as noted in our previous comments regarding draft versions of the rule. We reiterate many of those same comments below.

[12] BAAQMD Staff Report, p. 40.

Clarity with Regard to Applicability/Definition of "Atmospheric Vent"

The proposed language "*including, but not limited to*" in the proposed definition of "Industrial Hydrogen Plant" [Section 13-5-208] is ambiguous as to what the definition is limited to. The terms "hydrogen distribution system" and "hydrogen delivery system" in that definition are not defined.

Based on how these terms are typically used, conversations with the refineries and the District, and the analyses conducted by staff, it is WSPA's understanding that the District is seeking to apply common industry definitions of those terms and that the applicability of the rule stops at the point that the hydrogen reaches process unit consumers. This should be stated explicitly in the staff report.

The proposed definition of "Atmospheric Vent" [Section 13-5-202] removes the draft language "*after being routed to a control device or a gas recovery device*". Our understanding from discussions with staff both before and after the currently proposed rule was issued is that this was to address that it is not possible to monitor emissions downstream of a combustion device such as a flare and that it is unlikely to demonstrate compliance with the proposed 13-5-301 standard (as required by Title V regulations) if the vent is redirected to a combustion device or gas recovery device.

We understood that staff intended to *exclude* such streams from the definition of "atmospheric vent". However, nothing in the rule states this. Page 18 of the staff report identifies that "*Atmospheric vents include openings where gas streams are discharged directly to the atmosphere or are discharged to the atmosphere after being routed to a control device or a gas recovery device*." [underline added] We request the staff report be clarified with language to say "*exclude*" instead of "*include*", and this clarification should also be made in the rule itself.

Clarity Regarding "Comingling and Dilution"

The proposed language prohibiting comingling and dilution [Section 13-5-302] needs clarification. We understand the District's intent to disallow stream dilution so that the concentration falls below the level identified in Section 13-5-301, however there may be a need to comingle some streams for purposes of control. This is reflected in the District's own cost analysis. WSPA proposes that the language of Section 13-5-302 be rephrased to,

> *"Any atmospheric vent that is in service prior to the adoption of this rule cannot comply with the concentration standard set forth in Section 13-5-301 solely through dilution and/or comingling."*

Clarity in Monitoring/Testing Requirements

The proposed rule does not contain sufficient clarity to understand what monitoring/testing the rule is requiring, and one year is not sufficient time for almost any monitor installation.

The District's cost analysis indicates that at least in some cases, staff's interpretation may be that existing process or parametric monitoring systems or modeling are sufficient to meet the rule requirements.[13] However, this is not explicitly stated or confirmed either in the rule or staff report.

Typically, rules distinguish between monitoring (with continuous monitors or periodic grab sampling, for example) and testing (e.g., "stack testing" with a contractor crew). Several of the monitoring requirements identified in Section 13-5-500 are on a daily basis; however, the only monitoring procedures specified in Section 13-5-600 are stack testing procedures. And, in some cases, it is not feasible to stack test on a daily basis.

While the proposed rule does allow for alternative methods, it does not specify a single alternative that is feasible on a daily basis. In addition, for the stack testing procedures, WSPA has already identified technical issues in one of our previous comment letters[14] that have not yet been addressed by staff.

Previous drafts of this rule[15] identified <u>continuous</u> monitoring, which WSPA identified as not technically feasible in several instances.14**Error! Bookmark not defined.**,16 For vents subject to control requirements, staff changed the rule language to identify "*monitor[ing] on a daily basis" [13-5-501.1, and -502.1]* but page 21 of the staff report identifies that for 13-5-501 staff is interpreting this as being "continuous", as does the cost analysis in Appendix C to the staff report.

In addition, the requisite specifications have not been identified, nor are there existing standard environmental regulatory requirements for these types of streams (high hydrogen levels). For environmental compliance, these are non-traditional monitors. In some cases the District has taken years to develop their specifications for non-traditional monitors (e.g., fenceline monitors for H_2S).

[13] Appendix C to Staff Report, page 6.
[14] Kevin Buchan (WSPA), letter to William Saltz (BAAQMD) "Re: WSPA Comments on Proposed Regulation 13, Rule 5: Petroleum Refinery Hydrogen Plants", October 19, 2020.
[15] September 2020 draft.
[16] Kevin Buchan (WSPA), letter to Jacob Finkle (BAAQMD) "Re: WSPA Comments to Draft Regulation 13 Rule 5: Petroleum Refinery Hydrogen Plants", July 30, 2021.

Although the proposed rule language identifies monitoring for "TOC", "TOC" is not a specific compound. It is a class of compounds, and accordingly there are no true precise "TOC" monitors, just monitors that approximate.[17]

Section 13-5-501.3 requires that methane be tracked separate from the other organic compound emissions, which could be interpreted as another requirement. The staff report also identifies "*continuous recording of data of gas composition*", which is also another requirement depending on how the District is interpreting the phrase "*gas composition*".

To the extent that the District is interested in quality assurance of the monitors, WSPA is not aware of any continuous analyzer whose results have been shown to match results from the SCAQMD stack testing Method 25.3 that is identified in the proposed Section 13-5-600. Process GC analyzers are installed at some existing PSA systems for process purposes, but the regulatory requirements being proposed by the District and their associated feasibility are completely unknown. The District needs to clarify these.

Alternatively, if the proposed requirement for "continuous" monitoring is referring to daily grab samples, we would welcome that clarification. We appreciate the rule's allowance of alternative approved methods, as source sampling often requires technical adjustments. However at least one acceptable sampling and analytical method needs to be identified, and currently the only methods identified are stack sampling methods.

At least one WSPA member company has previously requested ASTM D7833 for analysis, but the District has not identified this in the method. As noted previously in this comment letter, it is not feasible to monitor downstream of flares and the purpose of conducting detailed monitoring upstream of flares or inside closed loops is not clear.

Alternatives subject to the monitoring requirements of 13-5-502 are required to also conduct daily monitoring for GHGs. Like TOC, GHG is a category; there is no method that can be used to monitor all GHGs as defined in Section 13-5-207. WSPA's understanding is that the relevant GHGs for this particular source category and rule are CO_2 and methane. If this is the case, then we request the District specify so.

[17] As identified in EPA's Performance Specification 8 for VOC CEMS, "In most emission circumstances, most VOC monitors can provide only a relative measure of the total mass or volume concentration of a mixture of organic gases, rather than an accurate quantification" [§1.2.2]. That paragraph continues on to state that "This problem is removed when an emission standard is based on a total VOC measurement as obtained with a particular detection principle"; however, as has been discussed in EPA stakeholder calls regarding Methods 18, 25A, and 320, this is also not true, given that even for a given detection principle, different analyzers do not necessarily respond to different hydrocarbons in the same way (i.e., they have different response factors).

For deaerator, CO_2, and PSA vents (vents that are not subject to control requirements), the District has specified quarterly monitoring in Sections 13-5-504.2 and 13-5-505. While it is technically possible to conduct stack testing quarterly, it is not advisable. Local source testing resources are already stretched thin, the District is over a year behind in reviewing source test reports, and the test frequency for the largest sources in the District are typically only annual or semiannual at most. Again, it is not clear what the rule is requiring. If the District's intent is that this requirement could be complied with using quarterly spot sampling that can be done by refinery personnel using sampling bags or pressurized cylinders (or quarterly summation of continuous monitoring), that is a different type of requirement from source testing.

Moreover, our understanding from previous discussions was that the District was allowing this for the high-purity PSA vents instead of the monitoring requirements for atmospheric vents, not in addition to them. However, the Section 13-5-505 to include (in underline),

> *"…All records shall be retained for a minimum of five years and shall be submitted to the APCO upon request as alternative to complying with Section 13-5-501".*

The rule requirements for CO_2 Strippers and Deaerators appears to be in conflict with the Health & Safety Code 40727(b)(1) in that the necessity for monitoring equipment and high frequency source testing has not been developed. While WSPA understands that District staff are interested in collecting more information to characterize emissions from the exempt vents covered by Section 13-5-504, we propose staff collect that data via a survey and not as part of an ongoing monitoring requirement in the rule. This survey could be coordinated with WSPA and be due one year after the adoption of the regulation and based on a few data points for each Hydrogen Plant.

Alternative Plans/Reductions from Other Sources

WSPA appreciates that the proposed rule incorporates provisions for an Alternative Compliance Plan, but it is unclear why the scope of such a plan needs to be limited to the hydrogen plants. If a refinery were to develop a plan which achieves equivalent reductions from some other part of the plant or even offsite (i.e., generating reductions outside the Cap-and-Trade program sources), it would seem this should be allowed. H&SC §40001(d)(2) states that,

> *"A district shall allow the implementation of alternative methods of emission reduction, emissions monitoring, or recordkeeping if a facility demonstrates to the satisfaction of the district that those alternative methods will provide equivalent performance. Any alternative method of emission reduction emissions monitoring, or recordkeeping proposed by the facility shall not violate other provisions of law."*

We recommend the proposed rule allow for this.

Allowance for Control Device Maintenance

The District's analysis of the rule appears to reflect the venting of multiple hydrogen plants at a refinery to a common flare. However, it is not feasible to shut down all of those hydrogen plants at once to do preventive maintenance on the flare. Therefore, the control requirements need to incorporate an allowance for such preventive maintenance to be done for a short period of time (e.g., over the course of a 5-year period) while the other hydrogen plants continue to operate.

The Proposed Regulation 13-5 Violates California Law

The District's proposed rule contains numerous technical errors and deficiencies. These failings render the proposed rule contrary to California law and invalid for several distinct reasons. The California Health & Safety Code (H&S Code) imposes several substantive requirements on the District when it engages in rulemaking. Among other things, the District "shall" make findings and assure that rules meet the following criteria: "necessity, authority, clarity, consistency, nonduplication, and reference." H&S Code § 40727 (italics added).) The District also "shall consider . . . the cost effectiveness of a control measure." H&S Code § 40703.

These are mandatory requirements that the District must comply with when adopting any regulation. The District must satisfy each of these requirements with substantial evidence in the administrative record which, for the reasons explained above, it has failed to do so. Among other things, the District has not justified the necessity of the methane emissions reductions at these facilities that are within the Cap and Trade program, or the costs associated with those emissions reductions and the monitoring of numerous de minimis vents. The District has not complied with the need for clarity in its rulemaking. These and other failings run afoul of the H&S Code.

The District's decisions also must be fair and reasoned. When the District's actions are "arbitrary, capricious, entirely lacking in evidentiary support, unlawful, or procedurally unfair," California courts must set them aside. On the whole, the District's proposed Regulation 13-5 fails this test. The proposal would impose new requirements with no technical justification and no basis in the administrative record. For example,

- As stated above, the BAAQMD proposed regulation is an example of what the IPCC identified as a "problematic"/"ineffective" rule in which localized decreases would be offset by increases at Cap-and-Trade facilities elsewhere in the state, and the rule will

cause some increased GHG for the sources outside the Cap-and-Trade program (i.e., construction emissions).

- The magnitude of the emissions does not justify the rule. Not only are the emissions small in BAAQMD's inventory, they meet CARB's definition of de minimis in the refineries' own individual GHG inventories.

- The requirements are unclear. For example, although the District changed the wording for the monitoring requirements from "continuous" to "monitor[ing] on a daily basis", [13-5-501.1, and -502.1], the Staff Report defines the daily basis as "continuous". This language is not clear and as stated in our previous comments, requiring continuous monitoring of all atmospheric vents is unreasonable and the proposed rule does not contain an adequate basis for such frequent monitoring.

- Additionally, it appears the District did not account for the need for assist gas (for when the vent composition is not as described by the District) or purge gas, and may have underestimated pilot gas.

These are just a few examples of the issues identified above, and yet they highlight the arbitrary and capricious nature of the District's proposed Regulation 13-5.

The proposed amendments also violate the California Environmental quality Act (CEQA). CEQA requires all public agencies to conduct an environmental review of any "project" they carry out. (Pub. Res. Code § 21080.) A "project" is an "activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (Pub. Res. Code, § 21065.) CEQA "projects" include an agency's adoption of a rule or regulation, including those aimed at environmental protection.

Note that the objectives of the proposed rule are identified in the EIR. Yet, the rule does not meet those objectives.

The objectives of Proposed Regulation 13-5 are to:

- Reduce emissions of GHGs, as well as other organic compounds, associated with operation of industrial hydrogen plants.

- Assist the Air District in meeting its policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030

Here, WSPA has noted numerous environmental impacts arising from the proposed requirements, including increased energy use, and therefore conflicts with California's GHG reduction plans and fails the first objective above.

The second objective will also not be met due to the increased energy use for control measures and the related GHGs, and also due to the IPCC problematic/ineffective rule critique discussed above. The impacts of the rule on Bay Area refinery methane emissions are going to be offset by impacts from other sources in the Cap-and-Trade program, and the proposed rule would not result in GHG reductions statewide or globally. Again, the District's proposed rule would not comply with California's statewide GHG reductions which is a violation of CEQA.

The District has not adequately evaluated these and other impacts, has not discussed mitigation of these impacts, has created a scenario where GHGs will likely be increased or be in conflict with statewide GHG reduction goals, and has not complied with the requirements of CEQA in proposing to amend Rule 13-5.

We are disappointed that the District continues to pursue this rule on sources already included in the Cap-and-Trade program that are also classified as de minimis GHG sources by the state's Mandatory Reporting Rule for GHG. We are also disappointed that as identified above, several of our expressed concerns made in our 2020 and 2021 comments have yet to be addressed.

For the reasons stated above, WSPA recommends that the District not proceed with the rule as drafted. The District should amend the rule to be consistent with the law as stated in this comment letter.

We look forward to staff's response to our comments prior the April 2022 Board hearing where rule adoption will be considered.

Sincerely,

Kevin Buchan

Enclosure Appendix A: Other Detailed Comments

Western States Petroleum Association 1320 Willow Pass Road, Suite 600, Concord, CA 94520 925.266.4083 Kevin@wspa.org

Appendix A. Other Detailed Comments

1. The proposed regulation defines "Organic Compound" [Section 13-5-209] as in Regulation 1—i.e., "Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic and metallic carbides or carbonates and ammonium carbonate"—and "Total Organic Compound (TOC)" as "Any organic compound or mixture of organic compounds, including methane" [13-5-212].

   The 13-5-212 definition leaves the classification of CO, CO_2, and carbides/carbonates ambiguous. WSPA does not believe that these are considered TOC and our understanding is that District staff does not believe that either. Accordingly, for clarity, please change the definition language in 13-5-212 to define TOC as "The sum of methane and organic compounds as defined in Section 13-5-209."

   Additionally, some confusion might also be alleviated if the District would use the term "Organic Compound" in a manner that is more similar to standard chemical classifications—i.e., methane is generally considered an organic compound, and CO, CO_2, and carbides/carbonates are not—and use the phrase "Nonmethane Organic Compound" (or "Nonmethane Organic Gas") to refer to the instances when the District is referring to organic compounds less methane. These NMOC and NMOG acronyms are more readily recognizable, having been commonly used in both published scientific literature and by both US EPA and CARB.

2. In Table 3.2-2, the District tabulates 2019 data for "existing conditions". It's 2022; the District should be able to show 2020 data.

3. WSPA agrees with the reasoning of the personnel who prepared the EIR with regard to how to calculate emissions from hydrogen plant flares in Section 3.2.4.2.1 and 3.2.4.3 of the EIR--i.e., using AP-42 factors for criteria pollutants when pilot gas (natural gas) is combusted, and that there is essentially no SOx and no PM and no generated TAC when vent gas is being combusted--but also understands that for existing hydrogen plant flares, District engineering staff have been insisting on calculating emissions in the same way as non-hydrogen plant flares[18] (and have also been charging exorbitant fees based on this method). The EIR needs to explain this discrepancy in reasoning: i.e., WSPA does not feel that it is appropriate for the District to represent one thing in its own EIR and then force refineries to identify and use a much different number when reporting the same emissions. 1-3

[18] BAAQMD Engineering Division, "Flare Methodology and default emission factors 5-27-2020" spreadsheet

4. Table 3.3-1 on page 3.3-4 of the DEIR identifies that the values shown are "taken from the IPCC 5th Assessment Report (AR5), with the exception of black carbon", yet fails to identify the fact that IPCC identified several values—including, notably, GTP values—and that IPCC did not recommend the values identified by the District: i.e., the District's values are not consistent with the values shown in the table of metrics at the end of the relevant chapter of AR5 (Chapter 8) – i.e., the values in Appendix 8.A, Table 8.A.1.[19] Please identify specifically the source of the District's values, and explain why the District did not use either (a) values consistent with other state and Federal regulations (and the state's inventory numbers that are cited below Table 3.3-1) or (b) values that were summarized by IPCC in Table 8.A.1. 1-4

5. Page 3.4-8 of the DEIR identifies that the District's estimate of 77 scf per hour per pilot light was "based on a review of fuel use reported to the Air District by other similar facilities" while page B-21 labels it as an "Estimate from manufacturer" and relabeled it as "Purge/Pilot Gas Consumption". The DEIR discusses the need for pilot gas on page 3.3-18 but has no similar discussion of the need for purge gas. Is there any reason that the District did not follow the procedures for evaluating flares that are laid out in US EPA's Air Pollution Control Cost Manual? Those procedures identify approximately 450 scf/hr for purge gas.[20] In addition, although that guidance does identify two pilots for a 24" diameter flare, WSPA's understanding is that modern-day flare designs are much more likely to have 3 or 4 pilots each. 1-5

6. The District's EIR emissions analysis is based on "AP-42 emissions factors for light smoking petroleum flares" and cites a URL which is no longer valid. These factors are no longer in AP-42 but the District appears to be referring to factors in EPA's Emissions Estimation Protocol for Petroleum Refineries (Version 3, April 2015), which identifies a PM emission factor of 0.027 lb/MMBtu (LHV).

   WSPA member companies who have attempted to use this PM emission factor for their own flares have been told by District engineering staff that this is deficient and a factor of 0.12 lb/MMBtu (LHV) should be used instead; within the last month, the District has identified that 0.084 lb/MMBtu could be used. 1-6

   WSPA objects to the District requiring one emission factor for emissions calculations

[19] IPCC, 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. p. 731.
[20] Ibid., p. 1-24; i.e., $(7.85 \times 10^{-4}$ kscf/hr) $\times 24^2 \approx 450$ scf/hr.

conducted by refineries and then staff using a different (lower) emission factor when calculating emissions from the District's actions for the same source type.

1-6 cont.

Comment Letter No. 1
Kevin Buchan
Western State Petroleum Association

Response No. 1-3, and 1-6

The operational emissions provided in the DEIR were calculated assuming that the flare utilized onsite is a dedicated hydrogen flare and not a refinery flare. Staff evaluated potential discrepancy raised by the commenter and determined that the flare referred to in the comment is not a dedicated hydrogen flare since the flare in question also processes refinery process gas other than vent gas from an industrial hydrogen plant.

As for the particulate matter (PM) emissions calculation, Staff has determined that the use of the PM emission factor for a lightly smoking flare was most suitable for the purpose of presenting operational emissions related to a dedicated hydrogen flare in the DEIR. In addition, the use of higher or lower emission factor will not have change the outcome of the analysis completed for the DEIR. Lastly, if the flare was determined to be a refinery flare rather than a dedicated hydrogen flare, the PM emission factor and the estimated PM emission will be different.

Response No. 1-1 and 1-4

The Air District appreciates the comment regarding inconsistent use of GWPs and clarifications are now provided in the final Staff Report. Schedule T of Air District Regulation 3: Fees sets the GWP for methane at 34. The Air District believes that this is the most appropriate GWP value to use as it will ensure internal consistency with our other climate protection programs. As noted in the submitted comments, AR5 recommends the use of 34 as the 100-year time horizon GWP for methane. In its fourth assessment report (AR4), the IPCC provided a GWP value of 25 for methane. This value is only used for the 2000-2019 emission inventory in the Staff Report for Rule 13-5. None of the clarifications made in the Staff Report regarding GWP affect the analysis or conclusions associated with this rulemaking process.

Response No. 1-2 and 1-5

Air District staff believes that supplemental gas usage due to startup and shutdown events will be negligible in comparison to the overall natural gas usage for pilot and purge gas for several reasons. First, industrial hydrogen plants generally operate in conjunction with a refinery and is a continuous process with infrequent startup and shutdowns; this is true in general of hydrogen production operations. The infrequency of start-up and shutdown was supported by historical operational data provided by one of the refineries. Second, 40 CFR Section 63.670 allows assignment of a heat content that is higher than the actual measured heat content of hydrogen based on the high combustibility and flame stability of hydrogen flames which would minimize the necessity of supplemental gas during flare operations. Third, the Air District has not received any operational data that indicate the necessity of supplemental gas during these operational scenarios.

The emissions associated with purge gas are included in the Draft EIR calculations. The purge gas rate was provided by a flare equipment manufacturer. This information was deemed most

representative of the actual pilot and purge gas rate required by a flare operation. The updated Draft EIR document include separate natural gas usage rate in addition to the combined rate to indicate that purge gas was included in the emissions calculation.

Martinez
Refining Company

3485 Pacheco Boulevard
Martinez, CA 94553

VIA EMAIL

March 10, 2022

Victor Douglas
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
VDouglas@baaqmd.gov

Subject: Martinez Refining Company Comments on January 2022 Proposed Regulation 13 Rule 5 for Industrial Refinery Hydrogen Plants

Dear Mr. Douglas:

The Martinez Refining Company LLC (MRC) appreciates the opportunity to provide the following comments on the Bay Area Air Quality Management District (BAAQMD) proposed Regulation 13 Rule 5 for Petroleum Refinery Hydrogen Plants (Proposed Rule) issued on January 24, 2022. Separate comments are being submitted by the Western States Petroleum Association (WSPA), which MRC supports and incorporates by reference.

While MRC supports the overall goal of reducing emissions, MRC continues to have significant concerns regarding the clarity, necessity, and feasibility of the Proposed Rule, as currently written. The following are some of the significant concerns MRC has regarding the Proposed Rule and the changes MRC believes that are required for BAAQMD to meet its statutory obligations in adopting the Proposed Rule. More information on these significant concerns are provided in Attachment A of this letter:

(1) The Proposed Rule should allow for "other GHG reductions" outside of hydrogen plants and beyond the 20 percent limitation in the alternative compliance option, .

(2) The intermediate construction deadline of one year should be removed as it is unreasonable and unachievable considering the construction needed to install the selected control technology, particularly in the case of MRC's Refinery, which has three separate hydrogen plants.

(3) The deadline for installing monitors should be the same as the deadline to meet the Proposed Rule's emission standards. The earlier deadline is both unnecessary and unachievable when considering the overall schedule for designing, engineering,

procuring, constructing, installing, and testing monitoring systems and the needed infrastructure.

(4) The Proposed Rule must provide the appropriate maintenance exemptions when the selected control technology is undergoing required maintenance.

Additional comments on the Proposed Rule are provided in Attachment A of this letter. Comments on the Draft Environmental Impact Report (DEIR) and Staff Report that support the Proposed Rule are included in Attachment B of this letter.

MRC has also submitted to the BAAQMD other comment letters on the numerous prior versions of the Proposed Rule, which are all incorporated by reference in this letter. These prior written and verbal comments, as summarized in Attachment C, along with the comments in this letter must be considered and addressed before the BAAQMD continues with its current rulemaking process and adoption of the Proposed Rule. BAAQMD has not yet provided responses or clarification on many of the MRC's prior comments.

In closing, MRC would like to continue to work with BAAQMD staff to develop a rule that is clear, technologically feasible, cost-effective, and meets the overall goal of reducing emissions.

Please note that in submitting this letter, MRC reserves the right to supplement its comments as it deems necessary, especially if additional or different information is made available to the public during the Proposed Rule rulemaking process.

Please contact Rick Shih at (925) 313-0586 or richard.shih@pbfenergy.com for any questions concerning these comments.

Sincerely,

Ann Vorderbrueggen
Manager, Environmental Affairs
Martinez Refining Company

Attachments (3)

Appendix A:

MRC Comments on Proposed Rule 13-5

Appendix A
MRC Comments on Proposed Rule 13-5

SUMMARY OF MRC's KEY COMMENTS

While MRC supports the overall goal of reducing emissions, MRC continues to have significant concerns regarding the clarity, necessity, and feasibility of Proposed Rule 13-5. While MRC appreciates BAAQMD including an alternative compliance option in the Proposed Rule, the alternative is significantly different than MRC previously proposed to BAAQMD, and in its current form, is unachievable as a compliance option. The following high-level comments identify the significant deficiencies with the Proposed Rule. More information, including additional comments, are presented in the "Detailed Comments" section further below.

(1) **The Proposed Rule should expand the boundaries to allow for "other GHG reductions" in the alternative compliance option**. In its current form, MRC is unable to utilize the alternative compliance option in the Proposed Rule due to its limited application. To remedy this deficiency, the BAAQMD must allow emission reductions from outside the hydrogen plant boundaries at the Refinery and remove the 20 percent limitation for reductions from other sources.

(2) **The intermediate construction deadline of one year is unachievable and should be removed from the Proposed Rule.** As already discussed in previous comment letters, the Proposed Rule must recognize and provide sufficient time for regulated entities to execute technologically feasible and cost-effective control technologies to comply with achievable emission standards. In particular, the intermediate construction deadline is unachievable and is unnecessary to meet the overall schedule between receiving the authority to construct from BAAQMD and start of operation of the selected control technology.

(3) **The deadline for monitor installation in the Proposed Rule under Section 13-5-501 and Section 13-5-502 should be the same as the deadline to meet the emissions standards.**: As already discussed in previous comment letters, the deadline to install monitors is infeasible and instead should coincide with achievable emissions standards coming into effect, which as currently proposed, may be six years from when the rule is adopted. As currently written, the Proposed Rule would require installing monitors during the first year after rule adoption, which would serve no compliance purpose until emission reduction measures are in place for facilities that need to implement control measures. Accordingly, the Proposed Rule should be revised so the monitors are required when the emission reduction measures are operational per Section 13-5-401 or 13-5-405.

(4) **The Proposed Rule must provide appropriate maintenance exemptions when selected control technology is undergoing maintenance**: As already discussed in previous comment letters, considering the selected control technology will require periodic maintenance to ensure it operates safely and reliably, the rule most provide the appropriate exemption from rule compliance when the equipment is undergoing

Appendix A
MRC Comments on Proposed Rule 13-5

maintenance. Without such exemptions, as noted above, continuously meeting the emission standards currently specified in Section 13-5-301 of the Proposed Rule would be infeasible

MRC's DETAILED COMMENTS

The following are detailed comments related to the above comments and additional comments regarding the Proposed Rule. These comments identify the changes required to make the Proposed Rule technically feasible and cost-effective.

1. **Alternative Compliance Option (Section 13-5-303)**
    a. **The Proposed Rule should expand the boundaries to allow for "other GHG reductions."** Section 13-5-303 of the Proposed Rule allows up to 20 percent of the required 90 percent emission reduction under the alternative compliance option to come from "other GHG reductions from vents at the industrial hydrogen plant." While MRC appreciates BAAQMD including an alternative compliance option in the Proposed Rule, as currently written, it is too restrictive and inflexible to be considered a viable compliance option. In fact, BAAQMD's Staff Report notes that MRC and Valero have been evaluating an approach that would not require a new dedicated hydrogen flare (and a flare would be the likely selected control technology without a viable alternative compliance option). The report acknowledges that the approach being studied by MRC and Valero would not meet the requirement of the alternative option in the Proposed Rule. Therefore, it is unlikely any facility can actually utilize the alternative approach.

    The Proposed Rule should be revised to allow emission reductions from outside the hydrogen plant boundaries and to allow more than 20 percent of the required reduction to come from other sources. Such a revision still achieves the same or even greater emission reductions than under the Proposed Rule.

    MRC fails to understand the basis for the BAAQMD's restriction of the Proposed Rule's targeted emissions reduction to just the hydrogen plant's boundaries. By expanding the boundaries to include the whole facility, entities subject to the Proposed Rule can explore other emission reductions such as energy efficiency projects for other equipment at the facility.

    Also, MRC fails to see the reason for the Proposed Rule to limit the amount of "other GHG reductions" to 20 percent as long as the appropriate global warming potential (GWP) is being applied. According to the Staff Report, the Proposed Rule requires the use of a GWP of 34 for methane, which means 1 ton of methane is equivalent to 34 tons of carbon dioxide (CO_2). If the appropriate GWP factor is used, it is possible to determine how much carbon dioxide (CO_2) reduction is required to achieve equivalent reductions of methane. Therefore, by using this approach, there is no reason to restrict how much CO_2 emission reductions can be

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MRC Comments on Proposed Rule 13-5

obtained under the alternative compliance option to achieve the Proposed Rule emission reduction standards.

While MRC would prefer explicit changes to the rule to address the above concerns, to allow for consideration of the above with minimal changes to the Proposed Rule, one option BAAQMD can consider is revising Section 13-5-303 as suggested below:

> "Up to 20 percent of the methane reductions required may take the form of other GHG reductions from ~~vents~~ ~~at~~ the industrial hydrogen plant or alternate compliance reduction plan as approved by the APCO."

b. **In the Proposed Rule's alternative compliance option, compliance can be based on a longer than on year limit and still achieve the same reductions.** The alternative compliance option requires compliance with an emission limit each year. However, as can be seen in methane emissions data provide to BAAQMD by MRC on November 18, 2019, emissions vary significantly year to year (e.g., data from 2016 to 2018 shows methane emissions changed by more than 60 percent each year). This large variability is a result of several factors. For example, Refinery process units that rely on hydrogen may be shutdown for one year but not another year (planned or unplanned). When such a shutdown occurs, this results in an excess of hydrogen that will need to be vented. Because of the variability in a given year associated with hydrogen users shutting down, the Proposed Rule should account for this variability and provide flexibility in achieving the Proposed Rule's emission reduction goal over a longer period of time (multiple years)

To this point, one option to account for this variability is to impose a limit based on emissions over three years rather than one year (matching the three-year duration that is used for the baseline). This option would account for the fact that emissions can vary significantly year to year. Additionally, this option would further encourage and incentivize the use of the alternative compliance option, which reduces the dependency on a dedicated flare to control emissions, but in a way that achieves the Proposed Rule's emission reduction goals.

To further encourage the use of the alternative option, BAAQMD should also consider allowing a facility to accumulate credits when achieving greater reductions than imposed by a three-year limit. These credits accumulated when emissions are below the three-year limit can then be used in future three-year periods.

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2. **Schedule**
   a. **The Proposed Rule has unnecessarily and unreasonable intermediate deadline for installing the selected control technology considering the intermediate deadline is not needed to meet the overall schedule.** The Proposed Rule allows up to three years between receiving an authority to construct (ATC) from the BAAQMD and the start of operation of the selected control technology. In particular, the staff report says, "*emission limits will go into effect no later than three years after the Air District permits are issued as required by section 13-5-401 and 13-5-405. This timeline allows facilities to undertake all necessary construction and permitting actions necessary to control emissions as required by the Rule.*" However, the rule has an unnecessarily intermediate construction deadline that states the operation of the selected control technology must begin within one-year of the start of construction. This one-year construction deadline would NOT allow "facilities to undertake all necessary construction." It is infeasible to complete such work within one year once any construction related work starts. In the case of MRC, this is further compounded by the fact there are three Air Products (AP) hydrogen plants at its Refinery that will have differing project schedules to comply with the Proposed Rule as all three plants cannot be shut down at the same time. As requested in WPSA's letter dated July 30, 2021, BAAQMD should remove the intermediate construction deadline in the Proposed Rule. Such a revision would still preserve the overall schedule currently built into the Proposed Rule between starting operations and receiving the requisite permit from the BAAQMD, but provide flexibility for project design, engineering, permitting, procuring, construction, and start of operation during those years.

      To provide for the appropriate schedule flexibility as noted above, the BAAQMD should consider revising Section 13-5-401 of the Proposed Rule (with a similar change to Section 13-5-405) as follows:

      > *"401.2 Upon receiving an Authority to Construct from the Air District, the owner and/or operator of an industrial hydrogen plant shall ~~commence construction of~~ operate the control device ~~during the next scheduled turnaround; however, such construction shall begin~~ no later than ~~two~~ three years following the issuance of the Authority to Construct.*
      > *~~401.3 Within one year of commencing construction of the control device, the owner and/or operator of an industrial hydrogen plant shall commence operation of the control device to comply with Section 13-5-301 requirements."~~*

   b. **The Proposed Rule has unreasonable schedule to install monitors under Section 13-5-501.** Section 13-5-501 requires analyzers (daily monitoring), flow meters, temperature, and pressure sensors be installed within one-year of the rule

adopted for facilities complying with Section 13-5-301. As has been stated in prior MRC comment letters dated October, 19 2020 and July 30, 2021, it is infeasible to install the required monitors within one year of the rule becoming effective, particularly for a facility such as MRC's Refinery as it has three AP hydrogen plants that would have differing project schedules to comply with the Proposed Rule and cannot be shutdown at the same time. In addition to needing three turnarounds, designing, engineering, procuring, installing, and testing all required monitoring equipment within the one-year period as currently required by the Proposed Rule is infeasible. In some cases, support structures will need to be designed and installed to allow access to monitors during the installation and periodically for maintenance. Such a short duration to install monitoring equipment has been recently demonstrated to be infeasible at MRC in the context of its installation of monitoring equipment on the Refinery flares.

Most importantly, there is no need to have monitors in place until the emission standards in the Proposed Rule are in effect. Even under the alternative compliance option, the installation of monitors is not needed for baseline emission determination (given that baseline is based on 2016 to 2018 data). In fact, the Proposed Rule would have the unintended consequence of a facility installing monitors on all existing atmospheric vents within one year and then having those monitors serve no purpose once controls are put in place (e.g., installation of a dedicated hydrogen flare, if it is selected as the control technology, would result in routing the vents to one common header/line with one set of monitors, rending the monitors previously installed on each individual vent useless). This would be a waste of time, money, and resources, which MRC believes is not the intent of the Proposed Rule.

While MRC would prefer explicit changes to the rule to address the above concerns, BAAQMD can consider the following revision to Section 13-5-501 that would still allow for consideration of the above concerns with minimal changes to the Proposed Rule:

> *"Monitoring Requirements, General: Effective within a year from the adoption of this Rule, or as approved by the APCO, the owner and/or operator of any industrial hydrogen plant that will comply with…"*

c. **The Proposed Rule has unreasonable schedule to install flowmeters under Section 13-5-504.**

Section 13-5-504 requires installation of a flow meters on deaerator vents and carbon dioxide scrubbing vents (CO_2 vents) within 12 calendar months from the adoption of the rule. Similar to what has been stated in the above comments, designing, engineering, procuring, installing, and testing flow meters within the one-year period as currently required by the Proposed Rule is infeasible. This is

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particularly problematic considering these vents don't necessarily have good flowmeter locations and feature saturated and condensing streams. In addition, a turnaround is needed to install the flow meters. Therefore, the Proposed Rule should be revised to require installation of monitors during the first turnaround after two years of the rule being adopted.

Alternatively, to address this concern, BAAQMD can revise Section 13-5-504, which would allow consideration of the above but with minimal changes to the Proposed Rule:

> *"Monitoring Requirements, Deaerator Vents and Carbon Dioxide Scrubbing Vents: Effective within one year of the adoption of this Rule, or as approved by APCO, the owner and/or operator of any industrial hydrogen plant that operates deaerators vent or carbon dioxide scrubbing vents shall…"*

d. **The Proposed Rule does not clearly identify when monitor is needed for the alternative compliance option.** Section 13-5-502 (monitoring for alternative option) does not clearly identify when monitoring is required under the alternative compliance option. Similar to MRC's comments above for Section 13-5-501, the Proposed Rule should clearly state that monitoring for the alternative compliance option is required when Section 13-5-303 is implemented per Section 13-5-405. Alternatively, this can be addressed by adding "as approved by APCO" to Section 13-5-502 regarding the monitor installation date.

3. **Primary Emission Standard (Section 13-5-301 and 13-5-303)**
   a. **The Proposed Rule must take into account that the selected control technology needs to be taken out of service periodically for maintenance.** As stated in the MRC's October 19, 2020 and July 30, 2021 comment letters, control technologies, such as a flare, need to be taken out of service periodically for maintenance to keep them operating safely and reliably. In the case of MRC, if a dedicated hydrogen flare is required for AP's three hydrogen plants to comply with the Proposed Rule because the alternative compliance option is not a viable option, all three hydrogen plants cannot be down at the same time to perform maintenance on the flare. Typically, to maintain stable Refinery operations, only one hydrogen plant is taken down at a time, while the other two hydrogen plants remain operational. Therefore, during maintenance of a flare, venting from the remaining two hydrogen plants cannot be controlled by the flare. Since the flare would be unavailable to control emissions during flare maintenance, the Proposed Rule should include an exemption from the emission standards during such maintenance to promote safe and reliable operations.

Reiterating what was discussed in MRC's September 30, 2021 comment letter, to estimate emissions during maintenance of a flare, it is assumed that a dedicated

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hydrogen flare needs to be taken down for up to three weeks every three years for maintenance. This would represent approximately two percent of a three-year period. Thus, averaged over a three-year period, emissions from taking down a flare to conduct maintenance is estimated to represent less than two percent of methane emissions. Moreover, in the case of MRC, if a dedicated hydrogen flare is required for AP's three hydrogen plants to comply with the Proposed Rule because the alternative compliance option is not a viable option, since the flare maintenance would be scheduled during a turnaround of one of the three AP hydrogen plants, emissions during that period are expected to be even less.

Without such an exemption provision in the Proposed Rule, it would be infeasible to continuously meet the emission standards specified in Section 13-5-301.

As one option to address this concern, an exemption could be added that would allow up to 21 days for maintenance or repair over a 3-year period. Alternatively, BAAQMD can consider a provision that allows a maintenance schedule "as approved by APCO."

While the above discusses the example of a flare, such an exemption would be needed for any equipment used to comply with Section 13-5-301 and 13-5-303.

b. **Contrary to the BAAQMD's intent, as currently written, the Proposed Rule could be interpreted that all combustion devices at a facility, including flares, are subject to the Proposed Rule.** Section 13-5-301, 13-5-401, 13-4-402 currently includes language that could be interpreted as requiring the currently proposed emission limits of 300 ppm and 15 pounds per day to be met for all combustion devices, even control devices such as a flare at the facility. However, as the Proposed Rule is currently written, flares would be unable to meet these emissions limits, and therefore, could not a compliance option (contrary to what is stated in the BAAQMD's Staff Report and DEIR).

   MRC believes it is not BAAQMD's intent to eliminate flares as a potential control option. On a call between WSPA and BAAQMD on March 3, 2022, BAAQMD confirmed their intent was not to have combustion devices, including flares, be subject to the Proposed Rule. MRC suggests has a way to address this potential for misinterpretation would be to include an exemption for combustion equipment, which would include flares.

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4. **Monitoring**

   a. **The Proposed Rule appears to require monitoring of deaerator and CO_2 vents that are difficult to achieve and unnecessary (Section 13-5-502 and 13-5-504).** Section 13-5-504 requires a facility to "Install, operate, and maintain in good working order" a flowrate meter on deaerator and CO_2 vents. However, these vents don't necessarily have good flowmeter locations, and feature saturated, condensing streams or complex compositions.

   In addition, Section 13-5-502 appears to require facilities who choose to comply using the alternative compliance option (Section 13-5-303) to install concentration monitors (daily monitoring) and install temperature and pressure sensors on the CO_2 vents and deaerator vents even if these vents are not being considered for emission reduction in the alternative compliance option. However, if CO_2 and deaerator vents are not a source of emission reductions, there is no need to have additional monitors than what is already required by Section 13-5-504. In addition, even if a facility chooses to reduce emission from these vents, it is redundant to have continuous analyzers (daily monitoring) AND conduct quarterly source testing of deaerators and CO_2 vents. Accordingly, the Proposed Rule should be revised to remove these unnecessary and/or redundant requirements.

   b. **Alternative monitoring in the Proposed Rule should be allowed for other atmospheric vents.** As discussed in prior WSPA and MRC's comment letters, the Proposed Rule's requirement to install monitors on every atmospheric vent is unnecessarily and possibly infeasible on some vents, with very little environmental benefit. As is acceptable with other BAAQMD rules, a facility should be allowed to use engineering knowledge to demonstrate compliance, when other valid and technical information is available, rather than require the installation of monitors on every single atmospheric vent in the case of the Proposed Rule. For example, BAAQMD Regulation 9, Rule 10 allows up to 5 percent of the NOx emission of units at a facility subject to the rule to not have to install CEMS. For consistency, a similar provision should be incorporated into the Proposed Rule. Such a revision would not undermine the emission reduction goals of the Proposed Rule.

   In addition, the definition of the term "atmospheric vent" should be revised in the Proposed Rule to "An opening where a gas stream or gases with organics are continuously or periodically discharged during hydrogen plant operations." Such a revision is necessary to avoid the unnecessary monitoring of vents that do not contain organics.

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MRC Comments on Proposed Rule 13-5

5. **Additional Comments**
   a. **The Proposed Rule should provide an exemption from Regulation 12 Rule 12.** As described in MRC's comment letters dated October 19, 2020 and July 30, 2021, MRC requests a clear exemption from Regulation 12 Rule 12, specifically from the provisions below, when hydrogen flaring is required to meet the Proposed Rule requirements.

      - Notify each day that flaring exceeds 500,000 standard cubic feet (Section 12-12-405)
      - Conduct a root cause analysis when flaring exceeds 500,000 standard cubic feet in a day (Section 12-12-406).

      Without this exemption, these two provisions could introduce an unnecessary and duplicative reporting requirement with minimal benefits. For example, based on MRC's historical data, it's possible that more than 180 notifications and 180 root cause analyses could be needed each year without this exemption. Submitting 180 root cause analyses for flaring required to meet the Proposed Rule was not the original intent of Regulation 12 Rule 12. The BAAQMD should also consider that it would need to allocate additional BAAQMD resources to review these additional notifications and root cause analyses that provide minimal environmental benefit.

      MRC is requesting that these Regulation 12 Rule 12 requirements specifically not apply in instances where flaring exceed the Regulation 12 Rule 12 thresholds as a result of using a flare to meet the Proposed Rule's requirements. These Regulation 12 provisions would continue to apply for flaring not related to Proposed Rule compliance.

6. **MRC requests further from BAAQMD clarifications on the following Proposed Rule requirements.**
   a. **Confirm deaerators and CO2 vents need not be considered in the emission baseline if they are not the target of reductions:** MRC requests that the BAAQMD confirm the baseline emissions required under Section 13-5-403 would not include the deaerator and CO_2 vents unless a facility chooses to voluntarily reduce emissions from these vents as part of the alternate compliance option.

   b. **Confirm facilities should have until the deadline to submit an application to choose between Section 13-5-301 or 13-4-303.** MRC requests that the BAAQMD confirm that a facility subject to the Proposed Rule that chooses the alternative compliance option within six months of the rule being adopted can decide to later comply with Section 13-5-301 as long as the deadlines for Section 13-5-301 are met. For example, if a facility initially submits the initial six-month notification to BAAQMD that it plans to comply with the alternative compliance option, the

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MRC Comments on Proposed Rule 13-5

facility can choose later to instead comply with 13-5-301 if it determines the alternative compliance option is infeasible as long as the permit application for the selected control technology to meet 13-5-301 is submitted within three years of rule adoption.

c. **When does Section 13-5-402 apply?** MRC requests that BAAQMD clarify when Section 13-5-402 would specifically apply. The section currently states, "Should an existing industrial hydrogen plant with a fully operational TOC control device vent TOC from atmospheric vents in excess of the standards required by Section 13-5-301..." If atmospheric vents do not include vents from control equipment (such as a flare), then this provision should not apply. Instead, any reporting of deviation from the requirements of the Proposed Rule should be consistent with self-reporting required by Title V facilities.

Attachment B:

MRC Comments on Draft Environmental Impact Report (DEIR) and Staff Report

Attachment B
MRC Comments on the Draft Environmental Impact Report (DEIR) and Staff Report

The follow are MRC's initial comments on the BAAQMD's DEIR, Staff Report, and Socioeconomic Impacts Analysis supporting the Proposed Rule:

1. **DEIR must evaluate impacts from supplemental fuel**: Page 1-8 of the DEIR incorrectly states, "Supplemental natural gas is not anticipated based on the heating value of hydrogen." As described in MRC's DEIR comment letter dated July 30, 2021, the rule targets hydrogen vent streams from hydrogen plants with combustible concentrations that will, at times, have low-heating values that would result in poor combustion (and, at times, below levels to sustain any level of combustion). For example, where a dedicated flare is used to comply with the Proposed Rule Section 13-5-301 during start up activities, streams from hydrogen plants consisting of mostly nitrogen, but with small amounts of methane, will need to be sent to the flare. To combust these streams in a flare, supplemental fuel gas will need to be added. Although the DEIR mentions the need for pilot and purge gas, the DEIR ignores instances that low -heating value gases need to be sent to the flare. The DEIR must thoroughly analyze the combustion of supplemental fuel gas and the resulting air quality impacts of increased greenhouse gases and criteria pollutants. The DEIR must also thoroughly analyze the energy impacts associated with the increased energy usage associated supplemental fuel. 2-1

2. **The Staff Report and DEIR should clarify the difficulties of recovering hydrogen in a fuel gas recovery system.** The Staff report and DEIR describes a fuel gas recovery system as an option to capture hydrogen. However, the report and DEIR fails to consider the complexity of such a system to capture hydrogen. On a volume basis, hydrogen has a low heating value (less than a third of natural gas). The United States Environmental Protection Agency (US EPA), only for purposes of compliance demonstration of a flare under 40 CFR 63.670, allows facilities to assume an artificially high heating value not because of the actual heating value of the hydrogen but because hydrogen burns more easily, resulting in a more stable flame and better combustion. This artificially high heating value is only for a flare and only for purposes of demonstrating compliance with the federal flare rule. 2-2

   Given its significantly lower heating value, when hydrogen is recovered and used as refinery fuel gas in a furnace or heater, more hydrogen needs to be added to a typical furnace or heater on a volume basis compared to burning natural gas or refinery fuel gas. The higher hydrogen flows required needs to be considered in the design of equipment including piping, control valves, and burners. Existing burners may not be designed to handle hydrogen due the higher flows needed and other unique characteristics of hydrogen as a fuel (e.g., higher flame speed that needs to be considered in the design to avoid dangerous combustion conditions). Therefore, an existing fuel gas recovery system would be limited on how much hydrogen can be recovered and any new system would need to consider these factors in the design of not only of piping, valves, flanges, monitoring equipment, and compressors, but also the design or redesign of furnaces and heaters tied into the system.

Attachment B
MRC Comments on the Draft Environmental Impact Report (DEIR) and Staff Report

3. **Staff Report and Socioeconomic analysis use an incorrect methodology to estimate cost effectiveness and needs to be revised.** As presented in BAAQMD's Policy and Implementation Procedure for BACT (which can be applied to non-BACT cost effectiveness analysis), cost effectiveness is calculated by dividing the annualized cost of the abatement system by the reduction in emissions. As described in the procedure, the annualized cost needs to take into account capital cost, overhead, property tax, insurance, operating cost and maintenance cost. This annualized cost is calculated by multiplying the capital cost by the sum of the following factors

   - Capital recovery factor (which recognizes the value of money)
   - Tax factor
   - Insurance factor
   - General and administration factor
   - Operating and maintenance cost

   Instead of accounting for these factors, the Staff Report simply takes the capital cost and divides by 20 (to represent the life of the equipment). This significantly underestimates the cost effectiveness of the Proposed Rule, possibly by a factor of 3 or more. In addition, it appears the annualized cost presented in Table 3 and 4 of the Staff Report do not factor in the cost of monitoring. As a result, the cost effectiveness and socioeconomic impact analyses need to be redone.

4. **Appendix C referenced by the Staff Report significantly understates the potential cost per monitoring equipment.** Appendix C states that the cost to purchase and install monitoring equipment is between $65,000 to $85,000 per vent. However, the cost can be on the order of $1,000,000 per vent if an analyzer is installed to satisfy the requirement to monitor the total organic compound (TOC) or methane concentrations. The cost effectiveness analysis needs to be updated to more accurately reflect the potential cost to monitor TOC and methane emissions.

Attachment C

Summary of Prior Comment Submittals

Attachment C
Summary of Prior Comment Submittals on the Proposed Rule

MRC has previously submitted to the BAAQMD comment letters on the numerous versions of the Proposed Rule which are all incorporated by reference into the comment letter. MRC's written and verbal comments provided to the BAAQMD on the dates and forums shown in the Table C-1 below and Air Products', WSPA's, and other refineries and stakeholders' comments, must be considered and addressed before the BAAQMD continues with its current rulemaking process.

Table C-1 MRC Meetings and Comments

Forum	Date
Face-to Face meetings/refinery tours	June 10, 2019 January 13, 2020
Submitted written comments on September 2020 draft rule	October 19, 2020
Public workshops/meetings	July 27, 2021
Submitted written comments on June 2021 draft rule and Notice of Preparation of Draft Environmental Impact Report	July 30, 2021
Conference call	August 31, 2021
Submitted written Information to further support comments on June 2021 draft rule	September 30, 2021

Note: Table does not include separate WSPA meetings MRC attended and WSPA and Air Products comment letters .

In addition, during conference calls on August 31 and September 16, 2021 and in the following letters, MRC proposed an alternative compliance approach to achieve significant emission reductions.

- September 22, 2021 with information regarding a proposed alternative compliance approach
- October 20, 2021 with additional information regarding a proposed alternative compliance approach

While there have been improvements in the rule language from prior versions, disappointingly, most of MRC's previous substantive comments have not been addressed in the Proposed Rule. These earlier comments, as well as the comments in this letter, must be addressed in full by the BAAQMD before the Proposed Rule proceeds further.

Comment Letter No. 2
Ann Vorderbrueggen
Martinez Refining Company

Response No. 2-1

Staff believes that supplemental gas usage due to startup and shutdown events will be negligible in comparison to the overall natural gas usage for pilot and purge gas for several reasons. First, industrial hydrogen plants generally operate in conjunction with a refinery and is a continuous process with infrequent startup and shutdowns; this is true in general of hydrogen production operations. The infrequency of start-up and shutdown was supported by historical operational data provided by one of the refineries. Second, 40 CFR Section 63.670 allows assignment of a heat content that is higher than the actual measured heat content of hydrogen based on the high combustibility and flame stability of hydrogen flames which would minimize the necessity of supplemental gas during flare operations. Third, the Air District has not received any operational data that indicate the necessity of supplemental gas during these operational scenarios.

Response No. 2-2

In the Draft EIR, routing of excess hydrogen to a fuel gas recovery system is presented as one of the potential approaches that hydrogen plant owners or operators may implement to comply with Rule 13-5 since this is a known method implemented in practice to mitigate the total organic compound emissions from a hydrogen plant. In addition, the environmental impact analysis is based on installation of new flares, which provides the worst-case scenario environmental impact, and is not based on routing of excess hydrogen to a fuel gas recovery system. Lastly, Rule 13-5 does not require the operation of a flare and only requires that the owner and/or operator comply with the emission standards in Rule 13-5. Thus, the emissions calculations in the Draft EIR represent a worst-case scenario and actual emissions associated with implementing Rule 13-5 may be much lower.

4.0 CHANGES TO THE DRAFT EIR

This section includes changes made to the DEIR due to recommended clarifications and other revisions. None of the modifications alter any conclusions reached in the Draft EIR, nor provide new information of substantial importance relative to the draft document that would require recirculation of the Draft EIR pursuant to CEQA Guidelines §15088.5. Additions to the text of the Final EIR are denoted using underline. Text that has been eliminated is shown using ~~strike outs.~~

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

The text in Section **1.1 Introduction**, **1.2 California Environmental Quality Act**, **1.3 Executive Summary: Chapter 2 – Project Description** has been revised and incorporated into the Final EIR to clarify the relationship between the proposed Rule 13-5 and the proposed amendments to Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations (Rule 8-2). Additional text was added to clarify that Rule 8-2 exempts sources that comply with the atmospheric vent emission standard (Section 13-5-301) of Rule 13-5 from the requirements of Rule 8-2. This is because the vent emissions standard contained in Proposed Rule 13-5 is more stringent than the general emission standard contained in Rule 8-2, which only addresses organic compounds excluding methane. Facilities complying with Rule 13-5 through the alternative compliance option (Section 13-5-303) would remain subject to Rule 8-2 because this option applies to only methane.

Additional text was also added to clarify amendments to Rule 8-2 to allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed. This additional amendment to Rule 8-2 is being made at this time to be consistent with other recently amended rules and is unrelated to Proposed Rule 13-5.

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD or Air District) is currently proposing new Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants (Rule 13-5). The primary standard of proposed Rule 13-5 would limit vented emissions of total organic compounds (methane and other hydrocarbons) from hydrogen production and hydrogen carrying systems. Air District regulations currently exclude methane from the definition of "organic compounds," but "total organic compounds" as proposed in Rule 13-5 are defined to include organic compounds and methane. Proposed Rule 13-5 includes an alternative compliance standard that would limit emissions of methane and other greenhouse gases (GHGs).

The Air District has a policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Methane is a potent and short-lived climate pollutant; its global warming potential is 86 times greater than that of carbon dioxide, when compared on a 20-year time horizon and 34 times that of carbon dioxide on a 100-year time horizon.[1] The sources of methane emissions include stationary sources such as landfills, wastewater treatment facilities, refineries, natural gas production and distribution systems; mobile sources such as cars and trucks; and natural sources such as wetlands. Given the importance of controlling methane, the Air District developed a comprehensive Basin-wide Methane Strategy as part of its 2017 Clean Air Plan (BAAQMD, 2017). The Methane Strategy is an agency-wide effort to better quantify and reduce the region's methane emissions. Proposed Rule 13-5 is one of the first rules being developed as part of this Strategy.

Proposed Rule 13-5 is being developed because hydrogen plants can be large sources of methane emissions. The intent of Proposed Rule 13-5 is to minimize both methane (a GHG) and other organic compound emissions (defined as "total organic compounds" emissions) normally emitted from atmospheric vents at hydrogen plants during normal operating conditions, startups, shutdowns, malfunctions, upsets, and emergencies. The reduction in total organic compound emissions would be achieved by providing hydrogen system operators the flexibility to use any gas control technology that is appropriate for minimizing total organic compound emissions in accordance with the requirements in Proposed Rule 13-5, or to develop an Alternative Compliance Plan that would achieve similar GHG emission reductions. Typically, hydrogen plant operations either capture and reuse hydrogen gases containing methane and other constituents, including organic compounds, for incorporation into refinery fuel gas systems or they use flares to burn the mixture of hydrogen gas, methane, and other constituents. Capturing hydrogen and other gases and reusing them in the refinery system could control total organic compound emissions up to nearly 100 percent.

The Air District is also proposing accompanying amendments to Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations (Rule 8-2) to clarify that sources complying with the atmospheric vent emission standard (Section 13-5-301) of Rule 13-5 are exempt from Rule 8-

[1] Myhre, G et al. 2013: Anthropogenic and Natural Radiative Forcing (and Supplemental Material); Climate Change 2013: The Physical Science Basis; Intergovernmental Panel on Climate Change Fifth Assessment report.

2. This is because the vent emissions standard contained in Proposed Rule 13-5 is more stringent than the general emission standard contained in Rule 8-2, which only regulates non-methane organic compounds. The changes to Rule 8-2 are proposed and intended to only be adopted if the new Rule 13-5 is adopted. Facilities complying with Rule 13-5 through the alternative compliance option (Section 13-5-303) would remain subject to Rule 8-2 because this option applies to only methane.

The Air District is also proposing amendments to Rule 8-2 to allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed. This additional amendment to Rule 8-2 is being made at this time to be consistent with other recently amended rules and is unrelated to Proposed Rule 13-5.

1.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid identified significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the Air District has prepared this Environmental Impact Report (EIR) under the requirements of CEQA Guidelines §15187 to address the potential environmental impacts associated with implementation of Proposed Rule 13-5 and proposed amendments to Rule 8-2. Prior to making a decision on the adoption of the proposed rule, the Air District Governing Board must review and certify the EIR as providing adequate information on the potential adverse environmental impacts of implementing the ~~Proposed Rule 13-5~~proposed rule and amendments. Because there are no adverse environmental impacts associated with implementing the proposed amendments to Rule 8-2 at the same time that Rule 13-5 is adopted, as these amendments simply result in applying the more stringent standard of Proposed Rule 13-5 to industrial hydrogen plants, the analysis in this EIR focuses on the potential environmental impacts associated with Proposed Rule 13-5.

1.2.1 NOTICE OF PREPARATION/INITIAL STUDY

A Notice of Preparation and Initial Study (NOP/IS) for the Draft EIR for the Proposed Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants was distributed to responsible agencies and interested parties for a 30-day review on July 1, 2021. A notice of the availability of this document was distributed to other agencies and organizations and was placed on the Air District's web site, submitted to the California State Clearinghouse, and was also published in newspapers throughout the area of the Air District's jurisdiction. A public scoping meeting was held on July 27, 2021. Four public comment letters were submitted on the NOP/IS to the Air District.

The NOP/IS identified the following environmental resources as being potentially significant, requiring further analysis in the EIR: aesthetics, air quality, and GHG emissions. The following environmental resources were considered to be less than significant in the NOP/IS: agriculture and forestry resources, biological resources, cultural resources, energy, geology/soils, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and services systems, and wildfire (see Section 3.4 and Appendix A).

1.2.2 TYPE OF EIR

In accordance with §15121(a) of the State CEQA Guidelines (California Administrative Code, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that: "will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project." The EIR is an informational document for use by decision-makers, public agencies, and the general public. The proposed project requires discretionary approval and, therefore, it is subject to the requirements of CEQA (Public Resources Code, §21000 et seq.).

The focus of this EIR is to address the environmental impacts of the implementation of Proposed Rule 13-5 as identified in the NOP and Initial Study (included as Appendix A of this EIR). The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity described in the EIR (CEQA Guidelines §15146). The Proposed Rule 13-5 would apply to hydrogen plants within the Bay Areas.

1.2.3 INTENDED USES OF THIS DOCUMENT

In general, a CEQA document is an informational document that informs a public agency's decision-makers, and the public generally, of potentially significant adverse environmental effects of a project, identifies possible ways to avoid or minimize the significant effects, and describes reasonable alternatives to the project (CEQA Guidelines §15121). A public agency's decision-makers must consider the information in a CEQA document prior to making a decision on the project. Accordingly, this EIR is intended to: (a) provide the Air District's Board of Directors and the public with information on the environmental effects of the proposed project; and (b) be used as a tool by the Air District's Board to facilitate decision making on the proposed project.

Additionally, CEQA Guidelines §15124(d)(1) requires a public agency to identify the following specific types of intended uses of a CEQA document:

1. A list of the agencies that are expected to use the EIR in their decision-making;

2. A list of permits and other approvals required to implement the project; and

3. A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

There are no federal, state, or local permits required to adopt Proposed Rule 13-5 or the proposed amendments to Rule 8-2. Local public agencies, such as cities, and counties could be expected to utilize this EIR if local approval is required for facility modifications due to the implementation of emission control technologies (e.g., new flare equipment) at affected hydrogen plants, pursuant to CEQA Guidelines §15152. However, implementation of the proposed project is limited to implementation of air pollution control equipment and measures.

1.2.4 AREAS OF POTENTIAL CONTROVERSY

In accordance with CEQA Guidelines §15123(b)(2), the areas of controversy known to the lead agency including issues raised by agencies and the public shall be identified in the EIR. As noted above, four comment letters were received on the NOP/IS. Issues and concerns raised in the comment letters included: (1) potential visual impacts to public views from freeways; (2) potential impacts on biological resources; (3) potential air quality impacts from construction activities; (4) potential air quality impacts associated with installation of flares; (5) impacts associated with project alternatives; and (6) a recommendation to consult with Native American tribes.

The visual impacts on aesthetics associated with flares are addressed in the EIR (see Section 3.1). The potential impacts on biological resources are addressed further in the EIR (see Section

3.4.3.2). The potential air quality impacts associated with construction activities and the use of additional natural gas are addressed in Section 3.2 and Appendix B of the EIR. The alternatives to the proposed project are addressed in Section 4.0 of the EIR. Finally, all construction activities are expected to occur within the existing industrial areas adjacent to existing hydrogen plants, which have been graded and constructed, so that impacts to cultural or tribal cultural resources are not expected (see Section 3.4.2.15 for further details). Further, no Native American tribes have requested consultation under AB52. Nonetheless, individual projects will need to be examined on a project-specific basis, when the precise location and compliance methods are known, and additional consultation with tribes may be required.

1.3 EXECUTIVE SUMMARY: CHAPTER 2 – PROJECT DESCRIPTION

The requirements in Proposed Rule 13-5 would apply to industrial hydrogen plants, including third-party operators that produce hydrogen. Proposed Rule 13-5 offers two standards for compliance. First, Proposed Rule 13-5 would prohibit the owner or operator of hydrogen plants from venting to atmosphere any emissions containing total organic compounds, as methane, in excess of 15 pounds per day and containing a concentration of more than 300 parts per million by volume. Monitoring is required to demonstrate compliance with this requirement (Section 13-5-301). In addition, the rule would prohibit diluting atmospheric vent emissions or the comingling of two or more atmospheric vents to reduce the total organic compound concentration to comply with the rule (Section 13-5-302).

Proposed Rule 13-5 would require hydrogen plant owners and operators to notify the Air District when emissions exceed the limits of the rule. It would also require hydrogen plant owners and operators to monitor total organic compound emissions, and it would include specific monitoring requirements for emissions at atmospheric vents, deaerator vents, carbon dioxide scrubbing vents, and pressure swing adsorption vents. Hydrogen plant owners and operators would need to maintain records of emissions monitoring information. Proposed Rule 13-5 states the acceptable methods for monitoring and compliance determinations.

Second, Proposed Rule 13-5 (Section 13-5-303) would provide an Alternative Methane and GHG Emissions Plan Option to reduce emissions of methane and other GHGs to a similar level to the emission standard provided in Section 13-5-301. Section 13-5-303 details the steps to submittal and approval of the plan including establishment of an inventory of emissions and reductions as part of the plan. If the owner or operator opts to comply with the alternative standard in Section 13-5-303, the facility would be required to reduce baseline methane emissions by 90 percent and would still be subject to the emissions limits in Rule 8-2 with respect to non-methane organic compounds.

Hydrogen plants at two refineries are expected to need additional control technology to comply with Proposed Rule 13-5, the Valero Refinery in Benicia and the hydrogen plants that provide hydrogen to the PBF Refinery in Martinez. Compliance options could include installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan. The impacts associated with an Alternative Compliance Plan may vary but would be expected to include the addition of compressors,

monitoring equipment, piping, valves, and flanges and similar equipment to reroute gas streams within the facility.

Proposed amendments to Rule 8-2 would exempt sources that comply with the atmospheric vent emission standard (Section 13-5-301) of Rule 13-5 from Rule 8-2. This is because the vent emissions standard contained in Proposed Rule 13-5 is more stringent than the general emission standard contained in Rule 8-2, which only regulates non-methane organic compounds. The changes to Rule 8-2 are proposed and intended to only be adopted if the new Rule 13-5 is adopted. These amendments would have no adverse environmental impacts, as they simply apply the more stringent standard of Proposed Rule 13-5 to industrial hydrogen plants.

Proposed amendments to Rule 8-2 would allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed. This additional amendment to Rule 8-2 is being made at this time to be consistent with other recently amended rules and is unrelated to Proposed Rule 13-5. This proposed amendment would also have no adverse environmental impacts as it simply allows for the approval of alternative test methods.

1.3.1 PROJECT OBJECTIVES

The objectives of Proposed Rule 13-5 and the accompanying proposed amendments to Rule 8-2 are to:

- Reduce emissions of GHGs, as well as other organic compounds, associated with operation of industrial hydrogen plants.
- Assist the Air District in meeting its policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030.
- Obtain additional data on total organic compound emissions from deaerators and carbon dioxide scrubber vent controls at industrial hydrogen plants.

1.4.3.2 Greenhouse Gas Impacts

The text in Section **1.4.3.2 Greenhouse Gas Impacts** and corresponding text in **Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Residual Impacts** has been revised and incorporated into the Final EIR to clarify and reflect corrections in the calculations of GHG emissions described in Table 3.3-9 and Appendix B. The corrections and revisions to Table 3.3-9 and Appendix B are further described in the sections below. None of these modifications alter any conclusions reached in the Draft EIR, nor provide new information of substantial importance relative to the draft document that would require recirculation of the Draft EIR pursuant to CEQA Guidelines §15088.5.

1.4.3.2 Greenhouse Gas Impacts

The estimated GHG construction emission increases associated with Proposed Rule 13-5 are 1,965 metric tons or 66 metric tons (MT) per year amortized over 30 years. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

The potential GHG emissions for the pilot light associated with the operation of new flares are calculated using AP-42 emission factors for natural gas fired external fired combustion. It is assumed that each flare will have two pilot lights, which consume approximately 77 standard cubic feet per hour of natural gas.

The emissions for the combustion of vent gas in the flares are calculated using AP-42 emission factors for industrial flares. The vented gas is expected to be primarily hydrogen with up to four percent methane, one percent NMHCs, and would contain no sulfur compounds. The operational emissions from two flares are summarized in Table 3.2-7. Detailed operational emission calculations are presented in Appendix B.

The operation of vapor recovery for control of the vent gas would require similar amount of fugitive components as a flare. Additionally, the captured vent gas could be combusted in an existing on-site source. Overall, the operational emissions associated with a vapor recovery system are expected to result in a reduction in emissions as it is expected to reduce vent gas emissions, result in little fugitive emissions, and would not require new combustion sources (e.g., a new pilot light). Therefore, the operational emissions from a vapor recovery system are expected to be less than a flare.

The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to additional compressors, monitoring equipment, piping, valves, and flanges to re-route vent gases, resulting in minimal emissions and no increase in combustion emissions. An Alternative Compliance Plan would not result in increased combustion and would not be expected to result in any increases in GHG emissions.

Since the operational emissions of a vapor recovery system or an Alternative Compliance Plan would be less than a flare or an Alternative Compliance Plan, the operational emissions for two flares are presented as a worst-case analysis.

The implementation of Proposed Rule 13-5 will control methane emissions, regardless of whether a flare or vapor recovery is used, resulting in a reduction in GHG emissions. Further, both systems are expected to capture and control the same amount of vent gas. The estimated emission benefits from implementation of Proposed Rule 13-5 are presented in Table 3.2-8.

Implementation of Proposed Rule 13-5 by the Air District would result in a minor increase in GHG emissions associated with the ~~pilot gas for~~operation of the flares (6,524 ~~6,528~~ MT/year). Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477 ~~79,255~~ MT/year $MTCO_2e$ (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant thresholds and less than significant.

TABLE 1-1

Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
Aesthetics		
The addition of flares at the facilities may add visible structures to the skyline, which are not expected to change the visual character of either the PBF Martinez or Valero Benicia Refinery, respectively. Multiple structures at the refineries are similar in height and width as potential new flares. Aesthetic impacts would be less than significant.	None required.	Aesthetic impacts associated with implementation of Rule 13-5 would be less than significant.
Air Quality		
The construction activities may include construction of two flare systems. The construction emissions may exceed the CEQA significance thresholds for NOx and are potentially significant.	The Air District's Basic Construction Mitigation Measures are expected to be implemented.	Construction emissions of ROG, CO, SO_2, PM10, and PM2.5 would be less than significant. The construction emissions of NOx may remain significant.
Worst-case operational activities associated with the implementation of Rule 13-5 may include the operation of two flares. The emissions calculations determined that NOx emissions from flares could exceed the CEQA thresholds and are potentially significant. The emissions of other criteria pollutants would be less than significant.	Any new equipment may be required to comply with BACT. Compliance with the BACT requirements would minimize emissions from the source to the maximum degree feasible	Operational emissions of ROG, CO, SO_2, PM10, and PM2.5 would be less than significant. The operational emissions of NOx may be significant.
Implementation of Rule 13-5 would likely result in a reduction in TAC emissions from the control of the NMHCs that are potentially in the vent stream, or at worst result in no increase in TAC emissions. Therefore, TAC emissions and the related health risks associated with implementation of Rule 13-5 are expected to be less than significant.	None Required	Potential TAC emissions would be less than significant.

TABLE 1-1

Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
Greenhouse Gases		
Implementation of Proposed Rule 13-5 by the Air District may result in a minor increase in GHG emissions associated with the ~~pilot gas for~~operation of the flares (6,5246~~,528~~ MT/year). Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477~~79,255~~ CO_2e MT/year (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant thresholds and less than significant.	None Required	Implementation of Rule 13-5 is expected to result in a reduction in GHG emissions providing a beneficial impact.
Cumulative Air Quality		
Air quality impacts associated with the implementation of Proposed Rule 13-5 are potentially significant for NOx if both affected facilities install a new flare. Given that the Bay Area is not in attainment with the federal and state ozone standard, and that implementation of Proposed Rule 13-5 could result in significant air quality impacts, cumulative air quality impacts are also potentially significant.	Any new equipment may be required to comply with Air District BACT requirements. Compliance with the BACT requirements would minimize emissions from the source to the maximum degree feasible	The use of a flare would be expected to reduce NMHC by about 98 percent, leading to a beneficial impact of reducing TAC emissions The cumulative operational emissions of NOx may be potentially significant.

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3.3.5 EVALUATION OF GHG/CLIMATE CHANGE IMPACTS

The text in the following tables and sections of this chapter have been revised and incorporated into the Final EIR to clarify and reflect corrections in the calculations of GHG emissions described in Appendix B:

- **Table 3.3-7 Increases in Operational GHG Emission**
- **Table 3.3-8 Predicted GHG Emission Reductions**
- **Section 3.3.5.4 Summary of Operational Emission Impacts**
- **Table 3.3-9 Net GHG Emissions Associated with Implementation of Rule 13-5**

The revisions correct clerical errors that were made when transcribing GHG emissions from the Draft EIR Appendix B to the summary tables and text, and reflect corrections made in the GHG emission calculations. The methane emissions calculation associated with the vent gas combustion was revised to be based to 98% control efficiency. Previously, the calculation was done using AP-42 emission factor for light smoking petroleum flares. Staff has determined that using 98% control efficiency rather than using AP-42 emission factor was consistent with the calculation method used to estimate non-methane hydrocarbon emissions from uncombusted vent gas. None of these modifications alter any conclusions reached in the Draft EIR, nor provide new information of substantial importance relative to the draft document that would require recirculation of the Draft EIR pursuant to CEQA Guidelines §15088.5.

3.3.5.2 Potential GHG Impacts Associated with Operational Activities

The net effect of implementing Proposed Rule 13-5 is to reduce emissions of GHGs as well as other organic compounds from hydrogen plants. The operation of flares and other combustion sources has the potential to generate GHG emission impacts as part of the control process.

3.3.5.2.1 Potential Direct Impacts from Operations

Flares have been used to control TAC and ROG emissions from process upsets for many years by combusting vented gas during emergency conditions. In order to combust the vent gas, the flare must continually burn a pilot light, but it is not anticipated that supplemental natural gas will be necessary when hydrogen gas is vented, due to the high heating value of hydrogen. The pilot light uses natural gas, and therefore, will generate GHG emissions. However, the net effects of the installation of a flare would decrease GHG emissions by controlling methane emissions, which is a GHG.

The emissions for the pilot light are calculated using AP-42 emission factors for natural gas fired external fired combustion. It is assumed that each flare will have two pilot lights, which consume approximately 77 scf/hr of natural gas.

The emissions for the combustion of vent gas in the flares are calculated using AP-42 emission factors for industrial flares. The vented gas is expected to be primarily hydrogen with up to four percent methane, one percent non-methane hydrocarbons (NMHCs), and would contain no sulfur compounds. The operational emissions from two flares are summarized in Table 3.2-7. Detailed operational emission calculations are presented in Appendix B.

The operation of vapor recovery for control of the vent gas would require a similar amount of fugitive components as a flare. Additionally, the captured vent gas would be combusted in an existing on-site source. Overall, the operational emissions associated with a vapor recovery system are expected to result in a reduction in emissions as it is expected to reduce vent gas emissions, result in little fugitive emissions, and would not require new combustion sources (e.g., a new pilot light). Therefore, the operational emissions from a vapor recovery system are expected to be less than a flare.

The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to additional piping, valves, and flanges to re-route vent gases, resulting in minimal emissions and no increase in combustion emissions. An Alternative Compliance Plan would not result in increased combustion and would not be expected to result in any increases in GHG emissions.

Since, the operational emission of a vapor recovery system would be less than a flare or an Alternative Compliance Plan, the operational emissions for a flare are presented as a worst-case analysis.

TABLE 3.3-7

Increases in Operational GHG Emission

Emissions(1)	CO_2e (MT/year)
Pilot Gas Combustion (2 Flares)	148
Methane Combustion	6,3495~~,763~~
Hydrogen Combustion	2725~~~~
Total Increase in GHG Emission	6,5245~~,922~~

(1) See Appendix B for detailed emission calculations.

3.3.5.3 Potential GHG Emission Reduction Benefits

The implementation of Proposed Rule 13-5 will control methane emissions, regardless of whether a flare, vapor recovery, or Alternative Compliance Plan is used, resulting in a reduction in GHG emissions. Further, all systems are expected to capture and control the same amount of vent gas as the facilities are prohibited from venting to atmosphere of any emissions containing total organic compounds, as methane, in excess of 15 pounds per day and containing a concentration of more than 300 parts per million on a dry basis or must control methane emissions by 90 percent. The estimated emission benefits from implementation of Proposed Rule 13-5 are presented in Table 3.2-8.

TABLE 3.3-8

Predicted GHG Emission Reductions

Emissions(1)	CO_2e (MT/year)
Captured and Controlled Methane	84,06785~~,783~~
Total GHG Emission Reductions	77,54379~~,255~~

(1) See Appendix B for detailed emission calculations.

3.3.5.4 Summary of Operational Emission Impacts

Implementation of Proposed Rule 13-5 by may result in a minor increase in GHG emissions associated with the pilot gas if flares are used for compliance with the rule. Implementation of Rule 13-5 is expected to result in an overall emission reduction of over ~~79,255~~77,477 MT/year $MTCO_2e$ (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant thresholds and less than significant.

TABLE 3.3-9

Net GHG Emissions Associated with Implementation of Rule 13-5

Project GHG Emissions[(1)]	CO_2e (MT)
Potential GHG Emissions Increases	
Amortized Construction	66
Pilot Gas Combustion (2 Flares)	148
Methane Combustion	6,3493,611
Hydrogen Combustion	2712
Potential GHG Emission Reductions	
Captured and Controlled Methane	-84,06785,783
Total GHG Emission Reductions	-77,47779,254
Stationary Source GHG Significance Threshold	10,000
Significant?	No

(1) See Appendix B for detailed emission calculations.

4.3 ENVIRONMENTAL IMPACTS OF PROJECT ALTERNATIVES

The text in the following sections of this chapter comparing the greenhouse gas emissions of the project to Alternative 1, Alternative 2, and Alternative 3 have been revised and incorporated into the Final EIR to reflect corrections in the calculations of GHG emissions described in Appendix B:

- **4.3.1.3 Greenhouse Gas Emissions**
- **4.3.2.3 Greenhouse Gas Emissions**
- **4.3.3.3 Greenhouse Gas Emissions**

None of these modifications alter any conclusions reached in the Draft EIR, nor provide new information of substantial importance relative to the draft document that would require recirculation of the Draft EIR pursuant to CEQA Guidelines §15088.5.

4.3 ENVIRONMENTAL IMPACTS OF PROJECT ALTERNATIVES

4.3.1 ALTERNATIVE 1 – NO PROJECT ALTERNATIVE

4.3.1.1 Aesthetic Impacts

Under Alternative 1, Proposed Rule 13-5 would not be implemented. Therefore, no additional emission control emission would be installed.

The aesthetic impacts associated with implementation of Rule 13-5 were determined to be less than significant. Although compliance with Rule 13-5 may result in the installation of two new flares, the flares would be installed in existing industrial areas, adjacent to existing hydrogen plants. The addition of new flares is not expected to be discernable from the overall skyline of the existing refineries from the bridge. In addition, the flames on the new or existing flares are not expected to be noticeable during the day.

No significant adverse impacts to aesthetics are expected from new flares installed to comply with Proposed Rule 13-5. It should be noted that the installation of gas recovery or other alternative control systems is expected to occur at ground level and would not be visible outside of the facilities and no aesthetic impacts would be expected due to installation of a gas recovery or alternative control systems. Under Alternative 1, no new equipment would be installed and there would be no increase in structures visible to the surrounding communities, so the aesthetic impact would be less than significant.

4.3.1.2 Air Quality

Under Alternative 1, the Proposed Rule 13-5 would not be implemented. No construction emissions would occur and no additional operational air quality impacts would occur.

The air quality impact analysis concluded that emissions associated with the construction of the two new flares simultaneously may exceed the CEQA significance thresholds for NOx emissions and would, therefore, be potentially significant. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

Air quality impacts associated with the Proposed Rule 13-5 were determined to be potentially significant for NOx emissions associated with additional combustion activities. The potential emission increase associated with the installation of flare systems to comply with Proposed Rule 13-5 would require the combustion of natural gas, refinery fuel gas, and/or the hydrogen plant vent gas. The use of the flare systems could potentially result in an emission increase in NOx of 33.5 tons per year which exceeds the Air District's CEQA threshold for NOx emissions of 10 tons per year (see Table 3.2-12). However, compliance with Proposed Rule 13-5 would also be expected to result in a reduction in NMHC emissions of an estimated 2 tons per year The use of a vapor control system or an Alternative Compliance Plan are expected to require some fugitive components (valves, flanges, and compressors), which will result in a minor increase in fugitive NMHC emissions; however, the emission reductions associated with capturing total organic vapors is expected to substantially exceed any emission increases, resulting in an overall reduction.

Under the No Project Alternative there would not be any additional emission control equipment or any increase in NOx emissions associated with emission control equipment (e.g., flares), however there would also not be a decrease in total organic compounds.

4.3.1.3 Greenhouse Gas Emissions

Under Alternative 1, the Proposed Rule 13-5 would not be implemented. No construction emissions would occur and no additional air pollution control equipment would be installed.

Implementation of Proposed Rule 13-5 would result in a minor increase in GHG emissions associated with the pilot gas for the flares. These emission increases would be avoided if vapor recovery systems are installed instead of flares, or if a facility implements an Alternative Compliance Plan. Implementation of Rule 13-5 is expected to result in an overall emission reduction of over ~~79,255~~77,477 MT/year ~~MT~~CO_2e (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significance thresholds and less than significant. Under Alternative 1, there would be no direct reduction in GHG emissions.

It should be noted that under the current GHG cap-and-trade program developed by CARB, GHG reductions or the purchases of emission credits are required for regulated stationary sources on an annual basis. It is possible that existing hydrogen plants could choose to minimize GHG emissions from vent gas for compliance with the GHG cap-and-trade program on their own. The timeframe for when this would happen or the expected emissions reductions are unknown and would be considered speculative. However, any GHG reductions that occur to comply with the cap-and-trade program are expected to occur at a slower timeline than would occur in response to Proposed Rule 13-5.

4.3.2 ALTERNATIVE 2 – MORE STRINGENT CONTROL

4.3.2.1 Aesthetics

Under Alternative 2, the increased stringency of Proposed Rule 13-5 would be expected to require the construction of a PSA unit to capture vent gas.

The aesthetic impacts associated with implementation of Rule 13-5 were determined to be less than significant because new equipment (including flares) would be consistent with the existing industrial environment and not expected to be noticeable in the existing industrial skyline. PSA units would be approximately one-half the height of a new flare and would be less visible than flares due to the decrease in height. The PSA units would be installed at existing industrial areas, adjacent to existing hydrogen plants. The addition of new PSA units is not expected to be discernable from the overall skyline of the existing hydrogen plants and refineries.

No significant adverse impacts to aesthetics are expected from the potential installation of PSA units under Alternative 2.

4.3.2. Air Quality

Under Alternative 2, the increased stringency of Proposed Rule 13-5 would be expected to require the construction of a PSA unit to capture vent gas.

The air quality impact analysis concluded that emissions associated with the construction of the two new flares simultaneously may exceed the CEQA significance thresholds for NOx emissions and would, therefore, be potentially significant. The same is expected to be true for the simultaneous construction of two PSA units. The construction of a PSA unit is expected to require more construction equipment and more workers, so construction emissions are expected to remain potentially significant. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

Operational air quality impacts associated with the Proposed Rule 13-5 were determined to be potentially significant for NOx emissions due to additional combustion activities. The potential emission increase associated with the installation of flare systems would require the combustion of natural gas, refinery fuel gas, and/or the hydrogen plant vent gas.

In the PSA process, the hydrogen is recovered and purified at a pressure close to the feed pressure, while adsorbed impurities are removed by lowering the pressure. The PSA tail-gas, which contains the impurities, can then be sent back to the fuel system even without a tail-gas compressor. The PSA process is not expected to require additional combustion sources so no increase in combustion emissions would be expected. The PSA process would result in fugitive components (flanges, valves, pumps, piping) but it would also control total organic emissions. Overall, the emissions of criteria pollutants as well as TAC emissions are expected to be less than the CEQA thresholds, and therefore, less than significant.

4.3.2.3 Greenhouse Gas Emissions

Under Alternative 2, the increased stringency of Proposed Rule 13-5 would be expected to require the construction of a PSA unit to capture vent gas.

Implementation of Alternative 2 is not expected to require any new combustion equipment and is expected to control total organic compound emissions from vent gas to less than 15 pounds per day and a maximum of 300 parts per million on a dry basis. Because of the technology, it is likely that the PSA unit would reduce total organic emissions even further.

Proposed Rule 13-5 would result in a minor increase in GHG emissions associated with the pilot gas if flares were operated. The other compliance options are not expected to require additional combustion sources or generate increases in GHG emissions. Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477~~79,255~~ MT/year ~~MT~~CO_2e (see Table 3.3-9) due to the control of vent gas. Construction of a PSA Unit is expected to require more construction equipment and generate additional GHG emissions during construction activities as compared to a flare or other compliance options, although construction activities will be temporary and cease following the completion of construction. The operation of a PSA unit is expected to be at least as effective as the standards in Proposed Rule 13-5, therefore, the GHG emissions

reductions associated with the installation of PSA units are still expected to be over 77,477~~79,255~~ MT/year $MTCO_2e$, providing beneficial GHG emission reductions.

4.3.3 ALTERNATIVE 3 – NO ALTERNATIVE COMPLIANCE PLAN

4.3.3.1 Aesthetic Impacts

Alternative 3 would revise Proposed Rule 13-5 to eliminate Section 13-5-303 which allows for affected facilities to develop an Alternative Methane and GHG Compliance Plan to reduce emissions of methane and other GHGs to a similar level to the emission standard provided in Section 13-5-301. Therefore, the expected methods to comply with the proposed rule under Alternative 3 would likely be through the use of flares or gas recovery systems.

The aesthetic impacts of Alternative 3 would be the same as Proposed Rule 13-5, as flares could be installed for emission control. The EIR analyzed flares as a worst-case scenario for aesthetic impacts, though compliance with Proposed Rule 13-5 by installing a gas recovery system or implementing an Alternative Compliance Plan would have less aesthetic impacts that installation of flares. As with the proposed project, the flares would be installed at existing industrial areas, adjacent to existing hydrogen plants. The addition of new flares is not expected to be discernable from the overall skyline of the existing refineries from the bridge. In addition, the flames on the new or existing flares are not expected to be noticeable during the day. The use of vapor recovery systems is not expected to be visible outside of the industrial facilities. Therefore, the aesthetic impacts of Alternative 3, are essentially the same as the worst-case scenario analyzed for the proposed project and are less than significant.

4.3.3.2 Air Quality

Alternative 3 would revise Proposed Rule 13-5 to eliminate Section 13-5-303 and the potential use of an Alternative Compliance Plan. Therefore, the expected methods to comply with the proposed rule under Alternative 3 would likely be through the use of flares or gas recovery systems.

The air quality impact analysis for the proposed project concluded that emissions associated with the construction of the two new flares simultaneously – the worst-case scenario – may exceed the CEQA significance thresholds for NOx emissions and would, therefore, be potentially significant. The same is expected to be true under Alternative 3, as two flares may be constructed simultaneously. Construction emissions are temporary as construction emissions would cease following completion of construction activities. However, compliance with Proposed Rule 13-5 could be achieved by implementation of an Alternative Compliance Plan, which would eliminate the potentially significant NOx emissions.

Air quality impacts associated with the Proposed Rule 13-5 were determined to be potentially significant for NOx emissions associated with additional combustion activities associated with the operation of two flares, which was analyzed as a worst-case scenario. However, affected facilities could comply with Proposed Rule 13-5 by implementing an Alternative Compliance Plan, which would avoid the operation of flares under the proposed project. The operation of two flares could result in an emission increase in NOx of 33.5 tons per year which exceeds the Air District's CEQA

threshold for NOx emissions of 10 tons per year (see Table 3.2-12). The same air quality impacts may occur under Alternative 3 as two flares may be installed for compliance purposes. If vapor recovery systems are installed, this impact would not be expected to occur. Further, the use of flares would also be expected to result in a reduction in NMHC emissions of an estimated 2 tons per year providing a beneficial air quality impact, however Alternative 3 would be unlikely to avoid the potential NOx impacts associated with implementation of an Alternative Compliance Plan in Proposed Rule 13-5.

4.3.3.3 Greenhouse Gas Emissions

Alternative 3 would revise Proposed Rule 13-5 to eliminate Section 13-5-303 and the expected methods to comply with the proposed rule under Alternative 3 would likely be through the use of flares or gas recovery systems.

The GHG emissions under Alternative 3 are expected to be similar to the proposed project. Proposed Rule 13-5 may result in a minor increase in GHG emissions associated with the pilot gas for the flares. These GHG emissions increases would likely be avoided if vapor control systems were installed. Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477~~79,255~~ MT/year ~~MT~~CO_2e (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant thresholds and less than significant. Under Alternative 3, the GHG impacts are potentially the same as the proposed project.

APPENDIX B

Appendix B has been revised and incorporated into the Final EIR to clarify and reflect corrections in the calculations of GHG emissions. The Appendix B-2 tables for **Methane Combustion Emissions**, **Hydrogen Combustion Emissions**, and **Operational Emissions Summary** have been revised to clarify and correct methodologies and assumptions used in the calculation of GHG emissions from these sources. Staff has determined that using 98% control efficiency rather than using AP-42 emission factor was consistent with the calculation method used to estimate non-methane hydrocarbon emissions from uncombusted vent gas. None of these modifications alter any conclusions reached in the Draft EIR, nor provide new information of substantial importance relative to the draft document that would require recirculation of the Draft EIR pursuant to CEQA Guidelines §15088.5.

Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Flare Operational Emissions

Purge Pilot Gas Emissions

Assumptions

Diameter	24	Inches	
Pilots*	2		
Operating Time	8,760	Hours	
Total Purge and Pilot Gas Consumption	77	scf/hr	Estimate from manufacturer.
Purge Gas Consumption	11	scf/hr	
Pilot Gas Consumption	66	scf/hr	
Total Gas Consumption	1,349,040	scf/yr	
Total Gas Consumption	1.35	mmscf/yr	

*https://www.epa.gov/sites/production/files/2019-08/documents/flarescostmanualchapter7thedition_august2019vff.pdf; Table 1.3

		One Flare		Two Flares	
Pollutant	**Emission Factor (lb/mmscf)**	**Emissions (lb/yr)**	**Emissions (tons/yr)**	**Emissions (lb/yr)**	**Emissions (tons/yr)**
ROG	5.5	7.4	0.0	14.8	0.0
CO	84.0	113.3	0.1	226.6	0.1
NOx	100.0	134.9	0.1	269.8	0.1
SOX	0.6	0.8	0.0	1.6	0.0
PM10	7.6	10.3	0.0	20.5	0.0
PM2.5	7.6	10.3	0.0	20.5	0.0
CO2	120,000.0	161,884.8	73.4	323,769.6	146.9
N2O	2.2	3.0	0.0	5.9	0.0
CH4	2.3	3.1	0.0	6.2	0.0
CO2e	120,734	162,874.7	73.9	325,749.5	147.8

AP-42 Table 1.4-1 for external fired natural gas combustion.
GHG emissions reported in metric tons.

Non-Methane Hydrocarbon Destruction

Assumptions

Controlled Gas - Flare 1	3.2	mmscf/day
Controlled Gas - Flare 2	4.9	mmscf/day
NMHC Compostions	1	percent
Controlled NMHC - Flare 1	0.0032	mmscf/day
Controlled NMHC - Flare 2	0.049	mmscf/day

		Flare 1		Flare 2		Total	
Pollutant	**Control**	**Emissions (lb/yr)**	**Emissions (tons/yr)**	**Emissions (lb/yr)**	**Emissions (tons/yr)**	**Emissions (lb/yr)**	**Emissions (tons/yr)**
ROG	0.98	1.67E+03	8.34E-01	2.52E+03	1.26E+00	4.19E+03	2.09E+00

NMHC mass taken as natural gas (20 lb/lb-mol @ 379.3 scf/lb-mol).

Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Flare Operational Emissions

Methane Combustion Emissions
Assumptions

Heating Value of Methane	1011	btu/scf
Controlled Gas - Flare 1	3.2	mmscf/day
Controlled Gas - Flare 2	4.9	mmscf/day
Methane compositions	4	percent
Controlled Methane - Flare 1	0.13	mmscf/day
Controlled Methane - Flare 2	0.19	mmscf/day

		Flare 1		Flare 2		Total	
Pollutant	**Emission Factor (lb/mmbtu)**	**Emissions (lb/yr)**	**Emissions (tons/yr)**	**Emissions (lb/yr)**	**Emissions (tons/yr)**	**Emissions (lb/yr)**	**Emissions (tons/yr)**
ROG	0.0	0	0.0	0.0	0.0	0.0	0.0
CO	0.3	14,765	7.4	22,301.0	11.2	37,065.5	18.5
NOx	0.1	3,239	1.6	4,891.8	2.4	8,130.5	4.1
SOX	0.0	0	0.0	0.0	0.0	0.0	0.0
PM10	0.0	1,286	0.6	1,942.3	1.0	3,228.3	1.6
PM2.5	0.0	1,286	0.6	1,942.3	1.0	3,228.3	1.6
CO2	117.0	5,572,285	2,527.6	8,416,645.0	3,817.8	13,988,929.7	6,345.3
N2O	0.0	11	0.0	15.9	0.0	26.4	0.0
CH4	0.93 ~~0.0~~	44,313 ~~105~~	20.1 ~~0.0~~	66,932.3 ~~158.6~~	30.4 ~~0.1~~	111,245.1 ~~263.6~~	50.5 ~~0.1~~
CO2e	148.7 ~~117.1~~	7,082,052 ~~5,578,985~~	3,212.4 ~~2,530.6~~	10,697,068.9 ~~8,426,765.2~~	4,852.2 ~~3,822.4~~	17,779,120.5 ~~14,005,750.1~~	8,064.6 ~~6,353.0~~

Criteria pollutant emissions based on AP-42 emissions factors for light smoking petroleum flares.
https://www3.epa.gov/ttn/chief/efpac/protocol/Protocol%20Report%202015.pdf
Methane is not a VOC, and no VOC formation is expected.
No sulfurous compounds are expected to be present in the vent gas.
GHG emission factors are from Subpart C Table C-1 and C-2 for natural gas (kg/mmbtu) except for methane. Methane emission factor was derived assuming 2% of methane in the vent gas are emitted to the atmosphere which is not generated from the flare combustion process.
GHG emissions reported in metric tons.

Bay Area Air Quality Management District Regulation 13, Rule 5 Air Quality Analysis Operational Emission Summary

	ROG	CO	NOx	SOX	PM10	PM2.5	CO2e (MT)
Emissions from Control Equipment							
Average Daily Emissions (lb)	0.0	102.2	193.1	0.0	8.9	8.9	18
Annual Emissions (tons)	0.0	18.6	35.2	0.0	1.6	1.6	6,524
Emission Reductions from Controlled Methane							
Annual Baseline Emissions (tons)	0.0	0.0	0.0	0.0	0.0	0.0	85,783
Average Daily Emissions Reduction assuming 98% Control (lb)	0.0	0.0	0.0	0.0	0.0	0.0	230
Annual Emissions Reduction assuming 98% Control (tons)	0.0	0.0	0.0	0.0	0.0	0.0	84,067
ROG Emission Reductions from Controlled NMHC							
Average Daily Emissions Reduction assuming 98% Control (lb)	11.5	0.0	0.0	0.0	0.0	0.0	0.0
Annual Emissions Reduction assuming 98% Control (tons)	2.1	0.0	0.0	0.0	0.0	0.0	0.0
Net Emissions							
Average Daily Emissions (lb)	-11.4	102.2	193.1	0.0	8.9	8.9	-212.4
Annual Emissions (tons)	-2.1	18.6	35.2	0.0	1.6	1.6	-77,543

Assumes 4% of the flared gas is methane for 0.32 mmscf/day.
Assumes 1% of the flared gas is natural gas for 0.081 mmscf/day.
Assumes 95% of the flared gas is hydrogen for 7.7 mmscf/day.

	~~ROG~~	~~CO~~	~~NOx~~	~~SOX~~	~~PM10~~	~~PM2.5~~	~~CO2e (MT)~~
~~Emissions from Control Equipment~~							
~~Average Daily Emissions (lb)~~	~~0.0~~	~~102.2~~	~~193.1~~	~~0.0~~	~~8.9~~	~~8.9~~	~~17.9~~
~~Annual Emissions (tons)~~	~~0.0~~	~~18.6~~	~~35.2~~	~~0.0~~	~~1.6~~	~~1.6~~	~~6527.9~~
~~Emission Reductions from Controlled Methane~~							
~~Average Daily Emissions (lb)~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~235.0~~
~~Annual Emissions (tons)~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~85782.8~~
~~ROG Emission Reductions from Controlled NMHC~~							
~~Average Daily Emissions (lb)~~	~~11.5~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~
~~Annual Emissions (tons)~~	~~2.1~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~
~~Net Emissions~~							
~~Average Daily Emissions (lb)~~	~~-11.4~~	~~102.2~~	~~193.1~~	~~0.0~~	~~8.9~~	~~8.9~~	~~-205.5~~
~~Annual Emissions (tons)~~	~~-2.1~~	~~18.6~~	~~35.2~~	~~0.0~~	~~1.6~~	~~1.6~~	~~-79254.8~~
~~BAAQMD CEQA Thresholds~~	~~10.0~~	~~NE~~	~~10.0~~	~~NE~~	~~15.0~~	~~10.0~~	~~10000.0~~
~~**Significant?**~~	~~**No**~~	~~**NA**~~	~~**Yes**~~	~~**NA**~~	~~**No**~~	~~**No**~~	~~**No**~~

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

California Environmental Quality Act

Final Environmental Impact Report

Proposed Regulation 13, Rule 5, Climate Pollutants from Industrial Hydrogen Plants

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD or Air District) is currently proposing new Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants (Rule 13-5). The primary standard of proposed Rule 13-5 would limit vented emissions of total organic compounds (methane and other hydrocarbons) from hydrogen production and hydrogen carrying systems. Air District regulations currently exclude methane from the definition of "organic compounds," but "total organic compounds" as proposed in Rule 13-5 are defined to include organic compounds and methane. Proposed Rule 13-5 includes an alternative compliance standard that would limit emissions of methane and other greenhouse gases (GHGs).

The Air District has a policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Methane is a potent and short-lived climate pollutant; its global warming potential is 86 times greater than that of carbon dioxide, when compared on a 20-year time horizon and 34 times that of carbon dioxide on a 100-year time horizon.[1] The sources of methane emissions include stationary sources such as landfills, wastewater treatment facilities, refineries, natural gas production and distribution systems; mobile sources such as cars and trucks; and natural sources such as wetlands. Given the importance of controlling methane, the Air District developed a comprehensive Basin-wide Methane Strategy as part of its 2017 Clean Air Plan (BAAQMD, 2017). The Methane Strategy is an agency-wide effort to better quantify and reduce the region's methane emissions. Proposed Rule 13-5 is one of the first rules being developed as part of this Strategy.

Proposed Rule 13-5 is being developed because hydrogen plants can be large sources of methane emissions. The intent of Proposed Rule 13-5 is to minimize both methane (a GHG) and other organic compound emissions (defined as "total organic compounds" emissions) normally emitted from atmospheric vents at hydrogen plants during normal operating conditions, startups, shutdowns, malfunctions, upsets, and emergencies. The reduction in total organic compound emissions would be achieved by providing hydrogen system operators the flexibility to use any gas control technology that is appropriate for minimizing total organic compound emissions in accordance with the requirements in Proposed Rule 13-5, or to develop an Alternative Compliance Plan that would achieve similar GHG emission reductions. Typically, hydrogen plant operations either capture and reuse hydrogen gases containing methane and other constituents, including organic compounds, for incorporation into refinery fuel gas systems or they use flares to burn the mixture of hydrogen gas, methane, and other constituents. Capturing hydrogen and other gases and reusing them in the refinery system could control total organic compound emissions up to nearly 100 percent.

The Air District is also proposing accompanying amendments to Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations (Rule 8-2) to clarify that sources subject to the atmospheric vent emission standard of Rule 13-5 are exempt from Rule 8-2. This is because the

[1] Myhre, G et al. 2013: Anthropogenic and Natural Radiative Forcing (and Supplemental Material); Climate Change 2013: The Physical Science Basis; Intergovernmental Panel on Climate Change Fifth Assessment report.

vent emissions standard contained in Proposed Rule 13-5 is more stringent than the general emission standard contained in Rule 8-2, which only regulates non-methane organic compounds. The changes to Rule 8-2 are proposed and intended to only be adopted if the new Rule 13-5 is adopted. Facilities complying with Rule 13-5 through the alternative compliance option would remain subject to Rule 8-2 because this option applies to only methane.

The Air District is also proposing amendments to Rule 8-2 to allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed. This additional amendment to Rule 8-2 is being made at this time to be consistent with other recently amended rules and is unrelated to Proposed Rule 13-5.

1.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid identified significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the Air District has prepared this Environmental Impact Report (EIR) under the requirements of CEQA Guidelines §15187 to address the potential environmental impacts associated with implementation of Proposed Rule 13-5 and proposed amendments to Rule 8-2. Prior to making a decision on the adoption of the proposed rule, the Air District Governing Board must review and certify the EIR as providing adequate information on the potential adverse environmental impacts of implementing the ~~Proposed Rule 13-5~~.

1.2.1 NOTICE OF PREPARATION/INITIAL STUDY

A Notice of Preparation and Initial Study (NOP/IS) for the Draft EIR for the Proposed Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants was distributed to responsible agencies and interested parties for a 30-day review on July 1, 2021. A notice of the availability of this document was distributed to other agencies and organizations and was placed on the Air District's web site, submitted to the California State Clearinghouse, and was also published in newspapers throughout the area of the Air District's jurisdiction. A public scoping meeting was held on July 27, 2021. Four public comment letters were submitted on the NOP/IS to the Air District.

The NOP/IS identified the following environmental resources as being potentially significant, requiring further analysis in the EIR: aesthetics, air quality, and GHG emissions. The following environmental resources were considered to be less than significant in the NOP/IS: agriculture and forestry resources, biological resources, cultural resources, energy, geology/soils, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and services systems, and wildfire (see Section 3.4 and Appendix A).

1.2.2 TYPE OF EIR

In accordance with §15121(a) of the State CEQA Guidelines (California Administrative Code, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that: "will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project." The EIR is an informational document for use by decision-makers, public agencies, and the general public. The proposed project requires discretionary approval and, therefore, it is subject to the requirements of CEQA (Public Resources Code, §21000 et seq.).

The focus of this EIR is to address the environmental impacts of the implementation of Proposed Rule 13-5 as identified in the NOP and Initial Study (included as Appendix A of this EIR). The degree of specificity required in an EIR corresponds to the degree of specificity involved in the

underlying activity described in the EIR (CEQA Guidelines §15146). The Proposed Rule 13-5 would apply to hydrogen plants within the Bay Areas.

1.2.3 INTENDED USES OF THIS DOCUMENT

In general, a CEQA document is an informational document that informs a public agency's decision-makers, and the public generally, of potentially significant adverse environmental effects of a project, identifies possible ways to avoid or minimize the significant effects, and describes reasonable alternatives to the project (CEQA Guidelines §15121). A public agency's decision-makers must consider the information in a CEQA document prior to making a decision on the project. Accordingly, this EIR is intended to: (a) provide the Air District's Board of Directors and the public with information on the environmental effects of the proposed project; and (b) be used as a tool by the Air District's Board to facilitate decision making on the proposed project.

Additionally, CEQA Guidelines §15124(d)(1) requires a public agency to identify the following specific types of intended uses of a CEQA document:

1. A list of the agencies that are expected to use the EIR in their decision-making;

2. A list of permits and other approvals required to implement the project; and

3. A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

There are no federal, state, or local permits required to adopt Proposed Rule 13-5 or the proposed amendments to Rule 8-2. Local public agencies, such as cities, and counties could be expected to utilize this EIR if local approval is required for facility modifications due to the implementation of emission control technologies (e.g., new flare equipment) at affected hydrogen plants, pursuant to CEQA Guidelines §15152. However, implementation of the proposed project is limited to implementation of air pollution control equipment and measures.

1.2.4 AREAS OF POTENTIAL CONTROVERSY

In accordance with CEQA Guidelines §15123(b)(2), the areas of controversy known to the lead agency including issues raised by agencies and the public shall be identified in the EIR. As noted above, four comment letters were received on the NOP/IS. Issues and concerns raised in the comment letters included: (1) potential visual impacts to public views from freeways; (2) potential impacts on biological resources; (3) potential air quality impacts from construction activities; (4) potential air quality impacts associated with installation of flares; (5) impacts associated with project alternatives; and (6) a recommendation to consult with Native American tribes.

The visual impacts on aesthetics associated with flares are addressed in the EIR (see Section 3.1). The potential impacts on biological resources are addressed further in the EIR (see Section 3.4.3.2). The potential air quality impacts associated with construction activities and the use of additional natural gas are addressed in Section 3.2 and Appendix B of the EIR. The alternatives to the proposed project are addressed in Section 4.0 of the EIR. Finally, all construction activities are expected to occur within the existing industrial areas adjacent to existing hydrogen plants,

which have been graded and constructed, so that impacts to cultural or tribal cultural resources are not expected (see Section 3.4.2.15 for further details). Further, no Native American tribes have requested consultation under AB52. Nonetheless, individual projects will need to be examined on a project-specific basis, when the precise location and compliance methods are known, and additional consultation with tribes may be required.

1.3 EXECUTIVE SUMMARY: CHAPTER 2 – PROJECT DESCRIPTION

The requirements in Proposed Rule 13-5 would apply to industrial hydrogen plants, including third-party operators that produce hydrogen. Proposed Rule 13-5 offers two standards for compliance. First, Proposed Rule 13-5 would prohibit the owner or operator of hydrogen plants from venting to atmosphere any emissions containing total organic compounds, as methane, in excess of 15 pounds per day and containing a concentration of more than 300 parts per million by volume. Monitoring is required to demonstrate compliance with this requirement (Section 13-5-301). In addition, the rule would prohibit diluting atmospheric vent emissions or the comingling of two or more atmospheric vents to reduce the total organic compound concentration to comply with the rule (Section 13-5-302).

Proposed Rule 13-5 would require hydrogen plant owners and operators to notify the Air District when emissions exceed the limits of the rule. It would also require hydrogen plant owners and operators to monitor total organic compound emissions, and it would include specific monitoring requirements for emissions at atmospheric vents, deaerator vents, carbon dioxide scrubbing vents, and pressure swing adsorption vents. Hydrogen plant owners and operators would need to maintain records of emissions monitoring information. Proposed Rule 13-5 states the acceptable methods for monitoring and compliance determinations.

Second, Proposed Rule 13-5 (Section 13-5-303) would provide an Alternative Methane and GHG Emissions Plan Option to reduce emissions of methane and other GHGs to a similar level to the emission standard provided in Section 13-5-301. Section 13-5-303 details the steps to submittal and approval of the plan including establishment of an inventory of emissions and reductions as part of the plan. If the owner or operator opts to comply with the alternative standard in Section 13-5-303, the facility would be required to reduce baseline methane emissions by 90 percent and would still be subject to the emissions limits in Rule 8-2 with respect to non-methane organic compounds.

Hydrogen plants at two refineries are expected to need additional control technology to comply with Proposed Rule 13-5, the Valero Refinery in Benicia and the hydrogen plants that provide hydrogen to the PBF Refinery in Martinez. Compliance options could include installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan. The impacts associated with an Alternative Compliance Plan may vary but would be expected to include the addition of compressors, monitoring equipment, piping, valves, and flanges and similar equipment to reroute gas streams within the facility.

Proposed amendments to Rule 8-2 would exempt sources subject to the atmospheric vent emission standard of Rule 13-5 from Rule 8-2. This is because the vent emissions standard contained in

Proposed Rule 13-5 is more stringent than the general emission standard contained in Rule 8-2, which only regulates non-methane organic compounds. The changes to Rule 8-2 are proposed and intended to only be adopted if the new Rule 13-5 is adopted. These amendments would have no adverse environmental impacts, as they simply apply the more stringent standard of Proposed Rule 13-5 to industrial hydrogen plants

Proposed amendments to Rule 8-2 would allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed. This additional amendment to Rule 8-2 is being made at this time to be consistent with other recently amended rules and is unrelated to Proposed Rule 13-5. This proposed amendment would also have no adverse environmental impacts as it simply allows for the approval of alternative test methods.

1.3.1 PROJECT OBJECTIVES

The objectives of Proposed Rule 13-5 and the accompanying proposed amendments to Rule 8-2 are to:

- Reduce emissions of GHGs, as well as other organic compounds, associated with operation of industrial hydrogen plants.
- Assist the Air District in meeting its policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030.
- Obtain additional data on total organic compound emissions from deaerators and carbon dioxide scrubber vent controls at industrial hydrogen plants.

1.4 EXECUTIVE SUMMARY: CHAPTER 3 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3 of the ~~Draft~~ Final EIR describes the existing environmental setting in the Bay Area, analyzes the potential environmental impacts of implementing Rule 13-5 and recommends mitigation measures (when significant environmental impacts have been identified). Chapter 3 provides this analysis for each of the environmental areas identified in the Initial Study as having potentially significant impacts (see Appendix A), including: (1) Aesthetics; (2) Air Quality; and (3) Greenhouse Gases. Included for each impact category is a discussion of the environmental setting, significance criteria, whether the proposed project will result in any significant impacts (either individually or cumulatively in conjunction with other projects), and feasible project-specific mitigation (if necessary and available).

1.4.2 AESTHETICS

1.4.2.1 Aesthetics Setting

Important views of natural features in the Bay Area include the San Francisco Bay and Pacific Ocean, Mount Tamalpais, Mount Diablo, and other peaks and inland valleys of the Coast Range.

Cityscape views offered by buildings and distinctive Bay Area bridges, especially the Golden Gate and Bay Bridges and the San Francisco skyline, are also important built visual resources to the region (ABAG, 2017).

Proposed Rule 13-5 is expected to affect hydrogen plants at two refineries in the Bay Area – one in Contra Costa County (PBF Martinez Refinery), and one in Solano County (Valero Benicia Refinery) – may require the installation of new flare systems. These refineries and their associated hydrogen plants are situated across the Carquinez Strait within two miles from one another. The Carquinez Strait forms a visually distinct, relatively narrow channel that connects San Pablo Bay to Suisun Bay. The approximately six-mile strait lies between two major bridges: the Carquinez Bridge, from Crockett to Vallejo; and the Benicia-Martinez Bridge, from Benicia to Martinez. The Carquinez Strait and Suisun Bay are characterized by a visual mix of industrial uses, small towns, and open areas of undeveloped land.

The PBF Martinez Refinery and associated hydrogen plants is located in a heavy industrial area, which allows for the manufacturing and processing of petroleum chemicals, fertilizers, gas, as well as numerous other industrial and manufacturing uses. The PBF Refinery is bordered to the north by heavy industrial land use and the Carquinez Strait water way. To the east of the PBF Martinez Refinery are Interstate 680 (I-680), public lands, and wetland areas that are designated as open space. Along the southern border of the PBF Refinery is land designated as commercial, multiple family residential (light), and single family residential (heavy). The area west of the PBF Refinery is similar in mix to the land use along the southern area; however, the central Martinez downtown area is located directly west of the Refinery.

The Valero Benicia Refinery (including the hydrogen plant) is located along the northern edge of the Suisun Bay below a low range of coastal hills. The Refinery occupies approximately 330 acres of the 880-acre Valero Benicia property; the remaining portion of which is undeveloped. The Refinery is designated as General Industrial by the City of Benicia General Plan and Zoning Ordinance.

1.4.1.2 Aesthetics Impacts

The addition of flares at the facilities may add visible structures to the skyline at each facility. For purposes of evaluating aesthetic impacts, elevated flares are assumed to be used for compliance with Proposed Rule 13-5. Figures 3.1-3 and 3.1-4 show renderings of the PBF Martinez Refinery and the Valero Benicia Refinery, respectively, that include an additional flare at each refinery. The exact location of the new flare at each facility may vary and will be determined during the engineering design process.

As shown in Figures 3.1-3 and 3.1-4, the addition of a flare would not change the visual character of the area at either the PBF Martinez or Valero Benicia Refinery, respectively. Multiple structures at the refineries are similar in height and width as potential new flares. As shown in Figures 3.1-3 and 3.1-4, the new flares are not expected to be discernable from the overall skyline of the existing refineries from the bridge. In addition, the flames on the flares are not expected to be noticeable during the day.

The aesthetic impacts associated with the installation of a new flare are expected to be the worst-case aesthetic impacts under Proposed Rule 13-5. No significant adverse impacts to aesthetics are expected from new flares that may be installed to comply with Proposed Rule 13-5 because of the industrial nature of the facilities. It should be noted that the installation of gas recovery systems is expected to occur at ground level and would not be visible outside of the refineries and no aesthetic impacts would be expected due to installation of a gas recovery system. Control technology associated with an Alternative Compliance Plan may include additional compressors, monitoring equipment, piping, valves, and flanges and similar equipment to reroute gas streams within the facility. This type of equipment that may be installed under an Alternative Compliance Plan is low in profile and generally at ground level, therefore, is not expected to be visible outside of the facility.

The aesthetic impacts associated with the installation of a new flare are expected to be the worst-case impacts under Proposed Rule 13-5. Based on the above analysis, no significant adverse impacts to aesthetics are expected from the compliance options that include installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan to comply with Proposed Rule 13-5.

1.4.2 AIR QUALITY

1.4.2.1 Air Quality Setting

It is the responsibility of the Air District to ensure that state and federal ambient air quality standards (AAQS) are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride.

Air quality conditions in the San Francisco Bay Area have improved since the Air District was created in 1955. The long-term trend of ambient concentrations of air pollutants and the number of days on which the region exceeds AAQS have generally declined, although some year-to-year variability primarily due to meteorology, causes some short-term increases in the number of exceedance days. The Air District is in attainment of the State AAQS for CO, NO_2, and SO_2. However, the Air District does not comply with the State 24-hour PM_{10} standard, annual PM_{10} standard, and annual $PM_{2.5}$ standard. The Air District is unclassifiable/attainment for the federal CO, NO_2, SO_2, lead (Pb), and PM_{10} standards. A designation of unclassifiable/ attainment means that the United States Environmental Protection Agency (U.S. EPA) has determined to have sufficient evidence to find the area either is attaining or is likely attaining the NAAQS.

In 2019, no monitoring stations measured an exceedance of any of State or federal AAQS for CO, NO_2, and SO_2. All monitoring stations were in compliance with the federal PM_{10} standards. The State 24-hour PM_{10} standard was exceeded on five days in 2019, at the San Jose and Bethel Island monitoring stations.

The Bay Area is designated as a non-attainment area for the federal and State eight-hour ozone standard and the federal 24-hour $PM_{2.5}$ standard. The State and federal eight-hour ozone standards were exceeded on nine days in 2019 at one site or more in the Air District; most frequently in the Eastern District (Livermore, Concord, Bethel Island, and San Ramon) (see Table 3.2-2). The federal 24-hour $PM_{2.5}$ standard was exceeded at one or more Bay Area station on one day in 2019, most frequently in San Pablo.

1.4.2.2 Air Quality Impacts

To calculate the potential construction emissions associated with the construction of a new flare, it was assumed that construction activities would take about 9 months and would require 50 workers per day. The construction of vapor recovery of the vent gas would require similar amount of piping as a flare and would also require a compressor, which would result in equal to or less intensive construction activities than the installation of a complete flare system. Construction activities associated with an Alternative Compliance Plan are expected to be much less than the installation of a flare or vapor control system as less equipment would be installed Therefore, only the detailed emissions associated with the construction of the flare is presented as a worst-case analysis of air quality impacts associated with construction activities.

Based on the construction emission estimates (see Table 3.2-11 and Appendix B), it was concluded that construction emissions associated with the construction of the new flares would potentially exceed the CEQA significance thresholds for oxides of nitrogen (NOx) and would, therefore, be considered potentially significant. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

Flares have been used to control toxic air contaminant (TAC) and reactive organic gas (ROG) emissions from process upsets for many years by combusting vented gas during emergency conditions. In order to combust the vent gas, the flare must continually burn a pilot light that uses natural gas. The emissions for the pilot light are calculated using AP-42 emission factors for natural gas for industrial flares. The vented gas is expected to be primarily hydrogen with up to four percent methane, one percent non-methane hydrocarbons (NMHCs), and contains no sulfur compounds. Supplemental natural gas is not anticipated based on to the heating value of hydrogen. The analysis assumes that, under worst-case assumptions, two flares would be installed under Proposed Rule 13-5. The emissions calculations determined that NOx emissions from flares could exceed the CEQA thresholds and are potentially significant. The emissions of other criteria pollutants would be below CEQA thresholds and less than significant.

Overall, the operational emissions associated with a vapor recovery system are expected to result in a reduction in emissions as it is expected to reduce vent gas emissions, result in little fugitive emissions, and may not require new combustion sources (e.g., a new pilot light). Therefore, the operational emissions from a vapor recovery system are expected to be less than a flare. The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to additional compressors, monitoring equipment, piping, valves, and flanges to re-route vent gases, resulting in minimal emissions (i.e., no increase in combustion emissions). Therefore, an Alternative Compliance Plan would not be expected to result in an increase in NOx emissions.

Thus, operational emissions associated with installation and use of two flares represents a worst-case analysis of emissions associated with implementation of Rule 13-5.

Detailed information regarding TAC emissions in the vent gas is currently not available. However, a reduction in TAC emissions would be expected from the destruction of the NMHCs that are potentially in the vent stream. The goal of the Proposed Rule 13-5 is to reduce emissions of methane and NMHCs. The use of a flare would be expected to reduce NMHCs by about 98 percent, which would include TAC emissions. The operation of vapor recovery for rule compliance would result in the combustion of captured vent gas in an existing on-site source. Therefore, the installation of a flare or vapor recovery to comply with the proposed rule would be expected to reduce TAC emissions generated, as well as the potential exposure to those TAC emissions, reducing the overall potential health risk associated with exposure to TAC emissions.

The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to additional compressors, monitoring equipment, piping, valves, and flanges to re-route vent gases, resulting in minimal emissions and no increase in combustion emissions. An Alternative Compliance Plan would not result in increased combustion and would not be expected to result in any increases in TAC emissions. Therefore, TAC emissions associated with the proposed project are expected to be less than significant.

1.4.2.3 Air Quality Mitigation Measures

Air quality impacts associated with the implementation of Proposed Rule 13-5 are expected to be potentially significant for NOx during construction activities. The Air Districts Basic Construction Mitigation Measures are expected to be implemented (BAAQMD, 2017a).

While the Proposed Rule 13-5 would reduce emissions of NMHC, air quality impacts associated with the implementation of Proposed Rule 13-5 are potentially significant for NOx from the operation of two new flares and feasible mitigation measures are required. Any new equipment may be required to comply with the Best Available Control Technology (BACT) requirements of Air District Rule 2, Regulation 2. BACT includes the most effective emission control device or technique that has been successfully utilized for the type of equipment comprising the source. In addition, offsets may be required. Compliance with the BACT and offset requirements would minimize emissions from the source. However, BACT requirements do not apply to emissions of secondary pollutants that are the direct result of the use of an abatement device or emission reduction technique implemented for the control of another pollutant. No additional feasible mitigation measures are available.

1.4.3 GREENHOUSE GASES

1.4.3.1 Greenhouse Gas Setting

There are dozens of GHGs, but a subset of six of these gases has been identified by the Kyoto Protocol (plus carbon black) as the primary agents of climate change: Carbon Dioxide (CO_2);

Methane; Nitrous oxide (N_2O); Hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6); and black carbon

In 2020, total GHG emissions in the State of California were an estimated 4255 million metric tons of CO_2 equivalent ($MMTCO_2e$), a decrease of 6 $MMTCO_2e$ below the 2020 GHG limit of 431 $MMTCO_2e$. GHG emissions from transportation account for about 40 percent of the total GHG emissions in the State, followed by energy industries (e.g., electric plants) with 15 percent of the total, and industrial activities with 21 percent. Emissions from other sections (e.g., commercial and residential, agricultural, and recycling and waste) have remained relatively constant in recent years (CARB, 2020).

Between 2015 and 2019, Contra Costa County had 28 and Solano County had two stationary source facilities that were required to report emissions to the California Air Resources Board (CARB) (one of which was the Valero Refining Company in Benicia). The largest stationary sources of GHG emissions in Contra Costa and Solano Counties include the Valero Benicia and PBF Martinez Refineries.

1.4.3.2 Greenhouse Gas Impacts

The estimated GHG construction emission increases associated with Proposed Rule 13-5 are 1,965 metric tons or 66 metric tons (MT) per year amortized over 30 years. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

The potential GHG emissions for the pilot light associated with the operation of new flares are calculated using AP-42 emission factors for natural gas fired external fired combustion. It is assumed that each flare will have two pilot lights, which consume approximately 77 standard cubic feet per hour of natural gas.

The emissions for the combustion of vent gas in the flares are calculated using AP-42 emission factors for industrial flares. The vented gas is expected to be primarily hydrogen with up to four percent methane, one percent NMHCs, and would contain no sulfur compounds. The operational emissions from two flares are summarized in Table 3.2-7. Detailed operational emission calculations are presented in Appendix B.

The operation of vapor recovery for control of the vent gas would require similar amount of fugitive components as a flare. Additionally, the captured vent gas could be combusted in an existing on-site source. Overall, the operational emissions associated with a vapor recovery system are expected to result in a reduction in emissions as it is expected to reduce vent gas emissions, result in little fugitive emissions, and would not require new combustion sources (e.g., a new pilot light). Therefore, the operational emissions from a vapor recovery system are expected to be less than a flare.

The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to additional compressors, monitoring equipment, piping, valves, and flanges to re-route vent gases, resulting in minimal emissions and no increase in combustion emissions. An Alternative Compliance Plan would not result in increased combustion and would not be expected to result in any increases in GHG emissions.

Since the operational emissions of a vapor recovery system or an Alternative Compliance Plan would be less than a flare or an Alternative Compliance Plan, the operational emissions for two flares are presented as a worst-case analysis.

The implementation of Proposed Rule 13-5 will control methane emissions, regardless of whether a flare or vapor recovery is used, resulting in a reduction in GHG emissions. Further, both systems are expected to capture and control the same amount of vent gas. The estimated emission benefits from implementation of Proposed Rule 13-5 are presented in Table 3.2-8.

Implementation of Proposed Rule 13-5 by the Air District would result in a minor increase in GHG emissions associated with the ~~pilot gas for~~ operation of the flares (6,524 ~~6,528~~ MT/year). Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477 ~~79,255~~ MT/year ~~MT~~CO_2e (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant thresholds and less than significant.

1.5 EXECUTIVE SUMMARY: CHAPTER 4 – ALTERNATIVES

An EIR is required to describe a reasonable range of alternatives to the proposed project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project (CEQA Guidelines §15126.6(a)). As discussed in Chapter 3 of this EIR, the proposed project would result in potentially significant impacts to air quality due to an increase in NOx emissions should flares be installed to control total organic emissions from hydrogen plant vents. Therefore, the alternatives analysis should focus on alternatives that avoid or minimize these potentially significant impacts.

CEQA Guidelines §151216.6 I requires evaluation of a "No Project Alternative." Under the No Project Alternative (Alternative 1), Proposed Rule 13-5 would not be implemented and no additional control of hydrogen plant vents would occur, i.e., no new flares, vapor recovery systems, or other measures to minimize methane emissions associated with industrial hydrogen plants would be installed. Alternative 1 would eliminate the potentially significant NOx emissions associated with project construction, operational, and cumulative impacts to less than significant, but would not achieve any reduction in total organic compound emissions, including methane, and would not achieve any of the proposed project objectives.

Alternative 2, More Stringent Control, would be expected to result in more construction activities so construction emissions would remain potentially significant. However, the potentially significant operational and cumulative air quality impacts associated with NOx from the proposed project would be eliminated. In addition, the project objectives would still be achieved, including the total organic compound emissions reductions. Alternative 2 would be considered the environmentally superior alternative as it would reduce project impacts but still achieve the project objectives and total organic compound emission reductions. However, implementation of Alternative 2 would be substantially more costly, and may not be physically or economically feasible.

Alternative 3 – No Alternative Compliance Plan, would have similar impacts as the worst-case scenario impacts of the proposed project, as the control options would likely be limited to combustion sources (e.g., flares) and vapor recovery systems. Alternative 3 would achieve the objectives of the proposed project but would not provide applicants with options that have the potential to eliminate the potentially significant NOx emission impacts associated with combustion sources.

The proposed project is likely the most cost-effective approach that achieves the project objectives and allows affect facilities the flexibility to use site-specific control measures that would reduce the potentially significant NOx emission increase associated with new flares. Therefore, the proposed project is the preferred alternative.

TABLE 1-1

Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
Aesthetics		
The addition of flares at the facilities may add visible structures to the skyline, which are not expected to change the visual character of either the PBF Martinez or Valero Benicia Refinery, respectively. Multiple structures at the refineries are similar in height and width as potential new flares. Aesthetic impacts would be less than significant.	None required.	Aesthetic impacts associated with implementation of Rule 13-5 would be less than significant.
Air Quality		
The construction activities may include construction of two flare systems. The construction emissions may exceed the CEQA significance thresholds for NOx and are potentially significant.	The Air District's Basic Construction Mitigation Measures are expected to be implemented.	Construction emissions of ROG, CO, SO_2, PM10, and PM2.5 would be less than significant. The construction emissions of NOx may remain significant.
Worst-case operational activities associated with the implementation of Rule 13-5 may include the operation of two flares. The emissions calculations determined that NOx emissions from flares could exceed the CEQA thresholds and are potentially significant. The emissions of other criteria pollutants would be less than significant.	Any new equipment may be required to comply with BACT. Compliance with the BACT requirements would minimize emissions from the source to the maximum degree feasible	Operational emissions of ROG, CO, SO_2, PM10, and PM2.5 would be less than significant. The operational emissions of NOx may be significant.
Implementation of Rule 13-5 would likely result in a reduction in TAC emissions from the control of the NMHCs that are potentially in the vent stream, or at worst result in no increase in TAC emissions. Therefore, TAC emissions and the related health risks associated with implementation of Rule 13-5 are expected to be less than significant.	None Required	Potential TAC emissions would be less than significant.

TABLE 1-1

Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impacts
Greenhouse Gases		
Implementation of Proposed Rule 13-5 by the Air District may result in a minor increase in GHG emissions associated with the ~~pilot gas for~~ operation of the flares (~~6,528~~ 6,524 MT/year). Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477 ~~79,255~~ MT/year ~~MT~~CO_2e (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant thresholds and less than significant.	None Required	Implementation of Rule 13-5 is expected to result in a reduction in GHG emissions providing a beneficial impact.
Cumulative Air Quality		
Air quality impacts associated with the implementation of Proposed Rule 13-5 are potentially significant for NOx if both affected facilities install a new flare. Given that the Bay Area is not in attainment with the federal and state ozone standard, and that implementation of Proposed Rule 13-5 could result in significant air quality impacts, cumulative air quality impacts are also potentially significant.	Any new equipment may be required to comply with Air District BACT requirements. Compliance with the BACT requirements would minimize emissions from the source to the maximum degree feasible	The use of a flare would be expected to reduce NMHC by about 98 percent, leading to a beneficial impact of reducing TAC emissions The cumulative operational emissions of NOx may be potentially significant.

1.6 REFERENCES

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CHAPTER 2

PROJECT DESCRIPTION

Introduction
Project Location
Project Objectives
Background
Project Description
Potential Emission Control Technologies and Techniques

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2.0 PROJECT DESCRIPTION

2.1 INTRODUCTION

The Air District is currently proposing new Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants (Rule 13-5).

Proposed Rule 13-5 would limit vented emissions of total organic compounds (methane and other hydrocarbons) from hydrogen production and hydrogen carrying systems. Air District regulations currently exclude methane from the definition of "organic compounds," but "total organic compounds" as proposed in Rule 13-5 are defined to include organic compounds and methane. Currently, nearly all hydrogen production plants in the Bay Area operate integrally or in support of petroleum refinery operations; however, if demand for hydrogen increases to fuel vehicles among other purposes, more stand-alone hydrogen facilities may begin operations. Proposed Rule 13-5 seeks to control emissions from all hydrogen production plants that utilize steam-methane reformation, as this process can result in venting of methane and other organic compounds.

The State of California made the reduction of GHG emissions a priority. In September 2016, Governor Brown signed Senate Bill 32 (Chapter 249, Statutes of 2016), which mandated a GHG emissions reduction target of 40 percent below 1990 emission levels by 2030. Senate Bill 605 (Chapter 523, Statutes of 2014) required the California Air Resources Board to develop a plan to reduce emissions of short-lived climate pollutants, and Senate Bill 1383 (Chapter 249, Statutes of 2016) required the California Air Resources Board to approve and implement a plan by January 2018 to achieve these reductions. Senate Bill 1383 also set a target for the reduction of methane emissions of 40 percent below 2013 levels by 2030. Pursuant to Senate Bill 605 and Senate Bill 1383, the California Air Resources Board subsequently developed the Short-Lived Climate Pollutant Reduction Strategy, adopted in March 2017.

The Air District has a policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Methane is a potent and short-lived climate pollutant; its global warming potential is 86 times greater than that of carbon dioxide, when compared on a 20-year time horizon and 34 times that of carbon dioxide on a 100-year time horizon.[1] Methane represents the second largest emissions of GHGs in the region, after carbon dioxide. In 2015, all methane sources located within the Air District emitted an estimated 10 million metric tons of carbon dioxide equivalent, about 10 percent of the Bay Area's GHG inventory. The sources of methane emissions include stationary sources such as landfills, wastewater treatment facilities, refineries, natural gas production and distribution systems; mobile sources such as cars and trucks; and natural sources such as wetlands. Reducing emissions of short-lived climate pollutants, such as methane, can have a dramatic effect on climate change in the near term as their atmospheric lifetime is much less than longer-lived GHGs, such as carbon dioxide. Given the

[1] Myhre, G et al. 2013: Anthropogenic and Natural Radiative Forcing (and Supplemental Material); Climate Change 2013: The Physical Science Basis; Intergovernmental Panel on Climate Change Fifth Assessment report.

importance of controlling methane, the Air District developed a comprehensive Basin-wide Methane Strategy as part of its 2017 Clean Air Plan (BAAQMD, 2017). The Methane Strategy is an agency-wide effort to better quantify and reduce the region's methane emissions. Proposed Rule 13-5 is one of the first rules being developed as part of this Strategy. Other source-specific methane rules are under development to address emissions from specific operations.

Proposed new Rule 13-5 is being developed because hydrogen plants can be large sources of methane emissions. The intent of Proposed Rule 13-5 is to minimize both methane (a GHG) and other organic compound emissions (defined as "total organic compounds" emissions) normally emitted from atmospheric vents at hydrogen plants during normal operating conditions, startups, shutdowns, malfunctions, upsets, and emergencies. The reduction in total organic compound emissions would be achieved by providing hydrogen system operators the flexibility to use any gas control technology that is appropriate for minimizing total organic compound emissions in accordance with the requirements in Proposed Rule 13-5. Typically, hydrogen plant operations either capture and reuse hydrogen gases containing methane and other constituents, including organic compounds, for incorporation into refinery fuel gas systems or they use flares to burn the mixture of hydrogen gas, methane, and other constituents. Capturing hydrogen and other gases and reusing them in the refinery system could control total organic compound emissions up to nearly 100 percent. The proposed Rule includes an alternative compliance plan option whereby emissions of methane and GHGs are required to be controlled to 90 percent, with an option to meet this control requirement with an equivalent GHG emissions reduction of up to 20 percent of the total. In the case that this option is utilized, organic compounds would continue to be subject to emissions standards in Air District Regulation 8: Organic Compounds, Rule 2, miscellaneous sources (Rule 8-2). If flares are used to control total organic compound emissions from hydrogen plants, the hydrogen gases containing total organic compounds routed directly to a flare would have to meet a 98 percent control efficiency to comply with federal standards for refinery flares.

The Air District is also proposing amendments to Rule 8-2 so that sources subject to the atmospheric vent emission standard of Rule 13-5 are exempt from Rule 8-2. This is because the vent emissions standard contained in Proposed Rule 13-5 is more stringent than the general emission standard contained in Rule 8-2, which only regulates non-methane organic compounds.

The Air District is also proposed amendments to Rule 8-2 to allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed. This additional amendment to Rule 8-2 is being made at this time to be consistent with other recently amended rules and is unrelated to Proposed Rule 13-5.

2.2 PROJECT LOCATION

The Air District has jurisdiction of an area encompassing 5,600 square miles. The Air District includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties, and portions of southwestern Solano and southern Sonoma counties. The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys, and bays (see Figure 2.2-1). The Proposed Rule 13-5 would apply to hydrogen plants at the

REFINERIES WITHIN THE
BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Project No. 3185

Figure 2.2-1

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within the Bay Area, the locations of which are shown on Figure 2.2-1. One refinery (Valero) is located in Benicia, which is in Solano County. The remaining refineries are located in Contra Costa County.

Hydrogen plants at two refineries are expected to need additional control technology to comply with Proposed Rule 13-5, the Valero Refinery in Benicia and the hydrogen plants that provide hydrogen to the PBF Refinery in Martinez.

The PBF Martinez Refinery is located in north-central Contra Costa County, adjacent to the community of Martinez. The primary processing area of the PBF Refinery is between Pacheco Boulevard and Marina Vista, and the wastewater treatment plant and wharf operations are between Marina Vista and the Carquinez Strait. Approximately 20 percent of the PBF Refinery is located within the corporate limits of the City of Martinez. The remainder of the Refinery is in an unincorporated area of the County. The PBF Martinez Refinery is located in a heavy industrial area, which allows for the manufacturing and processing of petroleum chemicals, fertilizers, and gas, as well as numerous other industrial and manufacturing uses. The PBF Refinery is bordered to the north by heavy industrial land use and the Carquinez Strait waterway. To the east of the PBF Martinez Refinery is Highway 680, public lands, and wetland areas that are designated as open space. Along the southern border of the PBF Refinery is land designated as commercial, multiple family residential (light), and single family residential (heavy). The area west of the PBF Refinery is similar in mix to the land use along the southern area, however, the central Martinez downtown area is located directly west of the PBF Refinery.

The Valero Benicia Refinery is located at 3400 East Second Street, within an industrial area (Benicia Industrial Park) in the eastern portion of the City of Benicia, west of Interstate 680. The Valero Refinery is located along the northern edge of the Suisun Bay below a low range of coastal hills. The Valero Refinery occupies approximately 330 acres of the 880-acre Valero Benicia property; the remaining portion of which is undeveloped. The Valero Refinery is designated as General Industrial by the City of Benicia General Plan and Zoning Ordinance. The Valero Benicia Refinery is immediately bordered by approximately 550 acres of mostly undeveloped Valero property to the south and west, and general industrial uses to the north and east. Industrial uses in the Benicia Industrial Park are located east of the Refinery. This area consists largely of single-level warehouse and manufacturing buildings interspersed with parking areas and materials storage yards. Residential uses are located approximately 3,000 feet to the south and west of the Refinery, and approximately 2,100 feet to the northwest. This neighborhood is separated from the Valero Benicia Refinery site by undeveloped hills, including areas owned by Valero.

2.3 PROJECT OBJECTIVES

The overall objective of the proposed new rule and accompanying rule amendment is to reduce emissions of GHGs through the minimization of total organic compound (methane and other organic compounds) emissions in the Bay Area. Specifically, the objectives of the Proposed Rule 13-5 are to:

- Reduce emissions of GHGs, as well as other organic compounds, associated with operation of industrial hydrogen plants.
- Assist the Air District in meeting its policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030.
- Obtain additional data on total organic compound emissions from deaerators and carbon dioxide scrubber vent controls at industrial hydrogen plants.

2.4 BACKGROUND

2.4.1 BACKGROUND

2.4.1.1 Refinery Hydrogen Use

In the petroleum refining industry, hydrogen is used extensively in the processing of crude oil into refined fuels such as gasoline and diesel. Hydrogen is consumed in desulfurization units to remove contaminants from fuels and feedstocks. Additionally, hydrogen is used in the refinery fuel gas system. As petroleum refinery product specifications become more stringent to meet environmental requirements, refinery demand for hydrogen has continually increased to supply the refinery hydrogen consumers (process units). The two primary hydrogen consumers in Bay Area petroleum refineries are processes known as hydrotreating and hydrocracking

Hydrotreating is a process whereby hydrogen is added to a hydrocarbon gas (often referred to as a feedstock) stream over a bed of catalysts typically containing molybdenum with nickel or cobalt. The purpose of hydrotreating is to remove sulfur and other undesirable compounds, such as unsaturated hydrocarbons and nitrogen, from the hydrocarbon stream. Sulfur will poison (shorten the lifespan of) catalysts used in hydrocarbon processing applications so refineries take measures to protect catalysts to extend their operating longevity as long as possible. During hydrotreating, sulfur compounds react with hydrogen to form hydrogen sulfide, while nitrogen compounds react to form ammonia. Aromatics and olefins are saturated by the hydrogen and lighter products are created. The final result of the hydrotreating process is the substantial reduction of sulfur and other contaminants from the original feedstock.

Hydrocracking is a refinery process that produces lighter hydrocarbon molecules with higher value for diesel, aviation fuel and petrol fuel from long-chain hydrocarbons. In this process, heavy gas oils, heavy residues or similar boiling-range heavy distillates are reacted with hydrogen in the presence of a catalyst at high temperature and pressure. The heavy feedstocks molecules are broken (or “cracked”) into light or middle distillate products—for example, naphtha, kerosene, and diesel—or base stocks for lubricants. For some refineries, the hydrocracker unit is the top hydrogen consumer. Hydrogen is the key component that enables the hydrocracking process to reduce the product boiling range appreciably by converting the majority of the feedstock to lower-boiling, more desirable products.

2.4.1.2 Industrial Hydrogen Production

An industrial hydrogen plant is a comprehensive operation or operations that use the steam-methane reformation process to produce hydrogen, including compression and distribution. The production, and distribution of hydrogen up to the point of the consumer within a petroleum refinery or other industrial operation as part of an integrated system that is referred to as an "Industrial Hydrogen Plant" for the purposes of proposed Rule 13-5. An industrial facility may incorporate one or more hydrogen plants into its hydrogen distribution network that delivers hydrogen to various units that use hydrogen.

Hydrogen production via steam-methane reforming generally includes four steps: 1) the purification of the feed gas (usually natural gas or refinery fuel gas, although other gases may be used); 2) steam (H_2O) and methane (CH_4) are reformed in the box to convert most of the methane gas to hydrogen (H_2) and carbon monoxide (CO_2) via the chemical reaction $CH_4 + H_2O \rightleftharpoons CO + 3\ H_2$; 3) temperature shift reaction to convert some of the remaining methane to hydrogen; and 4) final product purification step. Hydrogen gas containing total organic compounds can be vented to atmosphere at various locations throughout the plant.

Hydrogen plants in current service at local refineries consist of two types, those with pressure swing adsorption and those without. Pressure swing absorption produces a purer form of hydrogen required by certain refinery applications. Prior to distributing hydrogen into the refinery hydrogen network, most hydrogen plants use a pressure swing adsorption process for the final purification step at the back end of the steam-methane reforming operation to produce an ultra-pure hydrogen with a minimum purity of 99.99 percent concentration in the gas stream from what was previously a concentration ranging between 95 percent to 97 percent. A by-product of the pressure swing adsorption process, referred to as "tail gas" is impure hydrogen gas that does not meet specifications for refinery hydrogen consumers and is routed back to the steam-methane reformer as fuel and can contain methane concentrations ranging between 15 and 20 percent.

By contrast, a hydrogen plant that does not use a pressure swing adsorption process produces a less pure hydrogen stream that contains a higher amount of total organic compounds, including methane—generally between four and six percent.

Methane emissions occur when impure hydrogen gases containing total organic compounds are purposely vented from atmospheric vents (sometimes referred to as process vents) located at various junctures throughout the hydrogen plant. Most atmospheric venting of impure hydrogen gas in Bay Area hydrogen plants occurs within the hydrogen plant steam-methane reforming processes. For most facilities, hydrogen gas is not vented to atmosphere as a matter of course, it is only vented when necessary, usually for safety-related reasons such as refinery startups, shutdowns, emergencies, malfunctions, trips, or process upsets. A total of nine operational hydrogen plants are associated with Bay Area refineries; two of the hydrogen plants—one at the Valero refinery and the other at the PBF refinery—regularly vent hydrogen gas from certain atmospheric vents during normal operations. Most hydrogen plants typically have three to four atmospheric vents located in

the steam-methane reforming process unit. Each vent is used to release impure hydrogen gas under specific operational conditions.

A secondary method of producing hydrogen in petroleum refineries is known as "catalytic reforming" or "naphtha reforming units." However, the majority of hydrogen is produced in hydrogen plant steam-methane reforming processes and this proposed rule would not apply to this operation. The heart of an industrial hydrogen plant consists of a steam-methane reformer and additional hydrogen purification steps that are integrated with all the processes to deliver hydrogen up to but not including the end user or consumer in need of hydrogen throughout the refinery.

2.5 PROJECT DESCRIPTION

The requirements in Proposed Rule 13-5 would apply to industrial hydrogen plants using the steam-methane reformation process to produce hydrogen. This is the case for all the current hydrogen plants servicing refineries, including third-party operators that produce hydrogen in industrial hydrogen plants. Proposed Rule 13-5 would address total organic compound (methane and other hydrocarbons) emissions from hydrogen plants as follows:

> Section 13-5-301, Emission Limits for Industrial Hydrogen Plants, would prohibit the owner or operator of an industrial hydrogen plant from venting to atmosphere any emissions containing total organic compounds, as methane, in excess of 15 pounds per day and containing a concentration of more than 300 parts per million on a dry basis. Monitoring is required to demonstrate compliance with this requirement.
>
> Section 13-5-302, Prohibition of Comingling and Dilution: The emission standard set forth in Section 13-5-301 shall apply to each individual atmospheric vent. This section prohibits diluting atmospheric vent emissions or the comingling of two or more atmospheric vents to reduce the total organic compound concentration to comply with Section 13-5-301.
>
> Section 13-5-303. Alternative Methane and Greenhouse Gas Emissions Standard Option, would provide a plan option to reduce emissions of methane and other GHGs to a similar level to the emission standard provided in Section 13-5-301. This section details the steps for submittal and approval of the plan including establishment of an inventory of emissions and reductions as part of the plan.

An owner or operator of an industrial hydrogen plant that complies with Section 13-5-301 will no longer be subject to Rule 8-2 because Section 13-5-301 applies the same mass emission standard as that is in Rule 8-2, but for total organic compounds, which includes methane. If the owner or operator opts to comply with the alternative standard in Section 13-5-303, the facility would still be subject to the emissions limits in Rule 8-2 with respect to non-methane organic compounds. Because the amendments to Rule 8-2 would cause no

adverse environmental impacts, the analysis in this EIR focuses on potential environmental impacts from Proposed Rule 13-5.

Proposed Rule 13-5 would require hydrogen plant owners and operators to notify the Air District when emissions exceed the limits of the Rule. It would also require hydrogen plant owners and operators to monitor total organic compound emissions, and it would include specific monitoring requirements for emissions at deaerator vents, carbon dioxide vents, and pressure swing adsorption vents. Hydrogen plant owners and operators would need to maintain records of emissions monitoring information. Proposed Rule 13-5 states the acceptable methods for monitoring and compliance determinations.

2.6 POTENTIAL EMISSION CONTROL TECHNIQUES AND TECHNOLOGIES

Because vented methane emissions from hydrogen plants are not currently subject to emission limits, their emissions are usually uncontrolled unless the methane is a constituent of a gaseous stream that includes other air pollutants, such as volatile organic compounds, subject to emission limit requirements of another Air District regulation. However, not all volatile organic compound abatement technology will capture or control methane emissions. For example, activated carbon is commonly used to extract volatile organic compounds from gaseous streams via an adsorption process that traps volatile organic compound molecules onto the surface of carbon molecules while the remainder of the gaseous stream continues to flow through the carbon bed. However, methane is not typically captured by activated carbon, so it flows through unabated.

2.6.1 FLARES

Refinery flares are typically used as a safety, not a control, device to reduce gases that often consist of a mixture of gases including volatile organic compounds, toxic air contaminants, oxides of nitrogen, sulfur oxides and methane. One Bay Area refinery and one third-party operator use flares dedicated specifically to controlling hydrogen gas emissions, and thus, methane emissions and any associated organic compound emissions. These particular types of flares operate at a minimum 98 percent control efficiency.

2.6.2 THERMAL OXIDIZERS

Thermal oxidizers are another example of control technology used to thermally destroy industrial vapor streams. They are commonly used in refineries and chemical plants to control hydrocarbon-based vapors. Typically, thermal oxidizers are available in four different types depending on a variety of operational factors and include direct-fired, recuperative, catalytic, and regenerative thermal oxidizers. Thermal oxidizers can be used for planned atmospheric venting occurrences such as startups and some shutdowns; however, they generally cannot be used for unplanned events such as malfunctions, upsets, and emergencies.

2.6.3 CLOSED LOOP SYSTEMS

A third method of controlling total organic compound emissions already employed on hydrogen plants at two local refineries is the use of a closed loop system, via flare headers, that captures hydrogen system gas streams, sometimes vented at other hydrogen plants, and reintroduces the captured gas into the fuel gas system. Only a small amount of captured total organic compound gas is vented to atmosphere because the gas recovery system only sends recovered gas to the flare for combustion for safety-related reasons such as emergencies, malfunctions, unplanned shutdowns, and upsets in the refinery system. The balance of captured gas is used in the gas recovery system. Less than two percent of flare header gas is emitted to the atmosphere post combustion. Flare headers, a collection system for waste vapor streams, contains a mixture of gases, including hydrogen gas.

The use of pressure swing adsorption can significantly reduce methane and other organic compound emissions, although they are not technically considered a control technology. Pressure swing adsorption purification is a method of separating one or more gas species from a gaseous stream containing additional (desirable) gas species. Pressure swing adsorption is used in hydrogen production as a final purification step to separate hydrogen gas molecules from other (impure) gas molecules, such as methane, carbon monoxide and carbon dioxide. An adsorbent material targets gas with dissimilar adsorption properties as an effective way of producing very pure hydrogen. Tail-gas, a byproduct of the pressure swing adsorption process containing the removed impurities, is then sent back to the steam-methane reformer as fuel for the steam-methane reforming process. Normally, pressure swing adsorption purification removes methane molecules from the hydrogen gas stream only at the back end of the steam-methane reforming process unit. Atmospheric venting prior to the pressure swing adsorption step contains methane and other air contaminants.

2.6.4 ALTERNATIVE EMISSION REDUCTION MEASURES

There are several other means of process control that may be employed collectively or in conjunction with those described above to comply with the alternative compliance option included in Rule 13-5. One facility operator has proposed installation of smaller control valves for atmospheric vents and improved process control as a means of decreasing the volume of releases and improved response time to reduce production rates when a hydrogen gas imbalance occurs. Another facility with multiple hydrogen plants that produce hydrogen of varying purity has proposed a prioritization scheme so that only the purest hydrogen is vented to the atmosphere while routing the remaining hydrogen vent gas to the existing refinery fuel gas system and flare, thereby reducing excess methane emissions.

2.6.5 EXPECTED TECHNOLOGY TO BE IMPLEMENTED

The hydrogen plants at two refineries are expected to need additional control technology to comply with Proposed Rule 13-5: Valero in Benicia and the hydrogen plants that provide hydrogen to PBF in Martinez. Compliance options could include installing flare technology to control total organic compound emissions; installing a gas recovery system;

or implementing an Alternative Compliance Plan. The impacts of installing a flare or gas recovery system can be estimated and are evaluated in this EIR. The impacts associated with an Alternative Compliance Plan may vary but would be expected to include those associated with the addition of compressors, monitoring equipment, piping, valves, flanges, monitoring equipment, and compressors and similar equipment to reroute gas streams within the facility. To the extent that such potential impacts are not speculative, they are evaluated in this EIR.

It is expected that both facilities could either install an industrial flare, vapor recovery technology, or re-route emissions from vents to control total organic compound emissions. Of these options, the construction of new flares would be expected to result in the worst-case impacts due to construction activities and the operation of a new stationary source. Air District staff estimate that emission control systems at these refineries would result in a reduction of over 40,000 metric tons of carbon dioxide equivalent emissions assuming emissions standards in Section 13-5-301 are met or similar control is met through the alternative compliance standard in Section 13-5-303.

2.7 REFERENCES

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CHAPTER 3

ENVIRONMENTAL SETTING, IMPACTS, MITIGATION MEASURES, AND CUMULATIVE IMPACTS

Introduction
Aesthetics
Air Quality
Greenhouse Gases
Other CEQA Sections

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3.0 ENVIROMENTAL SETTING, IMPACTS, MITIGATION MEASURES AND CUMULATIVE IMPACTS

INTRODUCTION

This chapter of the Draft EIR describes the existing environmental setting in the Bay Area, analyzes the potential environmental impacts of implementing Proposed Rule 13-5, and recommends mitigation measures (when potentially significant environmental impacts have been identified). The Initial Study concluded that implementation of Proposed Rule 13-5 could potentially result in the following significant environmental impacts:

- Aesthetics
- Air Quality; and
- Greenhouse Gas Emissions.

Included for each impact category is a discussion of the: (1) Environmental Setting; (2) Regulatory Setting; (3) Significance Criteria; (4) Environmental Impacts; (5) Mitigation Measures (if necessary and available); and (6) Cumulative Impacts. A description of each of these subsection follows.

ENVIRONMENTAL SETTING

CEQA Guidelines §15360 (Public Resources Code Section 21060.5) defines "environment" as "the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance." CEQA Guidelines §15125(a) requires that an EIR include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting is intended to be no longer than is necessary to gain an understanding of the significant effects of the proposed project and its alternatives.

This Chapter describes the existing environment in the Bay Area as it exists at the time the environmental analysis commenced (2021) to the extent that information is available. The analyses included in this chapter focus on those aspects of the environmental resource areas that could be adversely affected by the implementation of Proposed Rule 13-5 as determined in the NOP/IS prepared for Rules 13-5 (see Appendix A), and not those environmental resource areas determined to have no potential adverse impact from the proposed project. The NOP/IS (see Appendix A) determined the aesthetics, air quality, and greenhouse gases impacts associated with Proposed Rule 13-5 were potentially significant and are evaluated in further detail in this EIR.

SIGNIFICANCE CRITERIA

This section identifies the criteria used to determine when physical changes to the environment created as a result of the proposed project approval would be considered significant. The levels of significance for each environmental resource were established by identifying significance criteria. These criteria are based upon those presented in the CEQA environmental checklist and the BAAQMD's CEQA Air Quality Handbook (BAAQMD, 2017).

The significance determination under each impact analysis is made by comparing the proposed project impacts with the conditions in the environmental setting and comparing the difference to the significance criteria.

ENVIRONMENTAL IMPACTS

The CEQA Guidelines also require the EIR to identify significant environmental effects that may result from a proposed project (CEQA Guidelines §15126.2(a)). Direct and indirect significant effects of a project on the environment must be identified and described, with consideration given to both short- and long-term impacts. The potential impacts associated with each resource are either quantitatively analyzed where possible or qualitatively analyzed where data are insufficient to quantify impacts. The impacts are compared to the significance criteria to determine the level of significance.

The impact sections of this chapter focus on those impacts that are considered potentially significant per the requirements of CEQA. An impact is considered significant if it leads to a "substantial, or potentially substantial, adverse change in the environment." Impacts from the project fall within one of the following categories:

Beneficial: Impacts will have a positive effect on the resource.

No Impact: There would be no impact to the identified resource as a result of the project.

Less than Significant: Some impacts may result from the project; however, they are judged to be less than significant. Impacts are frequently considered less than significant when the changes are minor relative to the size of the available resource base or would not change an existing resource. A "less than significant impact" applies where the environmental impact does not exceed the significance threshold.

Potentially Significant but Mitigation Measures Can Reduce Impacts to Less Than Significant: Significant adverse impacts may occur; however, with proper mitigation, the impacts can be reduced to less than significant.

Potentially Significant or Significant Impacts: Adverse impacts may occur that would be significant even after mitigation measures have been applied to

minimize their severity. A "potentially significant or significant impacts" applies where the environmental impact exceeds the significance threshold, or information was lacking to make a finding of insignificance.

It is important to note that CEQA will also apply to individual projects at the time any discretionary approvals are required for any control equipment or other design modifications to affected facilities. Potential environmental impacts associated with these projects will be evaluated at that time. Should the affected facilities submit permit applications for new equipment that varies from those evaluated herein, a separate project specific CEQA analysis may be required to ensure that any significant adverse environmental impacts are identified and mitigated, as necessary, or avoided.

MITIGATION MEASURES

If significant adverse environmental impacts are identified, the CEQA Guidelines require a discussion of measures that could either avoid or substantially reduce any adverse environmental impacts to the greatest extent feasible (CEQA Guidelines §15126.4). The analyses in this chapter describe the potential for significant adverse impacts and identify mitigation measures where appropriate. This section describes feasible mitigation measures that could minimize potentially significant or significant impacts that may result from project approval. CEQA Guidelines (§15370) defines mitigation to include:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

In accordance with section 21081.6 of CEQA statutes, a mitigation and monitoring program would be required to be adopted to demonstrate and monitor compliance with any mitigation measures identified in this EIR. The program would identify specific mitigation measures to be undertaken, when the measure would be implemented, and the agency responsible for oversight, implementation, and enforcement.

3.1.5 CUMULATIVE IMPACTS

CEQA Guidelines §15130(a) requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. An EIR evaluating the environmental impact of air quality regulations essentially evaluates the cumulative impacts associated with a variety of regulatory activities. As such, this EIR evaluates the cumulative environmental impacts associated with implementation of other air quality regulations as outlined in the 2017 Clean Air Plan, the most recent air plan for the Bay Area (BAAQMD, 2017). The area evaluated for cumulative impacts in this EIR is the area within the jurisdiction of the District, an area encompassing 5,600 square miles, which includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties, and portions of southwestern Solano and southern Sonoma counties.

CHAPTER 3.1

AESTHETICS

Introduction
Environmental Setting
Regulatory Setting
Significance Criteria
Environmental Impacts
Mitigation Measures
Cumulative Impacts

3.1 AESTHETICS

This subchapter of the DEIR evaluates the potential aesthetics impacts associated with implementation of Proposed Rule 13-5. Proposed Rule 13-5 would limit vented emissions of total organic compounds from industrial hydrogen plants within the Bay Area. The hydrogen plants at two refineries are expected to need additional control technology to comply with Proposed Rule 13-5: Valero in Benicia and the hydrogen plants that provide hydrogen to the PBF Refinery in Martinez. Compliance options could include installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan. The gas recovery system would add piping and compressors to route the vent gas to fuel gas recovery for use in combustion devices or to route vent gas directly to a combustion device. Piping is typically located adjacent to existing equipment and near the ground to traverse the facility and compressors are typically located near ground level. Of the identified compliance options, the addition of a new flare would be the most visible from the surrounding community. Therefore, the new flare option is the worst-case option associated with aesthetic impacts and is evaluated in the most detail in this section.

The NOP/IS (see Appendix A) determined potential aesthetic impacts associated with the implementation of Proposed Rule 13-5 are potentially significant. The potentially significant impacts to scenic vistas and scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway are evaluated in this chapter.

3.1.1 ENVIRONMENTAL SETTING

The Air District covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano County and southern Sonoma County. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Important views of natural features include the San Francisco Bay and Pacific Ocean, Mount Tamalpais, Mount Diablo, and other peaks and inland valleys of the Coast Range. Cityscape views offered by buildings and distinctive Bay Area bridges, especially the Golden Gate and Bay Bridges and the San Francisco skyline, are also important built visual resources to the region (ABAG, 2017). Because of the variety of visual resources, scenic highways or corridors are located throughout the Bay Area and include 15 routes that have been designated as scenic highways and 29 routes eligible for designation as scenic highways (ABAG, 2017).

The Carquinez Strait forms a visually distinct, relatively narrow channel that connects San Pablo Bay to Suisun Bay. The approximately six-mile strait lies between two major bridges: the Carquinez Bridge, from Crockett to Vallejo; and the Benicia-Martinez Bridge, from Benicia to Martinez. Both bridges are visually distinct features in a landscape characterized by gently rolling terrain. The Carquinez Strait and Suisun Bay are characterized by a visual mix of industrial uses, small towns, and open areas of undeveloped land.

Industrial uses in the area are numerous, and include: marine terminals, including the Amorco Marine Terminal, Avon Marine Terminal, and TransMontaigne terminal; refineries, including the

Tesoro Martinez Refinery, PBF (formerly Shell) Martinez Refinery, Valero Benicia Refinery, and Phillips 66 San Francisco Refinery (in Rodeo); the port of Benicia; C&H Sugar in Crockett; and other industrial uses in Benicia and Martinez. From Interstate 680 to the Point Edith Wildlife Area on the east, the visual setting is open space, characterized by views of the marsh and shoreline. The marshland includes wetland grasses, low-level shrubs, and small ponds.

Proposed Rule 13-5 is expected to affect hydrogen plants at two refineries in the Bay Area, one in Contra Costa County (PBF Martinez Refinery), and one in Solano County (Valero Benicia Refinery), and may require the installation of new flare systems. These refineries and their associated hydrogen plants are situated across the Carquinez Strait within two miles from one another (See Figure 3.1-1).

The Carquinez Strait connects San Pablo Bay on the west to Suisun Bay on the east. The Strait is traversed by the Carquinez Bridge, and its shorelines are home to industrial areas, parks, and urban development. Suisun Bay is the largest contiguous estuarine marsh in the entire United States, and is ringed by salt ponds, tidal marsh, and managed wetlands. Its shoreline includes some water-related industrial development, and several wildlife refuge areas including the Grizzly Island Wildlife Area, Point Edith Wildlife Area, Peytonia Slough Ecological Reserve, and Hill Slough Wildlife Area (BCDC, 2021).

The PBF Martinez Refinery and associated hydrogen plants are located in north-central Contra Costa County, approximately 25 miles east of San Francisco, adjacent to the community of Martinez south of the Carquinez Strait and southwest of the Benicia-Martinez Bridge. The primary processing area of the PBF Refinery is between Pacheco Boulevard and Marina Vista, and the wastewater treatment plant and wharf operations are between Marina Vista and the Carquinez Strait. Approximately 20 percent of the Refinery is located within the corporate limits of the City of Martinez. The remainder of the Refinery is in an unincorporated area of the County.

The PBF Martinez Refinery and related hydrogen plants are located in a heavy industrial area, which allows for the manufacturing and processing of petroleum chemicals, fertilizers, gas, as well as numerous other industrial and manufacturing uses. The Refinery (including the hydrogen plants) is bordered to the north by heavy industrial land use and the Carquinez Strait water way. To the east of the PBF Martinez Refinery are Interstate 680 (I-680), public lands, and wetland areas that are designated as open space. Along the southern border of the Refinery is land designated as commercial, multiple family residential (light), and single family residential (heavy). The area west of the Refinery is similar in mix to the land use along the southern area; however, the central Martinez downtown area is located directly west of the Refinery.

The Valero Benicia Refinery (including the hydrogen plant) is located at 3400 East Second Street, within an industrial area (Benicia Industrial Park) in the eastern portion of the City of Benicia, mostly west of Interstate 680 and northeast of the Carquinez Strait and the Benicia-Martinez Bridge. The Refinery is located along the northern edge of the Suisun Bay below a low range of coastal hills. The Refinery occupies approximately 330 acres of the 880-acre Valero Benicia property; the remaining portion of which is undeveloped. The Refinery is designated as General Industrial by the City of Benicia General Plan and Zoning Ordinance.


EAST 2ND STREET
VALERO
BENICIA
REFINERY
680
780
SUISUN BAY
BENCIA-MARTINEZ BRIDGE
CARQUINEZ STRAIT
WATERFRONT ROAD
MARINA VISTA AVENUE
PBF
MARTINEZ
REFINERY
680
PACHECO BOULEVARD
SOURCE: Google (02/04/21)
Environmental Audit, Inc.
0
4,000'
N
REFINERY LOCATIONS AFFECTED BY PROPOSED RULE 13-5
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Project No. 3185
Figure 3.1-1
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The Valero Benicia Refinery is immediately bordered by approximately 550 acres of mostly undeveloped Valero property to the south and west, and general industrial uses to the north and east. Industrial uses in the Benicia Industrial Park are located east of the Refinery. This area consists largely of single-level warehouse and manufacturing buildings interspersed with parking areas and materials storage yards. Residential uses are located approximately 3,000 feet to the south and west of the Refinery, and approximately 2,100 feet to the northwest. This neighborhood is separated from the Valero Benicia Refinery site by undeveloped hills, including areas owned by Valero.

The two refineries are approximately two miles apart on opposite sides of the Carquinez Strait. The visual character of the area is characterized by industrial activities flanked by rolling hills to the north, wooded ridges to the west, and marshland along the Carquinez Strait and Suisun Bay. The visual character of the refineries is industrial with equipment including process vessels, storage tanks and spheres, cooling towers, heater exhaust stacks, coking units, and industrial flares. Both refineries are visible from the immediate surrounding area (see Figure 3.1-2).

3.1.2 REGULATORY SETTING

State and local regulations address protection of aesthetic resources. No federal regulations address aesthetic resources.

3.1.2.1 State

In 1963, the California Scenic Highway Program was created to preserve and protect highway corridors in areas of outstanding natural beauty from changes that would diminish the aesthetic value of adjacent lands. Scenic highways are designated by the California Department of Transportation (Caltrans).

There are no designated or eligible scenic highway within approximately seven miles of the PBF Martinez or Valero Benicia Refineries. The two closest designated routes to the PBF Martinez Refinery are from the east portal of the Caldecott Tunnel to Interstate 680 in Walnut Creek (Rte ID 24) and from the Alameda County line to State Route 24 (Rte ID 680), which are approximately 7.75 mile south of the PBF Martinez Refinery. The closest eligible route to the Valero Benicia Refinery is State Route 37 near Vallejo/State Route 221 near Napa (Rte ID 29), which is approximately 7.2 miles northwest of the Valero Benicia Refinery.

In 1965, the McAteer-Petris Act (California Government Code, Section 66600 et seq.) established the San Francisco Bay Conservation and Development Commission to regulate development on and adjacent to the San Francisco Bay. The mandate of this Commission is to protect the Bay and the quality of its waters; to maximize public access to the Bay; to allow planned, controlled development along the Bay, particularly water-oriented land uses; to restrict

PBF Martinez Refinery Looking Southwest from Waterbird Regional Preserve

Valero Benicia Refinery Looking North from Interstate 680

Environmental Audit, Inc.

PHOTOS OF REFINERIES AFFECTED BY PROPOSED RULE 13-5

Project No. 3185 Figure 3.1-2

N:\3185\Aesthetics\PBF Martinez and Valero (rev.3).cdr

uncoordinated and haphazard filling of the Bay; and to maintain salt ponds and managed wetlands along the Bay. The Commission developed the San Francisco Bay Plan (BCDC, 2021). The Bay Plan identifies five high priority uses of the Bay and shoreline for which shoreline areas should be reserved. These "priority uses" are ports, water-related industry, airports, wildlife refuges, and water-related recreation. The San Francisco Bay Plan (BCDC, 2021) designates the refineries as a water-related industry, which is defined as an industry that requires "a waterfront location on navigable, deep water to receive raw materials and distribute finished products by ship, thereby gaining a significant transportation cost advantage."

3.1.2.2 Local

3.1.2.2.1 Contra Costa County

The Contra Costa County General Plan regulates scenic resources by establishing goals and policies. The goals and policies related to scenic resources include:

9-A. To preserve and protect the ecological, scenic, cultural/historic, and recreational resource lands of the county.

9-C. To achieve a balance of open space and urban areas to meet the social, environmental, and economic needs of the county now and for the future.

9-D. To preserve and protect areas of identified high scenic value, where practical, and in accordance with the Land Use Element Map.

9-E. To protect major scenic ridges, to the extent practical, from structures, roadways, and other activities which would harm their scenic qualities.

9-F. To preserve the scenic qualities of the San Francisco Bay/Delta estuary system and the Sacramento-San Joaquin River/Delta shoreline.

9-2. Historic and scenic features, watersheds, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations shall be preserved and enhanced.

9-5. The visual identities of urban communities shall be preserved through the maintenance of existing open space areas between cities and/or communities.

9-22. All new land uses which are to be located below a major scenic ridge shall be reviewed with an emphasis on protecting the visual qualities of the ridge.

The Contra Costa County General Plan establishes goals for the preservation and protection of areas of high scenic value, scenic ridges, and the scenic quality of the San Francisco Bay/Delta estuary system and the Sacramento-San Joaquin/Delta shoreline. The Contra Costa County General Plan considers the Carquinez Strait a scenic waterway and the ridgelines to

the west and south of downtown Martinez as scenic ridgelines (General Plan Figure 9-1, Contra Costa County General Plan, January 2005). These designations limit development on the ridgelines or in the Strait rather than landscape alteration on adjacent developed areas.

3.1.2.2.2 Solano County

The Solano County General Plan Resources Chapter regulates scenic resources by establishing goals for protecting and sustainably using resources. The goals and policies related to scenic resources include:

RS.G-4: Preserve, conserve, and enhance valuable open space lands that provide wildlife habitat; conserve natural and visual resources; convey cultural identity; and improve public safety.

RS.G-6: Preserve the visual character and identity of communities by maintaining open space areas between them.

RS.P-35: Protect the unique scenic features of Solano County, particularly hills, ridgelines, wetlands, and water bodies.

RS.P-37: Protect the visual character of designated scenic roadways.

In addition to the state designated scenic routes, Solano County has designated Interstate 680 to Interstate 80 and Lake Herman Road from Interstate 680 to Columbus Parkway as Scenic Roadways (General Plan Figure RS-5, Solano County General Plan, Resources Chapter, November 2008).

3.1.2.2.3 Martinez

The City of Martinez has an adopted General Plan (Martinez, 1973). The Martinez General Plan has established goals and policies related to scenic resources including:

OSC-G-1: Maintain and Enhance the Integrity of Martinez's visual and natural environment and preservation of habitat.

OSC-P-1: Where feasible and appropriate, preserve visually significant skyline vegetation, particularly woodlands and ridgelines.

OSC-P-1.6: Application of land use policy and design review evaluation of possible impacts that new development may have will ensure minimal or no impact to the City's ridgelines.

RS.P-35: Protect the unique scenic features of Solano County, particularly hills, ridgelines, wetlands, and water bodies.

RS.P-36: Support and encourage practices that reduce light pollution and preserve views of the night sky.

RS.P-37: Protect the visual character of designated scenic roadways.

3.1.2.2.4 Benicia

The City of Benicia has an adopted General Plan (June 15, 1999). The General Plan has adopted goals and policies to preserve and enhance the visual character of Benicia including:

Goal 3.9: Protect and enhance scenic roads and highways.

Policy 3.9.1: Preserve vistas along I-780 and I-680.

Goal 3.12: Improve the appearance of the Industrial Park.

Policy 3.12.1: Encourage additional attractive, quality development in industrial areas.

3.1.3 SIGNIFICANCE CRITERIA

The proposed project impacts on aesthetics will be considered significant if:

- The proposed project would have a substantial adverse effect on a scenic vista.
- The proposed project would substantially damage scenic resources, including but not limited to trees, rock outcropping, and historical buildings within a state scenic highway.
- The proposed project would substantially degrade the existing visual character or quality of the site and its surroundings.
- The proposed project would add a visual element of urban character to an existing rural or open space area or add a modern element to a historic area.
- The proposed project would create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

3.1.4 ENVIRONMENTAL IMPACTS

As described in Sections 3.1.1 and 3.1.2, the State of California, Contra Costa and Solano Counties, the Cities of Martinez and Benicia, and the Bay Conservation and Development Commission have established goals and policies to protect the scenic highways, scenic vistas, scenic ridgelines, scenic waterways, and visual character in the area that includes the hydrogen plants associated with the PBF Martinez Refinery and the Valero Benicia Refinery while recognizing the industrial sectors that exist in the area. Figure 3.1-3 presents views of the PBF Martinez Refinery and Figure 3.1-4 presents the views of the Valero Benicia Refinery where the natural landscape and the refineries can be seen. The refineries have storage tanks, process vessels, flares, piping, and other industrial structures that may be visible in the foreground with a backdrop of rolling hills.

Both the PBF Martinez Refinery and the Valero Benicia Refinery have existing flares and process vessels that create the industrial skyline of the refineries. As shown in Figure 3.1-3, the PBF Martinez Refinery skyline includes views of process vessels, coker vessels with superstructures on top, storage tanks, and spheres. The existing flares at the PBF Martinez Refinery are shorter structures not visible from the surrounding area. As shown in Figure 3.1-4, the Valero Benicia Refinery skyline includes views of process vessels, storage tanks, spheres, and flares.

There are two basic types of flares, elevated and ground. Due to the heat generated, a buffer zone around a flare is required. Therefore, flares tend to be isolated from process and storage areas, as well as other structures. The precise location within the hydrogen plants and/or refineries for new flares that may be constructed due to the proposed rule is not currently known.

The Air District regulates flaring at refineries under Rule 12-12 by requiring flaring consistent with an approved flare minimization plan or for emergency events. Flares are safety devices that are used when process maintenance, process upsets, and emergencies occur that require flammable gases to be combusted. Flares that combust hydrocarbons produce yellow flames with varying amounts of smoke depending on many factors including the type of gases being combusted, the amount of oxygen in the stream, and the flare design. Larger more complex heavier hydrocarbons typically generate more smoke, while smaller simple hydrocarbons, such as methane and propane, generate little to no smoke.

Hydrogen burns with a dim blue flame that can be invisible in the daylight. Impurities can make the flame more visible. Based on the expected composition of vent gases, the vent gas is expected to be primarily hydrogen with small quantities of methane. Therefore, a flaring event is expected to produce a clean burning flame with little-to-no smoke. The flame is expected to be light blue in color with varying degrees of visibility depending on lighting and weather conditions. The flame is not expected to be visible during the day and may be more visible at night because of the contrast.

The addition of flares at the facilities may add visible structures to the skyline at each facility. For purposes of evaluating aesthetic impacts, elevated flares may be used for compliance with Proposed Rule 13-5. Figures 3.1-3 and 3.1-4 show renderings of the PBF Martinez Refinery and the Valero Benicia Refinery, respectively, that include an additional flare at each refinery. In each rendering a new flare was added in the vicinity of the existing affected hydrogen plant in an area of sufficient size to allow for isolation of the flare. The renderings depict a predicted worst-case location for visibility of a new flare. The exact location of the new flare at each facility may vary and will be determined during the engineering design process.

Current View of
PBF Martinez Refinery Looking Southwest from Waterbird Regional Preserve

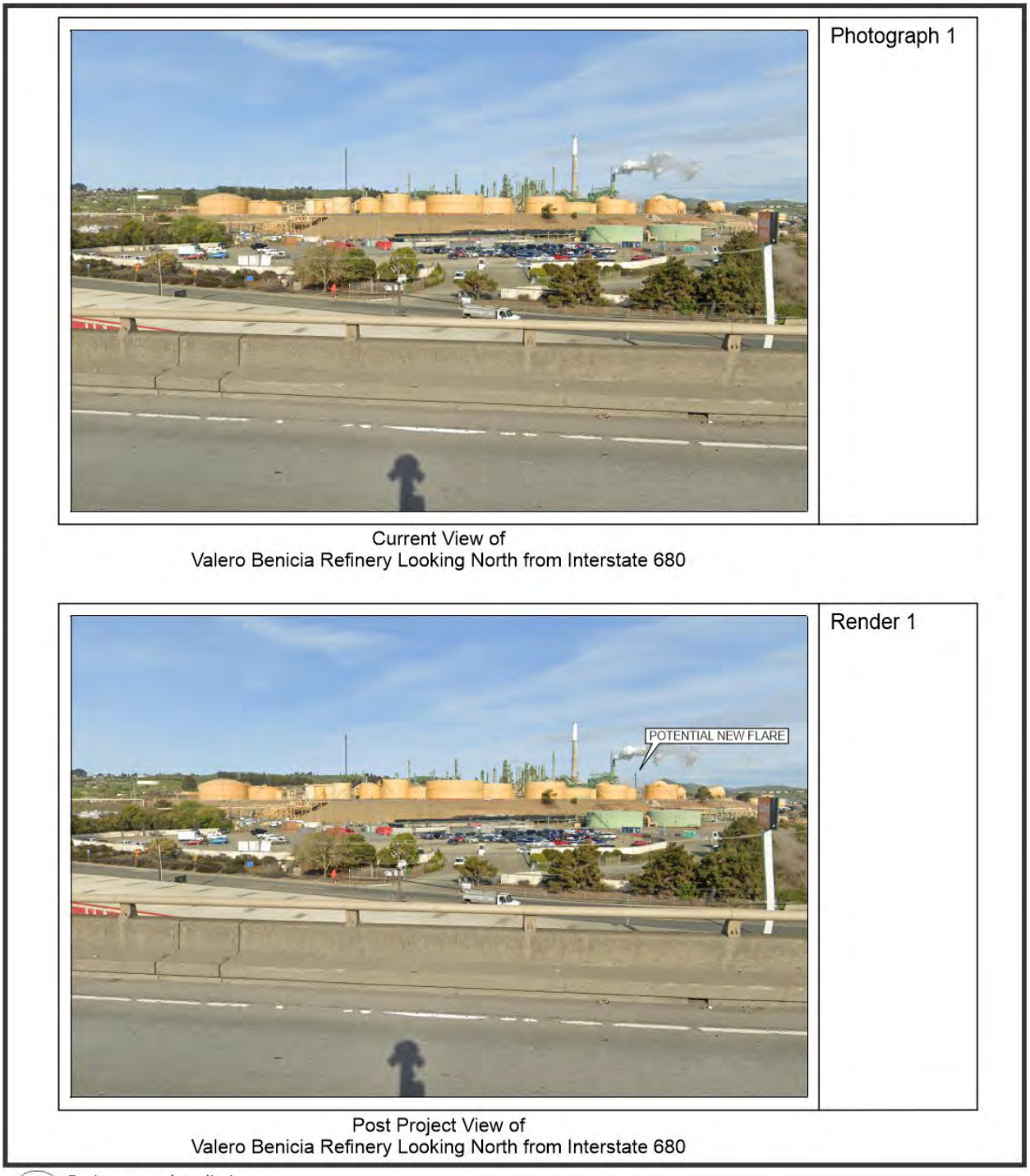
Post Project View of
PBF Martinez Refinery Looking Southwest from Waterbird Regional Preserve

Environmental Audit, Inc.

RENDERING OF PBF MARTINEZ REFINERY
WITH POTENTIAL NEW HYDROGEN FLARE

Project No. 3185 Figure 3.1-3

N:\3185\Aesthetics\PBF Martinez Photo and Render (rev2).cdr


Photograph 1
Current View of
Valero Benicia Refinery Looking North from Interstate 680
Render 1
POTENTIAL NEW FLARE
Post Project View of
Valero Benicia Refinery Looking North from Interstate 680
Environmental Audit, Inc.
RENDERING OF VALERO BENICIA REFINERY
WITH POTENTIAL NEW HYDROGEN FLARE
Project No. 3185
Figure 3.1-4
N:\3185\Aesthetics\Figure 3.1-4, Valero Photo and Render (rev.1).cdr

As shown in Figure 3.1-3, the addition of a flare in the foreground of the PBF Martinez Refinery would not change the visual character of the area. As shown in Figure 3.1-4, the addition of a flare to the eastern end of the Valero Benicia Refinery would not change the visual character of the area. In addition, the PBF Martinez Refinery and the Valero Benicia Refinery are visible to travelers in the area on Interstate 680 including the Benicia-Martinez Bridge. Southbound travelers can see the PBF Martinez Refinery as they descend from the crest of the bridge and northbound travelers can see the Valero Benicia Refinery as they crest the Benicia-Martinez Bridge of the Interstate 680. Multiple structures at the refineries are similar in height and width as the expected new flares. As shown in Figures 3.1-3 and 3.1-4, new flares would not be expected to be discernable from the overall skyline of the existing refineries from the bridge. In addition, the flames on the flares are not expected to be noticeable during the day.

Another compliance option could include installing a gas recovery system. The gas recovery system would add piping and compressors to route the vent gas to fuel gas recovery for use in combustion devices or to route vent gas directly to a combustion device, including existing flares. Piping is typically located adjacent to existing equipment and near the ground to traverse the facility and compressors are typically located near ground level. Once routed to an existing combustion device such as an existing heater, the vent gases would be blended in with natural gas or refinery fuel gas. Refinery fuel gas is a mix of lighter hydrocarbons, so adding vent gases containing methane and hydrogen, which are cleaner burning compounds, would not be expected to change the visibility of exhaust from combustion sources. Therefore, the gas recovery system is not expected to be visible or distinguishable from the existing operating equipment at the affected facilities.

If an affected facility chooses to comply with Proposed Rule 13-5 by increasing the use of existing flares, no change to the existing flare heights would be expected. Therefore, no change to the existing skyline view would occur. The flaring of hydrogen plant vent gases at an existing flare would be expected to be similar in visibility to the flame at a new flare as discussed previously. Similar to the addition of vent gas to the fuel gas for combustion devices, adding hydrogen plant vent gases to a process emergency flaring event would not be expected to change visual characteristics of a flaring event (i.e., not expected to increase the amount of smoke generated), as methane and hydrogen are cleaner burning compounds.

Control technology associated with an Alternative Compliance Plan may include addition of piping, valves, flanges, monitoring equipment, and compressors and similar equipment to reroute gas streams within the facility. This type of equipment that may be installed under an Alternative Compliance Plan is low in profile and generally at ground level, therefore, is not expected to be visible outside of the facility.

The aesthetic impacts associated with the installation of a new flare are expected to be the worst-case impacts under Proposed Rule 13-5. Based on the above analysis, no significant adverse impacts to aesthetics are expected from the compliance options which include installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan to comply with Proposed Rule 13-5.

3.1.5 MITIGATION MEASURES

No significant aesthetic impacts are expected. Therefore, no mitigation measures are necessary.

3.1.6 SIGNIFICANCE CONCLUSION AND REMAINING IMPACTS

The aesthetic impacts associated with implementation of Proposed Rule 13-5 would not significantly adversely alter the aesthetic views. Therefore, aesthetic impacts are considered less than significant with no remaining significant impacts.

3.1.7 CUMULATIVE IMPACTS

Pursuant to CEQA Guidelines §15130(a), "An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in Section 15065(a)(3). Where a Lead Agency is examining a project with an incremental effect that is not 'cumulatively considerable,' a Lead Agency need not consider that effect significant but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable." Further, CEQA Guidelines §15130(b) requires that an EIR's "discussion of cumulative impacts reflect the severity of the impacts [from a proposed project] and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone." The discussion should be guided by standards of practicality and reasonableness. Cumulative impacts are defined by CEQA as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (CEQA Guidelines, §15355).

Cumulative impacts are further described as follows:

1. "The individual effects may be changes resulting from a single project or a number of separate projects." (CEQA Guidelines §15355(a).

2. "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines, §15355(b)).

3. "[A] cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR." (CEQA Guidelines, §15130(a)(1)).

The locations of the hydrogen plants at the two refineries are such that they are not visible together. As concluded in the above aesthetic impacts analysis, installation of new flares at the hydrogen plants for the two affected refineries would not change the visual character of the areas and the aesthetic impacts were concluded to be less than significant. The potential cumulative impacts

from past, present, and future projects include the projects at the refineries and adjacent industrial facilities that have created the industrial visual character of the area, including marine terminals, storage facilities, wastewater treatment plants, etc. The addition of a new flare – which would be the worst-case aesthetic impact associated with Rule 13-5 – is consistent with the visual character of the hydrogen plants within an industrial area. Because aesthetic impacts do not exceed the impact significance thresholds, they are not considered to be cumulatively considerable (CEQA Guidelines §15064 (h)(1)). Therefore, the proposed project is not expected to generate significant adverse cumulative aesthetic impacts.

3.1.8 REFERENCES

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CHAPTER 3.2

AIR QUALITY

Introduction
Environmental Setting
Regulatory Setting
Significance Criteria
Environmental Impacts
Mitigation Measures
Cumulative Impacts

3.2 AIR QUALITY

This subchapter of the EIR evaluates the potential air quality impacts associated with implementation of Proposed Rule 13-5. Proposed Rule 13-5 would limit vented emissions of total organic compounds (methane and other hydrocarbons) from hydrogen production and hydrogen carrying systems within the Bay Area. The hydrogen plants at two refineries are expected to need additional control technology to comply with Proposed Rule 13-5: Valero in Benicia and the hydrogen plants that provide hydrogen to PBF in Martinez. Compliance options could include: installing flare technology to control total organic compound emissions; installing a gas recovery system; or implementing an Alternative Compliance Plan. It is expected that both facilities would install either an industrial flare or vapor recovery technology, or re-route emissions from vents to control total organic compound emissions. The gas recovery system would add piping and compressors to route the vent gas to fuel gas recovery for use in combustion devices or to route vent gas directly to a combustion device. Control technology in an Alternative Compliance Plan may vary but would be expected to include addition of piping, valves, flanges, monitoring equipment, and compressors and similar equipment to reroute gas streams within the facility. Of these options, the construction of new flares would be expected to result in the worst-case impacts due to construction activities and the operation of a new stationary source.

The NOP/IS (see Appendix A) determined potential air quality impacts associated with the implementation of Proposed Rule 13-5 are potentially significant. The potentially significant impacts to criteria pollutant emissions are evaluated in this chapter.

3.1.1 ENVIRONMENTAL SETTING

3.2.1.1 Criteria Pollutants

Ambient Air Quality Standards

It is the responsibility of the Air District to ensure that State and federal AAQS are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride. The State (CAAQS) and national (NAAQS) AAQS for each of these pollutants and their effects on health are summarized in Table 3.2-1.

TABLE 3.2-1

Federal and State Ambient Air Quality Standards

	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
AIR POLLUTANT	CONCENTRATION/ AVERAGING TIME	CONCENTRATION/ AVERAGING TIME	
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr. avg.	No Federal 1-hr standard 0.070 ppm, 8-hr avg. >	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.030 ppm, annual avg. 0.18 ppm, 1-hr avg. >	0.053 ppm, ann. avg.> 0.100 ppm, 1-hr avg.	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide	0.04 ppm, 24-hr avg.> 0.25 ppm, 1-hr. avg. >	No Federal 24-hr Standard> 0.075 ppm, 1-hr avg.>	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM_{10})	20 $\mu g/m^3$, ann. arithmetic mean > 50 $\mu g/m^3$, 24-hr average>	No Federal annual Standard 150 $\mu g/m^3$, 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter ($PM_{2.5}$)	12 $\mu g/m^3$, annual arithmetic mean> No State 24-hr Standard	12 $\mu g/m^3$, annual arithmetic mean> 35 $\mu g/m^3$, 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 $\mu g/m^3$, 24-hr avg. >=	No Federal Standard	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage
Lead	1.5 $\mu g/m^3$, 30-day avg. >= No State Calendar Quarter Standard No State 3-Month Rolling Avg. Standard	No Federal 30-day avg. Standard 1.5 $\mu g/m^3$, calendar quarter> 0.15 $\mu g/m^3$ 3-Month Rolling average	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70%, 8-hour average (10am – 6pm PST)	No Federal Standard	Visibility based standard, not a health based standard. Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent

U.S. EPA requires CARB and Air Districts to measure the ambient levels of air pollution to determine compliance with the NAAQS. To comply with this mandate, the Air District monitors levels of various criteria pollutants at 25 monitoring stations within the San Francisco Bay Area. A summary of the 2019 maximum concentration and number of days exceeding State and federal ambient air standards at the Air District monitoring stations are presented in Table 3.2-2.

TABLE 3.2-2
Bay Area Air Pollution Summary – 2019

MONITORING STATIONS	OZONE						CARBON MONOXIDE			NITROGEN DIOXIDE				SULFUR DIOXIDE				PM 10				PM 2.5				
	Max 1-Hr	Cal 1-Hr Days	Max 8-Hr	Nat 8-Hr Days	Cal 8-Hr Days	3-Yr Avg	Max 1-Hr	Max 8-Hr	Nat/ Cal Days	Max 1-Hr	Ann Avg	Nat 1-Hr Days	Cal 1-Hr Days	Max 1-Hr	Max 24-Hr	Nat 1-Hr Days	Cal 24-Hr Days	Ann Avg	Max 24-Hr	Nat 24-Hr Days	Cal 24-Hr Days	Max 24-Hr	Nat 24-Hr Days	3-Yr Avg	Ann Avg	3-Yr Avg
North Counties	(ppb)						(ppm)			(ppb)				(ppb)				(µg/m^3)				(µg/m^3)				
Napa Valley College*	95	1	76	2	2	*	1.3	1	0	37	5	0	0	-	-	-	-	14.2	39	0	0	21.5	0	*	5.9	*
San Rafael	96	1	80	1	1	55	1.4	0.9	0	50	8	0	0	-	-	-	-	14.3	33	0	0	19.5	0	42	6.4	9
Sebastopol*	70	0	59	0	0	*	1.4	1	0	32	4	0	0	-	-	-	-	-	-	-	-	28	0	35	5.7	7.4
Vallejo	92	0	76	1	1	56	2	1.5	0	53	7	0	0	10.9	1.9	0	0	-	-	-	-	30.5	0	48	8.6	11.2
Coast/Central Bay																										
Berkeley Aquatic Pk	50	0	42	0	0 40		5.6	1.3	0	50	13	0	0	-	-	-	-	-	-	-	-	28.8	0	42	9.4	10.1
Laney College Fwy	-	-	-	-	-	-	1.5	1	0	58	15	0	0	-	-	-	-	-	-	-	-	28.5	0	45	7.4	11.1
Oakland	98	1	73	2	2	49	3.3	1.1	0	62	9	0	0	-	-	-	-	-	-	-	-	24.7	0	44	6.7	9.3
Oakland-West	101	1	72	1	1	48	2.4	1.7	0	50	12	0	0	19.2	2.7	0	0	-	-	-	-	29.3	0	45	7.8	11.7
Richmond	-	-	-	-	-	-	-	-	-	-	-	-	-	16	3.7	0	0	-	-	-	-	-	-	-	-	-
San Francisco	91	0	73	1	1	49	1.2	1	0	61	10	0	0	-	-	-	-	14.7	42	0	0	25.4	0	44	7.7	9.7
San Pablo	103	1	79	2	2	52	1.8	0.9	0	42	7	0	0	17.6	1.9	0	0	16.5	36	0	0	35.9	1	44	7.8	10.4
Eastern District																										
Bethel Island	82	0	72	1	1	65	1.8	1	0	30	4	0	0	9.8	2.2	0	0	15.4	57	0	2	-	-	-	-	-
Concord	92	0	74	2	2	62	3.3	0.8	0	41	6	0	0	8.4	2.1	0	0	11.4	36	0	0	28.2	0	40	6.8	10.8
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	-	17.9	4.6	0	0	-	-	-	-	-	-	-	-	-
Fairfield	80	0	68	0	0	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Livermore	105	4	78	7	7	73	-	-	-	48	8	0	0	-	-	-	-	-	-	-	-	28.8	0	40	6.4	8.7
Martinez	-	-	-	-	-	-	-	-	-	-	-	-	-	22.4	4.2	0	0	-	-	-	-	-	-	-	-	-
Pleasanton*	-	-	-	-	-	-	1.3	1	0	64	13	0	0	-	-	-	-	-	-	-	-	29.1	0	*	6.3	*
San Ramon	95	1	72	1	1	67	-	-	-	45	6	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
South Central Bay																										
Hayward	106	2	85	2	2	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redwood City	83	0	77	2	2	52	2	1.1	0	55	9	0	0	-	-	-	-	-	-	-	-	29.5	0	36	7	8.9
Santa Clara Valley																										
Gilroy	79	0	67	0	0	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.3	0	27	5.8	6.3
Los Gatos	87	0	78	2	2	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
San Jose	95	1	81	2	2	62	1.7	1.3	0	60	11	0	0	14.5	1.5	0	0	19.2	77	0	4	27.6	0	43	9.1	10.5
San Jose Freeway	-	-	-	-	-	-	2	1.6	0	65	14	0	0	-	-	-	-	-	-	-	-	32.8	0	43	7.4	10.1
San Martin	90	0	78	2	2	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Days over Standard		**6**		**9**	**9**				**0**			**0**	**0**			**0**	**0**			**0**	**5**		**1**			

Source: BAAQMD, 2020.

* Air monitoring at Napa Valley College began on April 1, 2018. Therefore, three-year averages for ozone and $PM_{2.5}$ are not available. Ozone data at Sebastopol had poor quality assurance results from July 17, 2019, through October 16, 2019, due to a failed California Air Resources Board audit. Therefore, the three-year average for ozone is not available. Near-road air monitoring at Pleasanton began on April 1, 2018. Therefore, three-year averages for $PM_{2.5}$ are not available.

(ppb) = parts per billion (ppm) = parts per million, (µg/m^3) = micrograms per cubic meter

3.2.3

Air quality conditions in the San Francisco Bay Area have improved since the Air District was created in 1955. The long-term trend of ambient concentrations of air pollutants and the number of days on which the region exceeds AAQS have generally declined, although some year-to-year variability primarily due to meteorology, causes some short-term increases in the number of exceedance days (see Table 3.2-3). The Air District is in attainment of the State AAQS for CO, NO_2, and SO_2. However, the Air District does not comply with the State 24-hour PM_{10} standard, annual PM_{10} standard, and annual $PM_{2.5}$ standard. The Air District is unclassifiable/attainment for the federal CO, NO_2, SO_2, Pb, and PM_{10} standards. A designation of unclassifiable/ attainment means that the U.S. EPA has determined to have sufficient evidence to find the area either is attaining or is likely attaining the NAAQS.

The 2019 air quality data from the Air District monitoring stations are presented in Table 3.2-2. No monitoring stations measured an exceedance of any of State or federal AAQS for CO, NO_2, and SO_2. All monitoring stations were in compliance with the federal PM_{10} standards. The State 24-hour PM_{10} standard was exceeded on five days in 2019, at the San Jose and Bethel Island monitoring stations (see Table 3.2-2).

The Bay Area is designated as a non-attainment area for the federal and State eight-hour ozone standard and the federal 24-hour $PM_{2.5}$ standard. The State and federal eight-hour ozone standards were exceeded on nine days in 2019 at one site or more in the Air District; most frequently in the Eastern District (Livermore, Concord, Bethel Island, and San Ramon) (see Table 3.2-2). The federal 24-hour $PM_{2.5}$ standard was exceeded at one or more Bay Area station on one day in 2019, most frequently in San Pablo.

TABLE 3.2-3

Bay Area Air Quality Summary
Days over Standards

YEAR	OZONE			CARBON MONOXIDE				NO_2		SULFUR DIOXIDE		PM_{10}		$PM_{2.5}$
	8-Hr	1-Hr	8-Hr	1-Hr		8-Hr		1-Hr		1-Hr	24-Hr	24-Hr*		24-Hr
	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Nat
2010	11	8	11	0	0	0	0	0	0	0	0	0	2	6
2011	9	5	10	0	0	0	0	0	0	0	0	0	3	8
2012	8	3	8	0	0	0	0	1	0	0	0	0	2	3
2013	3	3	3	0	0	0	0	0	0	0	0	0	6	13
2014	9	3	10	0	0	0	0	0	0	0	0	0	2	3
2015	12	7	12	0	0	0	0	0	0	0	0	0	1	9
2016	15	6	15	0	0	0	0	0	0	0	0	0	0	0
2017	6	6	6	0	0	0	0	1	0	0	0	0	6	18
2018	3	2	3	0	0	0	0	0	0	0	0	1	6	18
2019	9	6	9	0	0	0	0	0	0	0	0	0	5	1

Source: BAAQMD, 2020.

3.2.1.2 Criteria Pollutant Health Effects

3.2.1.2.1 Ozone

Ozone is not emitted directly from pollution sources. Instead ozone is formed in the atmosphere through complex chemical reactions between hydrocarbons, or reactive organic gases (ROG), also commonly referred to as volatile organic compounds (VOC), and nitrogen oxides (NOx), in the presence of sunlight. ROG and NOx are referred to as ozone precursors.

Ozone, a colorless gas with a sharp odor, is a highly reactive form of oxygen. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone mixing is limited. At the earth's surface in sites remote from urban areas ozone concentrations are normally very low (0.03-0.05 ppm). While ozone is beneficial in the stratosphere because it filters out skin-cancer-causing ultraviolet radiation, ground level ozone is harmful, is a highly reactive oxidant, which accounts for its damaging effects on human health, plants and materials at the earth's surface.

Ozone is harmful to public health at high concentrations near ground level. Ozone can damage the tissues of the lungs and respiratory tract. High concentrations of ozone irritate the nose, throat, and respiratory system and constrict the airways. Ozone also can aggravate other respiratory conditions such as asthma, bronchitis, and emphysema, causing increased hospital admissions. Repeated exposure to high ozone levels can make people more susceptible to respiratory infection and lung inflammation and permanently damage lung tissue. Ozone can also have negative cardiovascular impacts, including chronic hardening of the arteries and acute triggering of heart attacks. Children are most at risk as they tend to be active and outdoors in the summer when ozone levels are highest. Seniors and people with respiratory illnesses are also especially sensitive to ozone’s effects. Even healthy adults can be affected by working or exercising outdoors during high ozone levels.

The propensity of ozone for reacting with organic materials causes it to be damaging to living cells, and ambient ozone concentrations in the Bay Area are occasionally sufficient to cause health effects. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, reducing the respiratory system's ability to remove inhaled particles and fight infection while long-term exposure damages lung tissue.

Plants are sensitive to ozone at concentrations well below the health-based standards and ozone is responsible for significant crop damage. Ozone is also responsible for damage to forests and other ecosystems.

3.2.1.2.2 Reactive Organic Gases (ROGs)

It should be noted that there are no state or national ambient air quality standards for ROGs because they are not classified as criteria pollutants. ROGs are regulated, however, because ROG

emissions contribute to the formation of ozone. They are also transformed into organic aerosols in the atmosphere, contributing to higher PM_{10} and lower visibility levels.

Although health-based standards have not been established for ROGs, health effects can occur from exposures to high concentrations of ROGs because of interference with oxygen uptake. In general, ambient ROG concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as ROG emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of ROG emissions, is known to be a human carcinogen.

ROG emissions result primarily from incomplete fuel combustion and the evaporation of paints, solvents and fuels. Mobile sources are the largest contributors to ROG emissions. Stationary sources include processes that use solvents (such as manufacturing, degreasing, and coating operations) and petroleum refining, and marketing. Area-wide ROG sources include consumer products, pesticides, aerosol and architectural coatings, asphalt paving and roofing, and other evaporative emissions.

3.2.1.2.3 Carbon Monoxide (CO)

CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, carbon monoxide occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline used in mobile sources. Consequently, CO concentrations are generally highest in the vicinity of major concentrations of vehicular traffic.

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO in the District exhibit large spatial and temporal variations, due to variations in the rate at which CO is emitted, and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable atmospheric portion of the day.

When CO is inhaled in sufficient concentration, it can displace oxygen and bind with the hemoglobin in the blood, reducing the capacity of the blood to carry oxygen. Individuals most at risk from the effects of CO include heart patients, fetuses (unborn babies), smokers, and people who exercise heavily. Normal healthy individuals are affected at higher concentrations, which may cause impairment of manual dexterity, vision, learning ability, and performance of work. The results of studies concerning the combined effects of CO and other pollutants in animals have shown a synergistic effect after exposure to CO and ozone.

3.2.1.2.4 Particulate Matter (PM_{10} & $PM_{2.5}$)

Particulate matter, or PM, consists of microscopically small solid particles or liquid droplets suspended in the air. PM can be emitted directly into the air or it can be formed from secondary reactions involving gaseous pollutants that combine in the atmosphere. Particulate pollution is primarily a problem in winter, accumulating when cold, stagnant weather comes into the Bay Area. PM is usually broken down further into two size distributions, PM_{10} and $PM_{2.5}$. Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM_{10} and $PM_{2.5}$.

A consistent correlation between elevated ambient particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by fine particles ($PM_{2.5}$) and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory and/or cardiovascular disease and children appear to be more susceptible to the effects of PM_{10} and $PM_{2.5}$.

3.2.1.2.5 Nitrogen Dioxide (NO_2)

NO_2 is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen (N_2) and oxygen (O_2) in air under conditions of high temperature and pressure which are generally present during combustion of fuels; NO reacts rapidly with the oxygen in air to form NO_2. NO_2 is responsible for the brownish tinge of polluted air. The two gases, NO and NO_2, are referred to collectively as nitrogen oxides or NOx. In the presence of sunlight, NO_2 reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO_3) which reacts further to form nitrates, which are a component of PM_{10}.

NO_2 is a respiratory irritant and reduces resistance to respiratory infection. Children and people with respiratory disease are most susceptible to its effects.

3.2.1.2.6 Sulfur Dioxide (SO_2)

SO_2 is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid (H_2SO_4), which contributes to acid precipitation, and sulfates, which are a component of PM_{10} and $PM_{2.5}$. Most of the SO_2 emitted into the atmosphere is produced by the burning of sulfur-containing fuels.

At sufficiently high concentrations, SO_2 affects breathing and the lungs' defenses, and can aggravate respiratory and cardiovascular diseases. Asthmatics and people with chronic lung disease or cardiovascular disease are most sensitive to its effects. SO_2 also causes plant damage, damage to materials, and acidification of lakes and streams.

3.2.1.3 Current Emissions Inventory

An emission inventory is a detailed estimate of air pollutant emissions from a range of sources in a given area, for a specified time period. Future projected emissions incorporate current levels of control on sources, growth in activity in the Air District and implementation of future programs that affect emissions of air pollutants.

3.2.1.3.1 Ozone

NOx and ROG emissions are decreasing state-wide and in the San Francisco Bay Area since 1975 and are projected to continue to decline. ROG emissions result primarily from incomplete fuel combustion and the evaporation of paints, solvents and fuels. Mobile sources are the largest contributors to ROG emissions. Stationary sources include processes that use solvents (such as manufacturing, degreasing, and coating operations) and petroleum refining and marketing. Area-wide ROG sources include consumer products, pesticides, aerosol and architectural coatings, asphalt paving and roofing, and other evaporative emissions. About 42 percent of anthropogenic ROG emissions in the Bay Area are from mobile source emissions, while 26 percent are from petroleum and solvent evaporation (see Table 3.2-4) (BAAQMD, 2017).

TABLE 3.2-4

Anthropogenic Air Emission Inventory 2015
(tons per day)

Source	ROG	NOx
On-Road Motor Vehicles	59.6	128.1
Other Mobile Sources	49.2	122.2
Petroleum & Solvent Evaporation	67.3	--
Industrial and Commercial	15.4	3.0
Combustion	13.0	44.7
Other Sources	54.4	1.2

Source: BAAQMD, 2017.

Approximately 84 percent of NOx emissions in the Bay Area are produced by the combustion of fuels. Mobile sources of NOx include motor vehicles, aircraft, trains, ships, recreation boats, industrial and construction equipment, farm equipment, off-road recreational vehicles, and other equipment. NOx and ROG emissions have been reduced for both stationary and mobile sources due to more stringent regulations from CARB and the District, respectively (see Table 3.2-4) (BAAQMD, 2017).

3.2.1.3.2 Particulate Matter

Particulate matter (both PM_{10} and $PM_{2.5}$) is a diverse mixture of suspended particles and liquid droplets (aerosols). PM includes elements such as carbon and metals; compounds such as nitrates, organics, and sulfates; and complex mixtures such as diesel exhaust, wood smoke, and soil. Unlike the other criteria pollutants which are individual chemical compounds, PM includes all particles that are suspended in the air. PM is both directly emitted (referred to as direct PM or primary PM) and also formed in the atmosphere through reactions among different pollutants (this is referred to as indirect or secondary PM).

PM is generally characterized on the basis of particle size. Ultra-fine PM includes particles less than 0.1 microns in diameter. Fine PM ($PM_{2.5}$) consists of particles 2.5 microns or less in diameter. PM_{10} consists of particles 10 microns or less in diameter. Total suspended particulates (TSP) includes suspended particles of any size.

Combustion of fossil fuels and biomass, primarily wood, from various sources are the primary contributors of directly-emitted Bay Area $PM_{2.5}$ (BAAQMD, 2017). Biomass combustion concentrations are about 3-4 times higher in winter than during the other seasons, and its contribution to peak $PM_{2.5}$ is greater. The increased winter biomass combustion sources reflect increased residential wood-burning during the winter season. The inventory of PM_{10} and $PM_{2.5}$ emission sources is provided in Table 3.2-5.

TABLE 3.2-5

Particulate Emissions Inventory by Source, Annual Average 2015 (tons per day)

Source	PM_{10}	$PM_{2.5}$
Residential Wood-Burning	12.0	11.8
Geological Dust	49.1	6.6
On-Road Motor Vehicles	12.0	5.6
Other Mobile Sources	5.5	5.6
Industrial Combustion	6.5	6.1
Industrial/Commercial Processes	7.6	4.7
Accidental Fires	4.4	3.8
Commercial Cooking	2.2	1.9
Animal Waste	9.8	0.9

Source: BAAQMD, 2017.

3.2.1.4 Non-Criteria Pollutants Health Effects

Although the primary mandate of the Air District is attaining and maintaining the national and state Ambient Air Quality Standards for criteria pollutants within the Air District jurisdiction, the Air District also has a general responsibility to control, and where possible, reduce public exposure to airborne toxic compounds. TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health. TACs can be emitted directly and can also be formed in the atmosphere through reactions among different pollutants. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis or genetic damage; or short-term acute affects such as eye watering, respiratory irritation, running nose, throat pain, and headaches. TACs are separated into carcinogens and non-carcinogens based on the nature of the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Non-carcinogenic substances differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is expected to occur. These levels are determined on a pollutant-by-pollutant basis. The air toxics program was established as a separate and complementary program designed to evaluate and reduce adverse health effects resulting from exposure to TACs.

The major elements of the Air District's air toxics program are outlined below.

- Preconstruction review of new and modified sources for potential health impacts, and the requirement for new/modified sources with TAC emissions that exceed a specified threshold to use BACT.

- The Air Toxics Hot Spots Program, designed to identify industrial and commercial facilities that may result in locally elevated ambient concentrations of TACs, to report significant emissions to the affected public, and to reduce unacceptable health risks.

- The Air District's Community Air Risk Evaluation (CARE) Program has been implemented to identify areas where air pollution contributes most to health impacts and where populations are most vulnerable to air pollution; to reduce the health impacts in these areas; and to engage the community and other agencies to develop additional actions to reduce local health impacts.

- Control measures designed to reduce emissions from source categories of TACs, including rules originating from the state Toxic Air Contaminant Act and the federal Clean Air Act.

- The TAC emissions inventory, a database that contains information concerning routine and predictable emissions of TACs from permitted stationary sources.

- Ambient monitoring of TAC concentrations at a number of sites throughout the Bay Area.

- The Air District's Regulation 11, Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities (Rule 11-18) which was adopted November 15, 2017. See Section 3.2.2.2 below for a further discussion of this rule.

3.2.1.4.1 TAC Health Effects

TACs can cause or contribute to a wide range of health effects. Acute (short-term) health effects may include eye and throat irritation. Chronic (long-term) exposure to TACs may cause more severe effects such as neurological damage, hormone disruption, developmental defects, and cancer. CARB has identified roughly 200 TACs, including diesel particulate matter (diesel PM) and environmental tobacco smoke.

Unlike criteria pollutants which are subject to ambient air quality standards, TACs are primarily regulated at the individual emissions source level based on risk assessment. Human outdoor exposure risk associated with an individual air toxic species is calculated as its ground-level concentration multiplied by an established unit risk factor for that air toxic species. Total risk due to TACs is the sum of the individual risks associated with each air toxic species.

Occupational health studies have shown diesel PM to be a lung carcinogen as well as a respiratory irritant. Benzene, present in gasoline vapors and also a byproduct of combustion, has been classified as a human carcinogen and is associated with leukemia. 1,3-butadiene, produced from motor vehicle exhaust and other combustion sources, has also been associated with leukemia. Reducing 1,3-butadiene also has a co-benefit in reducing the air toxic acrolein.

Acetaldehyde and formaldehyde are emitted from fuel combustion and other sources. They are also formed photo-chemically in the atmosphere from other compounds. Both compounds have been found to cause nasal cancers in animal studies and are also associated with skin and respiratory irritation. Human studies for carcinogenic effects of acetaldehyde are sparse but, in combination with animal studies, sufficient to support classification as a probable human carcinogen. Formaldehyde has been associated with nasal sinus cancer and nasopharyngeal cancer, and possibly with leukemia.

The primary health risk of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there are not "safe" levels of exposure to carcinogens without some risk to causing cancer. The proportion of cancer deaths attributable to air pollution has not been estimated using epidemiological methods. Based on ambient air quality monitoring, and using OEHHA cancer risk factors,[1] the estimated lifetime cancer risk for Bay Area residents, over a 70-year

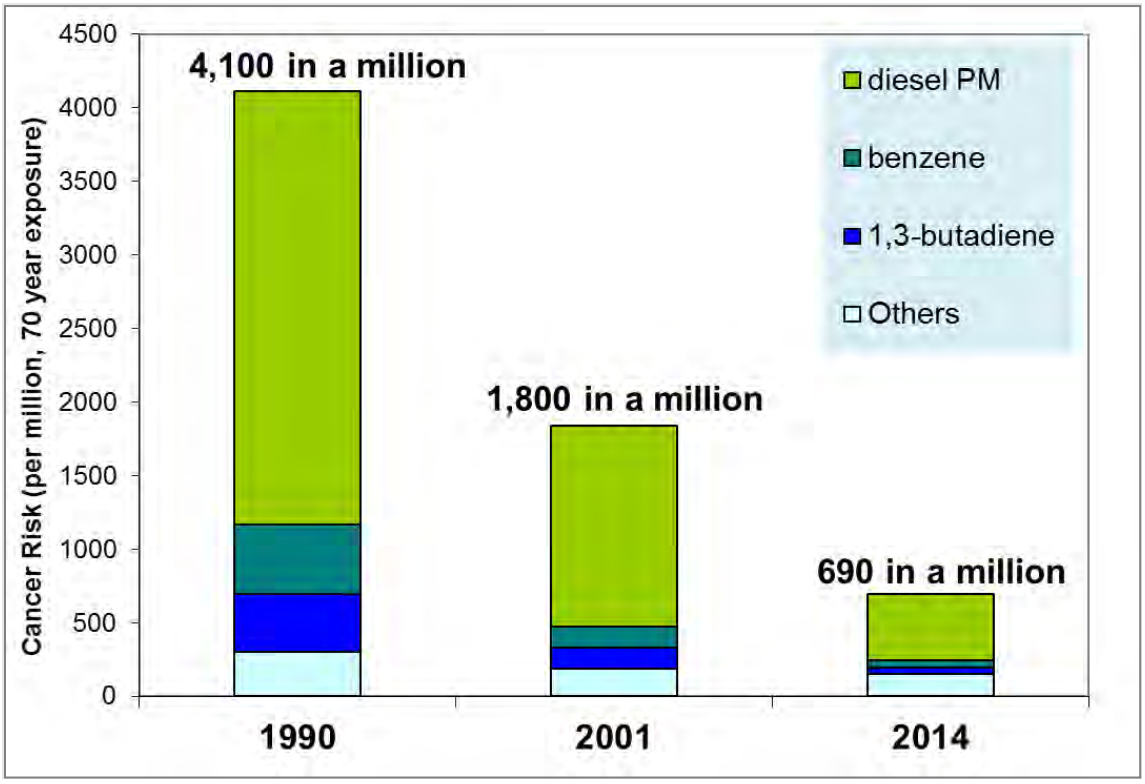
[1] See CARB's Risk Management Guidance for Stationary Sources of Air Toxics, Discussion Draft, May 27, 2015, https://www.arb.ca.gov/toxics/rma/rma_guidancedraft052715.pdf and the Office Environmental Health Hazard Assessment's toxicity values at http://oehha.ca.gov/media/CPFs042909.pdf. The cancer risk estimates shown in Figure 3.2-1 are higher than the estimates provided in documents such as the Bay Area 2010 Clean Air Plan and the April 2014 CARE report entitled *Improving Air Quality and Health in Bay Area Communities*. It should be

lifespan from all TACs combined, declined from 4,100 cases per million in 1990 to 690 cases per million people in 2014, as shown in Figure 3.2-1. This represents an 80 percent decrease between 1990 and 2014 (BAAQMD, 2016).

The cancer risk related to diesel PM, which accounts for most of the cancer risk from TACs, has declined substantially over the past 15-20 years as a result of ARB regulations and Air District programs to reduce emissions from diesel engines. However, diesel PM still accounts for roughly 60 percent of the total cancer risk related to TACs.

emphasized that the higher risk estimates shown in Figure 3.2-1 are due solely to changes in the methodology used to estimate cancer risk, and not to any actual increase in TAC emissions or population exposure to TACs.

FIGURE 3.2-1 Cancer-Risk Weighted Toxics Trends



Source: BAAQMD, 2020a.

3.2.1.4.2 Air Toxics Emission Inventory

The Air District maintains a database that contains information concerning emissions of TACs from permitted stationary sources in the Bay Area. This inventory, and a similar inventory for mobile and area sources compiled by CARB, is used to plan strategies to reduce public exposure to TACs. The detailed emissions inventory is reported in the Air District Toxic Air Contaminant Control Program, 2017 Annual Report (BAAQMD, 2020b). The 2017 emissions inventory continues to show decreasing emissions of many TACs in the Bay Area.

3.2.1.4.3 Ambient Monitoring Network

The Air District maintains a network of air quality monitoring network of 16 stations distributed among the nine Bay Area counties, five were established by CARB and are maintained by the Air District. The remaining 11 sites are operated by the Air District.

3.2.2 REGULATORY SETTING

3.2.2.1 Criteria Pollutants

Ambient air quality standards in California are the responsibility of, and have been established by, both the U.S. EPA and CARB. These standards have been set at concentrations, which provide margins of safety for the protection of public health and welfare. Federal and state air quality standards are presented in Table 3.2-1. The federal, state, and local air quality regulations are identified below in further detail.

3.2.2.1.1 Federal Regulations

The U.S. EPA is responsible for setting and enforcing the NAAQ Ss for ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

The Clean Air Act (CAA) Amendments of 1990 give the U.S. EPA additional authority to require states to reduce emissions of ozone precursors and particulate matter in non-attainment areas. The amendments set attainment deadlines based on the severity of problems. At the state level, CARB has traditionally established state ambient air quality standards, maintained oversight authority in air quality planning, developed programs for reducing emissions from motor vehicles, developed air emission inventories, collected air quality and meteorological data, and approved state implementation plans. At a local level, California's air districts, including the Bay Area Air Quality Management District, are responsible for overseeing stationary source emissions, approving permits, maintaining emission inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

Other federal regulations applicable to the Bay Area include Title III of the Clean Air Act, which regulates toxic air contaminants. Title V of the Act establishes a federal permit program for large stationary emission sources. The U.S. EPA also has authority over the Prevention of Significant Deterioration (PSD) program, as well as the New Source Performance Standards (NSPS), both of which regulate stationary sources under specified conditions.

3.2.2.1.2 California Regulations

CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California CAA and federal CAA, and for regulating emissions from consumer products and motor vehicles. CARB has established CAAQSs for all pollutants for which the federal government has established NAAQS and also has standards for sulfates, visibility, hydrogen sulfide and vinyl chloride. Federal and state air quality standards are presented in Table 3.2-1 under Air Quality Environmental Setting. California

standards are generally more stringent than the National Ambient Air Quality Standards. CARB has established emission standards for vehicles sold in California and for various types of combustion equipment. CARB also sets fuel specifications to reduce vehicular emissions.

CARB released the Proposed 2016 State Strategy for the State Implementation Strategy on May 17, 2016. The measures contained in the State SIP Strategy reflect a combination of state actions, petitions for federal action, and actions for deployment of cleaner technologies in all sectors. CARB's proposed state SIP Strategy includes control measures for on-road vehicles, locomotives, ocean going vessels, and off-road equipment that are aimed at helping all districts in California to comply with federal and state ambient air quality standards.

California gasoline specifications are governed by both state and federal agencies. During the past two decades, federal and state agencies have imposed numerous requirements on the production and sale of gasoline in California. CARB adopted the Reformulated Gasoline Phase III regulations in 1999, which required, among other things, that California phase out the use of MTBE in gasoline. The CARB Reformulated Gasoline Phase III regulations have been amended several times (the most recent amendments were adopted in 2013) since the original adoption by CARB.

The California CAA (AB2595) mandates achievement of the maximum degree of emission reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date.

3.2.2.1.3 Air District Regulations

The California Legislature created the Air District in 1955. The Air District is responsible for regulating stationary sources of air pollution in the nine counties that surround San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties. The Air District is governed by a 24-member Board of Directors composed of publicly-elected officials apportioned according to the population of the represented counties. The Board has the authority to develop and enforce regulations for the control of air pollution within its jurisdiction. The Air District is responsible for implementing emissions standards and other requirements of federal and state laws. Numerous regulations have been developed by the Air District to control emissions sources within its jurisdiction. It is also responsible for developing air quality planning documents required by both federal and state laws.

Bay Area facilities are subject to various air quality regulations that have been adopted by the Air District, CARB and U.S. EPA. These rules contain standards that are expressed in a variety of forms to ensure that emissions are effectively controlled including:

- Requiring the use of specific emission control strategies or equipment (e.g., the use of floating roof tanks for ROG emissions);
- Requiring that emissions generated by a source be controlled by at least a specified percentage (e.g., 95 percent control of ROG emissions from pressure relief devices);
- Requiring that emissions from a source not exceed specific concentration levels (e.g., 100 parts per million (ppm) by volume of ROG for equipment leaks, unless those leaks are

repaired within a specific timeframe; 250 ppm by volume SO_2 in exhaust gases from sulfur recovery units; 1,000 ppm by volume SO_2 in exhaust gases from catalytic cracking units);
- Requiring that emissions not exceed certain quantities for a given amount of material processed or fuel used at a source (e.g., 0.033 pounds NOx per million BTU of heat input, on a refinery-wide basis, for boilers, process heaters, and steam generators);
- Requiring that emissions be controlled sufficient to not result in off property air concentrations above specified levels (e.g., 0.03 ppm by volume of hydrogen sulfide (H_2S) in the ambient air);
- Requiring that emissions from a source not exceed specified opacity levels based on visible emissions observations (e.g., no more than 3 minutes in any hour in which emissions are as dark or darker than No. 1 on the Ringelmann chart); and
- Requiring that emissions be minimized by the use of all feasible prevention measures (e.g., flaring prohibited unless it is in accordance with an approved Flare Minimization Plan).
- Requiring that emissions of NMHC and methane from the waste decomposition process at solid waste disposal sites be limited.
- Requiring emission limits on ozone precursor organic compounds from valves and flanges.
- Requiring the limitation of emissions of organic compounds from gasoline dispensing facilities.

3.2.2.2 Toxic Air Contaminants

3.2.2.2.1 Federal and State Regulations

TACs are regulated in the Air District through federal, state, and local programs. At the federal level, TACS are regulated primarily under the authority of the CAA. Prior to the amendment of the CAA in 1990, source-specific national emission standard for hazardous air pollutants (NESHAPs) were promulgated under Section 112 of the CAA for certain sources of radionuclides and hazardous air pollutants (HAPs).

Title III of the 1990 CAA amendments required the U.S. EPA to promulgate NESHAPs on a specified schedule for certain categories of sources identified by the U.S. EPA as emitting one or more of the 189 listed HAPs. Emission standards for affected sources must require the maximum achievable control technology (MACT). MACT is defined as the maximum degree of emission reduction achievable considering cost and non-air quality health and environmental impacts and energy requirements. All NESHAPs were promulgated by May 2015.

Many sources of TACs that have been identified under the CAA are also subject to the California TAC regulatory programs. CARB developed four regulatory programs for the control of TACs. Each of the programs is discussed in the following subsections.

Control of TACs Under the TAC Identification and Control Program: California's TAC identification and control program, adopted in 1983 as Assembly Bill 1807 (AB 1807) (California Health and Safety Code §39662), is a two-step program in which substances are identified as TACs, and airborne toxic control measures (ATCMs) are adopted to control emissions from specific sources. Since adoption of the program, CARB has identified 18 TACs, and CARB adopted a regulation designating all 189 federal HAPs as TACs.

Control of TACs Under the Air Toxics "Hot Spots" Act: The Air Toxics Hot Spot Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code §39656), as amended by Senate Bill (SB) 1731, establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with those emissions. AB2588 requires operators of certain stationary sources to inventory air toxic emissions from their operation and, if directed to do so by the local air district, prepare a health risk assessment to determine the potential health impacts of such emissions. If the health impacts are determined to be "significant" (greater than 10 per million exposures or non-cancer chronic or acute hazard index greater than 1.0), each facility must, upon approval of the health risk assessment, provide public notification to affect individuals.

Community Air Protection Program (AB 617): The Community Air Protection Program was established under AB 617 to reduce exposure in communities most impacted by air pollution. The Program includes community air monitoring and community emissions reduction programs, as well as funding to support early actions to address localized air pollution through targeted incentive funding to deploy cleaner technologies in these impacted communities. AB 617 also includes new requirements for accelerated retrofit of pollution controls on industrial sources, increased penalty fees, and greater transparency and availability of air quality and emissions data, which will help advance air pollution control efforts. CARB is required to select the communities for action in the first year of the program and develop the program requirements by October 2018. The 2018 communities in the Bay Area recommended by CARB staff for approval by the CARB Governing Board are Richmond and West Oakland. West Oakland was determined to be a community with a high cumulative exposure burden to air pollution under AB617. The West Oakland Community Action Plan was developed by the Air District and the West Oakland Environmental Indicators Project, to develop emission control strategies to reduce emissions and public exposure to emissions in West Oakland. The Community Action Plan was approved by the Air District in 2019.

3.2.2.2.2 Air District Rules and Regulations

The Air District uses three approaches to reduce TAC emissions and to reduce the health impacts resulting from TAC emissions: 1). Specific rules and regulations; 2) Pre-construction review; and, 3) the Air Toxics Hot Spots Program. In addition, the Air District implements U.S. EPA, CARB, and Air District rules that specifically target toxic air contaminant emissions from sources at petroleum refineries.

District Rules and Regulations: The Air District has a number of rules that reduce or control emissions from stationary sources. A number of regulations that control criteria pollutant emissions also control TAC emissions. For example, inspection and maintenance programs for fugitive emission sources (e.g., pumps, valves, and flanges) control ROG emissions, some of which may also be TAC emissions.

Preconstruction Review: The Air District's Regulation 2, Rule 5 is a preconstruction review requirement for new and modified sources of TACs implemented through the Air District's

permitting process. This rule includes health impact thresholds, which require the use of the best available control technology for TAC emissions (TBACT) for new or modified equipment, and health risk limits cannot be exceeded for any proposed project.

Air Toxics Hot Spots Program: The Air Toxic Hot Spots program, or AB2588 Program, is a statewide program implemented by each individual air district pursuant to the Air Toxic Hot Spots Act of 1987 (Health and Safety Code Section 44300 et. seq.). The Air District uses standardized procedures to identify health impacts resulting from industrial and commercial facilities and encourage risk reductions at these facilities. Health impacts are expressed in terms of cancer risk and non-cancer hazard index. Under this program, the Air District uses a prioritization process to identify facilities that warrant further review. This prioritization process uses toxic emissions data, health effects values for TACs, and Air District approved calculation procedures to determine a cancer risk prioritization score and a non-cancer prioritization score for each site. The District updates the prioritization scores annually based on the most recent toxic emissions inventory data for the facility.

Facilities that have a cancer risk prioritization score greater than 10 or a non-cancer prioritization greater than 1 must undergo further review. If emission inventory refinements and other screening procedures indicate that prioritizations scores remain above the thresholds, the Air District will require that the facility perform a comprehensive site-wide health risk assessment (HRA).

In 1990, the Air District Board of Directors adopted the current risk management thresholds pursuant to the Air Toxic "Hot Spots" Act of 1987. These risk management thresholds, which are summarized in Table 3.2-6 below, set health impact levels that require sites to take further action, such as conducting periodic public notifications about the site's health impacts and implementing mandatory risk reduction measures.

TABLE 3.2-6

Summary of Bay Area Air Toxics Hot Spots Program Risk Management Thresholds

Requirement	Site Wide Cancer Risk	Site Wide Non-Cancer Hazard Index
Public Notification	Greater than 10 in one million	Greater than 1
Mandatory Risk Reduction	Greater than 100 in one million	Greater than 10

Targeted Control of TACs Under the Community Air Risk Evaluation Program: In 2004, the Air District established the Community Air Risk Evaluation (CARE) program to identify locations with high emissions of toxic air contaminants (TAC) and high exposures of sensitive populations to TAC and to use this information to help establish policies to guide mitigation strategies that obtain the greatest health benefit from TAC emission reductions. For example, the Air District will use information derived from the CARE program to develop and implement targeted risk reduction programs, including grant and incentive programs, community outreach

efforts, collaboration with other governmental agencies, model ordinances, new regulations for stationary sources and indirect sources, and advocacy for additional legislation.

The CARE program was initiated to evaluate and reduce health risks associated with exposures to outdoor TACs and other pollutants in the Bay Area. The program examines emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. Information from the CARE program has been used to determine the communities most impacted by air quality for the purposes of AB617.

The District's Regulation 11, Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities: Rule 11-18, adopted November 15, 2017, requires the Air District to conduct screening analyses for facilities that report TAC emissions within the District and calculate health prioritization scores based on the amount of TAC emissions, the toxicity of the TAC pollutants, and the proximity of the facilities to local communities. The Air District will conduct health risk assessments for facilities that have priority scores above a certain level. Based on the health risk assessment, facilities found to have a potential health risk above the risk action level would be required to reduce their risk below the action level, or install Best Available Retrofit Control Technology for Toxics on all significant sources of toxic emissions. The risk action levels for Rule 11-18 are shown below in Table 3.2-7.

TABLE 3.2-7

Rule 11-18 Risk Action Levels

	Tier I Before January 1, 2020	**Tier II Beginning January 1, 2020**
Cancer Health Risk	25 per million	10 per million
Chronic Hazard index	2.5	1.0
Acute Hazard Index	2.5	1.0

A partial list of the air pollution rules and regulations that the Air District implements and enforces at Bay Area facilities follows:

- Air District Regulation 1: General Provisions and Definitions
- Air District Regulation 2, Rule 1: Permits, General Requirements
- Air District Regulation 2, Rule 2: New Source Review (NSR)
- Air District Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants
- Air District Regulation 2, Rule 6: Major Facility Review (Title V)
- Air District Regulation 6, Rule 1: Particulate Matter, General Requirements
- Air District Regulation 6, Rule 2: Miscellaneous Operations
- Air District Regulation 8, Rule 5: Storage of Organic Liquids
- Air District Regulation 8, Rule 6: Terminals and Bulk Plants

- Air District Regulation 8, Rule 7: Gasoline Dispensing Facilities
- Air District Regulation 8, Rule 8: Wastewater (Oil-Water) Separators
- Air District Regulation 8, Rule 9: Vacuum Producing Systems
- Air District Regulation 8, Rule 10: Process Vessel Depressurization
- Air District Regulation 8, Rule 18: Equipment Leaks
- Air District Regulation 8, Rule 22: Valves and Flanges at Chemical Plants
- Air District Regulation 8, Rule 28: Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants
- Air District Regulation 8, Rule 33: Gasoline Bulk Terminals and Gasoline Delivery Vehicles
- Air District Regulation 8, Rule 39: Gasoline Bulk Terminals and Gasoline Delivery Vehicles
- Air District Regulation 8, Rule 44: Marine Vessel Loading Terminals
- Air District Regulation 9, Rule 1: Sulfur Dioxide
- Air District Regulation 9, Rule 2: Hydrogen Sulfide
- Air District Regulation 9, Rule 7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
- Air District Regulation 9, Rule 8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines
- Air District Regulation 9, Rule 9: Nitrogen Oxides and Carbon Monoxide from Stationary Gas Turbines
- Air District Regulation 9, Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries
- Air District Regulation 9, Rule 11: Nitrogen Oxides and Carbon Monoxide from Utility Electric Power Generating Boilers
- Air District Regulation 11, Rule 1: Lead
- Air District Regulation 11, Rule 8: Hexavalent Chromium
- Air District Regulation 11, Rule 18: Risk Reduction from Air Toxic Emissions at Existing Facilities
- Air District Regulation 12, Rule 11: Flare Monitoring at Petroleum Refineries
- Air District Regulation 12, Rule 12: Flares at Petroleum Refineries
- 40 CFR Part 63, Subpart CC: Petroleum Refineries (NESHAP)
- 40 CFR Part 63, Subpart UUU: Petroleum Refineries: Catalytic Cracking, Catalytic Reforming, and Sulfur Plant Units (NESHAP)
- 40 CFR Part 61, Subpart FF: Benzene Waste Operations (NESHAP)
- 40 CFR Part 60, Subpart J: Standards of Performance for Petroleum Refineries (NSPS)
- State Airborne Toxic Control Measure for Stationary Compression Ignition (Diesel) Engines (ATCM)

3.2.3 SIGNIFICANCE CRITERIA

The Air District published its most recent version of CEQA guidelines in May 2017. These guidelines provide suggested significance thresholds for evaluation of impacts of a proposed project during both construction and operation phases. The Air District is currently working to

update these guidelines. However, the current guidelines are appropriate to use in conducting an analysis of air quality impacts until the revised guidelines are released.

3.2.3.1 Construction Emissions

The Air District's 2017 Thresholds of Significance for construction emissions are presented in Table 3.2-8.

TABLE 3.2-8

Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors

Pollutant/Precursor	Daily Average Emissions (lbs/day)
ROG	54
NOx	54
PM_{10}	82*
$PM_{2.5}$	54*
PM_{10}/ $PM_{2.5}$ Fugitive Dust	Best Management Practices

*Applies to construction exhaust emissions only.
Source: BAAQMD, 2017a

3.2.3.2 Operational Emissions

The 2017 project-level stationary source CEQA thresholds are identified in Table 3.2-9. These represent the levels at which a project's individual emissions would result in a cumulatively considerable contribution to the Air District's existing air quality conditions for individual projects. These thresholds are based on the federal offset requirements for ozone precursors for which the Bay Area is designated as a non-attainment area, which is an appropriate approach to prevent further deterioration of ambient air quality and thus has nexus and proportionality to prevent regionally cumulative significant impacts (e.g., worsened status of non-attainment). Despite being a non-attainment area for state PM_{10} and pending nonattainment for federal $PM_{2.5}$, the federal NSR significant emission rate annual limits of 15 and 10 tons per year, respectively, are the thresholds as the District has not established an offset requirement limit for $PM_{2.5}$ and the existing limit of 100 tons per year is much less stringent and would not be appropriate in light of the pending non-attainment designation for the federal 24-hour $PM_{2.5}$ standards. These operational thresholds represent the emission levels above which a project's individual emissions would result in a cumulatively considerable contribution to the Bay Area's existing air quality conditions. The Air District is planning to develop significance thresholds specifically for rules. Until that effort is complete and in order to provide a conservative air quality analysis, the project-specific thresholds recommended in the revised 2017 CEQA Guidelines (BAAQMD, 2017) will be used in the current air quality impacts analysis (see Table 3.2-9).

TABLE 3.2-9

Thresholds of Significance for Operation-Related Criteria Air Pollutants and Precursors

Pollutant/Precursor	Daily Average Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	10
NOx	54	10
PM_{10}	82	15
$PM_{2.5}$	54	10

Source: BAAQMD, 2017a

3.2.4 ENVIRONMENTAL IMPACTS

As discussed previously, the Notice of Preparation and Initial Study (NOP/IS) (see Appendix A) found that the implementation of Proposed Rule 13-5 could result in potentially significant air quality impacts.

It is expected that the direct effects of Proposed Rule 13-5 would be a substantial reduction in methane emissions, as well as reductions in other organic compound emissions. However, construction equipment and installed flares or vapor recovery systems that might be associated with compliance with Section 13-5-301 have the potential to generate secondary air quality impacts, primarily from combustion emissions. Further, air pollution control equipment or vapor recovery systems that reduce one or more regulated pollutants have the potential to generate adverse secondary air quality impacts from the combustion of vent gas. In this case, the flaring of vent gas or capture of vent gas into the fuel gas system will reduce GHG emissions from methane and potentially reduce TAC emissions from the destruction of NMHC but would increase criteria pollutants from combustion associated with the pilot gas and/or vent gas destruction from a combustion source.

Potential secondary air quality impacts from construction activities and the capture and control of the vent gas are analyzed herein. This subchapter evaluates the potential construction and operational air quality impacts that could result due to implementation of Proposed Rule 13-5, to the extent that they can be estimated and are not speculative.

3.2.4.1 Potential Criteria Pollutant Impacts During Construction

Construction equipment associated with the installation of new flares or vapor recovery system could result in ROG, NOx, SOx, CO, PM_{10}, and $PM_{2.5}$ emissions, although the amount generated by specific types of equipment can vary greatly. As shown in Table 3.2-10, different types of equipment can generate construction emissions in much different quantities depending on the type of equipment. For example, the estimated emissions of NOx range from of 0.09 pound per hour

(lb/hr) of NOx for a manlift to 0.59 lbs/hr for a crane. To provide a conservative construction air quality analysis, a typical construction analysis assumes that, in the absence of specific information, all construction activities would occur for eight hours per day. This is considered a conservative assumption because workers may need to be briefed on daily activities, so construction may start later than their arrival times or the actual construction activities may not require eight hours to complete.

TABLE 3.2-10

Emission Factors Associated with Typical Construction Equipment(1)

Equipment Type	ROG (lb/hr)	CO (lb/hr)	NOx (lb/hr)	SOx (lb/hr)	PM10 (lb/hr)
<40 T Cranes	0.04999	0.2484	0.59260	0.00068	0.02399
Pile/Drill Rig	0.03559	0.3817	0.42563	0.00119	0.01535
Welders	0.02266	0.1453	0.13943	0.00025	0.00686
Lights	0.03479	0.2741	0.28345	0.00053	0.01200
Generator	0.05034	0.3424	0.52886	0.00118	0.01887
Fork Lifts	0.01624	0.1414	0.14039	0.00019	0.00935
Loader/Backhoe	0.02248	0.2456	0.22116	0.00039	0.01191
Air Compressors	0.03032	0.3306	0.30161	0.00136	0.01144
Manlifts	0.00540	0.1339	0.08924	0.00022	0.00132

(1) Emission Factors from Off-Road 2017, Model Year 2021.

To calculate the potential construction emissions associated with the construction of a new flare, it was assumed that construction activities would take about nine months and would require 50 workers per day. It is also assumed that both flares would be constructed concurrently. The potential emissions associated with the construction of the new flares are summarized in Table 3.2-11. The construction of vapor recovery of the vent gas is expected to require a similar amount of piping as a flare and would also require a compressor, which would result in equal to or less intensive construction activities than the installation of a complete flare system. Although the exact impacts are not known, construction activities associated with an Alternative Compliance Plan are expected to be much less than the installation of a flare or vapor control system as less equipment would be installed. Therefore, only the construction of the flare is presented as a worst-case analysis of air quality impacts associated with construction activities.

TABLE 3.2-11

Estimated Average Daily Construction Emissions
(lb/day)

ACTIVITY	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Construction Activities for Two Flares[(1)]	3.83	33.52	55.31	0.2	14.5	4.9
Construction Significance Thresholds[(2)]	54	--	54	--	82	54
Significant?	NO	NO	YES	NO	NO	NO

(1) See Appendix B for detailed emissions calculations.
(2) BAAQMD, 2017a

Based on the construction emissions in Tables 3.2-11, it is concluded that construction emissions associated with the construction of the new flares would potentially exceed the CEQA significance thresholds for NOx and would, therefore, be considered significant. The assumptions for construction activities are considered very conservative as it assumes that construction activities associated with two flares would occur concurrently, which is not considered likely. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

3.2.4.2 Potential Criteria Pollutant Impacts During Operation

The net effect of implementing Proposed Rule 13-5 is to reduce total organic compounds – including methane – emissions from vented gas. However, some control technologies have the potential to generate air quality impacts as part of the control process.

3.2.4.2.1 Potential Direct Impacts from Operations

Flares have been used to control TAC and ROG emissions from process upsets for many years by combusting vented gas during emergency conditions. In order to combust the vent gas, the flare must continually burn a pilot light, but it is not anticipated that supplemental natural gas will be necessary when hydrogen gas is vented, due to the high combustion potential of hydrogen. Federal flaring guidelines allow a heating value of 1,212 btu/scf for hydrogen instead of the theoretical heat content of 274 btu/scf when an owner or operator is evaluating compliance with the minimum net heating value of the flare combustion zone (270 btu/scf as required by 40 CFR Part, Subpart CC(e) §63.670(l)(3)). Therefore, supplemental gas will not be required to meet the minimum net heating value required by Federal flaring guidelines, for a flare combusting vent gas composed of mostly hydrogen. The pilot light uses natural gas and, therefore, will generate ROG, CO, NOx, SOx, PM10, and PM2.5. However, the net effects of the installation of a flare would increase CO, NOx, SOx, PM10, and PM2.5, but decrease ROG emissions.

The emissions for the pilot light are calculated using AP-42 emission factors for natural gas fired external fired combustion. It is assumed that each flare will have two pilot lights, which consume approximately 77 scf/hr of natural gas.

The emissions for the combustion of vent gas in the flares are calculated using AP42 emission factors for industrial flares. The vented gas is expected to be primarily hydrogen with up to four percent methane, one percent NMHC, and contains no sulfur compounds. The NMHC are assumed to be controlled at 98 percent, therefore, an overall reduction in ROG emissions is assumed to occur. Since there are no sulfur compounds, no SOx emissions are expected to be generated from the combustion of the vent gas. Since neither hydrogen nor methane are ROGs, no additional ROG emissions are expected to be generated from the combustion of the vent gas. Further, no PM10 and PM2.5 emissions are expected to be generated from the combustion of hydrogen in the flare. The analysis assumes that two flares would be installed under Proposed Rule 13-5, one at the hydrogen plants at the PBF Martinez Refinery and one at the Valero Benicia Refinery. The estimated emissions associated with the operation from two flares are summarized in Table 3.2-12. Detailed operational emission calculations are presented in Appendix B.

The operation of vapor recovery for control of the vent gas would require a similar amount of fugitive components as a flare. Additionally, the captured vent gas would be combusted in an existing on-site source. Overall, the operational emissions associated with a vapor recovery system are expected to result in less emissions than a flare as it is expected to reduce vent gas emissions, result in little fugitive emissions, and may not require new combustion sources (e.g., pilot light for a new flare). Therefore, the operational emissions from a vapor recovery system are expected to be less than a flare. The operational impacts associated with an Alternative Compliance Plan could vary but are expected to be limited to addition of piping, valves, flanges, monitoring equipment, and compressors to re-route vent gases, resulting in minimal emissions (i.e., no increase in combustion emissions). Therefore, an Alternative Compliance Plan would not be expected to result in an increase in NOx emissions. Thus, operational emissions associated with installation and use of two flares represents a worst-case analysis of emissions associated with implementation of Rule 13-5. Thus, operational emissions associated with installation and use of two flares represent a worst-case analysis of emissions associated with implementation of Rule 13-5.

3.2.4.2.2 Potential Secondary Impacts from Operations

Implementing Proposed Rule 13-5 is expected to increase demand for electricity. However, the increase in electrical demand is limited to area lighting and control panels. Although a small increasing in electrical demand is expected, it is anticipated that the increased electricity generation emissions would be offset by emission reductions from removing methane from the vent gas.

3.2.4.3 Potential Toxic Air Contaminant Impacts

Detailed information regarding TAC emissions in the vent gas is currently not available. However, a reduction in TAC emissions would be expected from the destruction of the NMHC that are potentially in the vent stream. The goal of the Proposed Rule 13-5 is to reduce emissions of methane and NMHCs. The use of a flare would be expected to reduce NMHC by about 98 percent, which would include TAC emissions. The operation of vapor recovery for rule compliance would result in the combustion of captured vent gas in an existing on-site source. Therefore, the installation of a flare or vapor recovery to comply with the proposed rule would be expected to reduce TAC emissions generated, as well as the potential exposure to those TAC emissions, reducing the overall potential health risk associated with exposure to TAC emissions.

The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to addition of valves, flanges, monitoring equipment, and compressors to re-route vent gases, resulting in minimal emissions and no increase in combustion emissions. An Alternative Compliance Plan would not result in increased combustion and would not be expected to result in any increases in TAC emissions. Therefore, TAC emissions associated with the proposed project are expected to be less than significant.

3.2.4.5 Summary of Operational Emission Impacts

As shown in Table 3.2-12, one of the potential outcomes associated with implementation of Proposed Rule 13-5 would be the installation of two flares, which could result in a decrease in ROG emissions and an increase in NOx, PM10, and PM2.5 emissions. The emissions from ROG, SOx, PM10, and PM2.5 are expected to be below the significant thresholds. However, the NOx emissions are expected to exceed the CEQA threshold. Therefore, the implementation of Proposed Rule 13-5 may result in potential significant air quality impacts associated with an increase in NOx emissions, should two new flares be installed to control emissions from the existing hydrogen plants at the Valero and PBF refineries.

TABLE 3.2-12

Estimated Operational Emissions

	ROG	CO	NOx	SOx	PM10	PM2.5
Emissions from Control Equipment						
Average Daily Emissions (lb)	0.0	102.2	193.1	0.0	8.9	8.9
Annual Emissions (tons)	0.0	18.6	35.2	0.0	1.6	1.6
Emission Reductions from Controlled Methane						
Average Daily Emissions (lb)	0.0	0.0	0.0	0.0	0.0	0.0
Annual Emissions (tons)	0.0	0.0	0.0	0.0	0.0	0.0
ROG Emission Reductions from Controlled Non-methane Hydrocarbons						
Average Daily Emissions (lb)	11.5	0.0	0.0	0.0	0.0	0.0
Annual Emissions (tons)	2.1	0.0	0.0	0.0	0.0	0.0
Net Emissions						
Average Daily Emissions (lb)	-11.4	102.2	193.1	0.0	8.9	8.9
Annual Emissions (tons)	-2.1	18.6	35.2	0.0	1.6	1.6
BAAQMD CEQA Thresholds	10.0	NE	10.0	NE	15.0	10.0
Significant?	**No**	**NA**	**Yes**	**NA**	**No**	**No**

The operation of vapor recovery for control of the vent gas would require a similar amount of fugitive components as a flare. Additionally, the captured vent gas would be combusted in an existing on-site source. Overall, the operational emissions associated with a vapor recovery system are expected to result in less emissions than a flare as it would reduce vent gas emissions, result in little fugitive emissions, and would not require new combustion sources (e.g., a new pilot light). Therefore, the operational emissions from a vapor recovery system would be dependent on the site-specific requirements and modifications, but are expected to be less than a new flare.

The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to addition of piping, valves, flanges, monitoring equipment, and compressors to re-route vent gases, resulting in minimal emissions (i.e., no increase in combustion emissions). The implementation of an Alternative Compliance Plan would be expected to result in a reduction in combustion emissions and is expected to reduce the potentially significant NOx emissions associated with new flares to less than significant. Thus, operational emissions associated with installation and use of two flares represents a worst-case analysis of emissions associated with implementation of Rule 13-5.

3.2.5 MITIGATION MEASURES

Air quality impacts associated with the implementation of Proposed Rule 13-5 may be significant for construction activities; therefore, the Air District's Basic Construction Mitigation Measures are expected to be implemented, which include the following (BAAQMD, 2017a):

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

While the Proposed Rule 13-5 would reduce emissions of NMHC, air quality impacts associated with the implementation of Proposed Rule 13-5 are potentially significant for NOx, should the affected facilities comply with the rule by installing flares and feasible mitigation measures are required. Any new equipment will be required to comply with the Best Available Control Technology (BACT) requirements of Air District Rule 2, Regulation 2. BACT includes the most effective emission control device or technique that has been successfully utilized for the relevant source. Compliance with the BACT requirements would minimize emissions from the source to

the extent feasible. Therefore, additional mitigation measures are not considered to be feasible at this time.

It should be noted that the Air District cannot prescribe what a facility will do to comply with a standard once it has been adopted and a flare may be the chosen control methodology. However, if the affected sources comply with Proposed Rule 13-5 using any other method than a flare (e.g., gas recovery system or using an existing combustion source) or any other approach to comply with the alternative standard, air quality impacts are expected to be less than significant.

3.2.6 SIGNIFICANCE CONCLUSION AND REMAINING IMPACTS

As discussed above, construction emissions of ROG, CO, SOx, PM10 and PM2.5 associated with the construction of the new flares would be below the CEQA significance thresholds for criteria pollutants and would, therefore, be less than significant. Construction emissions of NOx may exceed the CEQA significance thresholds if two flares are constructed at the same time and these emissions may remain significant following mitigation. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

The implementation of Proposed Rule 13-5 would result in a decrease in ROG emissions and an increase in NOx, PM10, and PM2.5 emissions, if new flares are constructed to comply with the standards in the rule. The emissions from ROG, SOx, PM10, and PM2.5 are expected to be below the significant thresholds. However, the NOx emissions from the implementation of Proposed Rule 13-5 are expected to exceed the CEQA threshold after mitigation, if both affected facilities comply with Proposed Rule 13-5 by building new flares. Therefore, the implementation of Proposed Rule 13-5 may result in significant air quality impact.

The operation of vapor recovery for control of the vent gas would require a similar amount of fugitive components as a flare. Additionally, the captured vent gas would be combusted in an existing on-site source. Overall, the operational emissions associated with a vapor recovery system are expected to result in less emissions than a flare as it is expected to reduce vent gas emissions, result in little fugitive emissions, and would not require new combustion sources (e.g., a new pilot light). Therefore, the operational emissions from a vapor recovery system would be dependent on the site-specific requirements and modifications, but are expected to be less than a new flare.

The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to addition of piping, valves, flanges, monitoring equipment, and compressors to re-route vent gases, resulting in minimal emissions (i.e., no increase in combustion emissions). The implementation of an Alternative Compliance Plan would be expected to result in a reduction in combustion emissions and is expected to reduce the potentially significant NOx emissions associated with new flares to less than significant.

3.2.7 CUMULATIVE IMPACTS

The requirements for cumulative impacts are discussed in 3.1.7.

As described in the EIR for the Clean Air Plan (BAAQMD, 2017), air quality within the Bay Area has improved since 1955 when the Air District was created and is projected to continue to improve. This improvement is mainly due to lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by the Air District. This trend towards cleaner air has occurred in spite of continued population growth. The Air District is in attainment of the State and federal ambient air quality standards for CO, NO_2, and SO_2.

However, the Bay Area is designated as a non-attainment area for the federal and state 8- hour ozone standard. The State and federal eight-hour ozone standards were exceeded on nine days in 2019 at one site or more in the Air District; most frequently in the Eastern District (Livermore, Concord, Bethel Island, and San Ramon) (see Table 3.2-2). The federal 24-hour $PM_{2.5}$ standard was exceeded at one or more Bay Area station on one day in 2019, most frequently in San Pablo. Since the District is not in attainment for the federal and state ozone standard, the state 24-hour PM_{10} standard, and the federal 24-hour $PM_{2.5}$ standard, past projects and activities have contributed to the nonattainment air quality impacts that are cumulatively significant.

The 2017 Clean Air Plan contains numerous control measures that the District intends to impose to improve overall air quality in the District. Control measures in the 2017 Clean Air Plan contain a number of other control measures to control emissions from stationary sources. The 2017 Clean Air Plan is expected to result in overall reductions in ROG, NOx, SOx, and PM emissions, providing an air quality benefit (BAAQMD, 2017). As reported in the Final EIR for the 2017 Clean Air Plan, large emission reductions are expected from implementation of the 2017 Plan including reductions in ROG emissions of 1,596 tons/year; NOx emissions of 2,929 tons/year, SOx emissions of 2,590 tons/year, and $PM_{2.5}$ emissions of 503 tons/year (see Table 3.2-21 of the Final EIR, BAAQMD, 2017). These emission reductions are expected to help the Bay Area come into compliance or attainment with the federal and state 8-hour ozone standard, the federal and state PM_{10} standards, the federal 24-hour $PM_{2.5}$ standards, and the state 24-hour $PM_{2.5}$ standard, providing both air quality and public health benefits. Emission reductions from the 2017 Clean Air Plan are expected to far outweigh any potential secondary emission increases associated with the secondary increase in NOx associated with the potential installation of new flares at two hydrogen plants in the Air District, providing a beneficial impact on air quality and public health. However, the air quality impacts associated with the implementation of Proposed Rule 13-5 are potentially significant for NOx if both affected facilities install a new flare. Given that the Bay Area is not in attainment with the federal and state ozone standard, and that implementation of Proposed Rule 13-5 could result in significant air quality impacts, cumulative air quality impacts are also potentially significant.

As discussed in the analysis of TAC air quality impacts, above, the use of a flare would be expected to reduce NMHC by about 98 percent, which would include TAC emissions. Therefore, the proposed rule would be expected to reduce TAC emissions generated (assuming the use of a flare), as well as the potential exposure to those TAC emissions, reducing the overall potential health risk associated with exposure to TAC emissions. The other potential compliance options would not be expected to result in an increase in TAC emissions. Because

operational TAC emissions do not exceed the applicable cancer and non-cancer health risk significance thresholds, they are not considered to be cumulatively considerable (CEQA Guidelines §15064(h)(1)), and therefore are not expected to generate significant adverse cumulative cancer and non-cancer health risk impacts. In addition, reductions in TAC emissions would be expected due to implementation of the proposed project, (e.g., reduction in emissions of NMHC), but those emission reductions and the related health risk benefits cannot be estimated at this time.

3.2.8 REFERENCES

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CHAPTER 3.3

GREENHOUSE GAS EMISSIONS

Introduction
Environmental Setting
Regulatory Setting
Significance Criteria
Greenhouse Gas Impacts

3.3 GREENHOUSE GAS EMISSIONS

This subchapter of the EIR evaluates the GHG impacts associated with implementation of Proposed Rule 13-5. The NOP/IS (see Appendix A) evaluated the potential GHG impacts associated with implementation of Proposed Rule 13-5. The overall objective of Proposed Rule 13-5 is to reduce emissions of GHGs as well as other organic compounds from hydrogen plants. Proposed Rule 13-5 will reduce emissions by requiring hydrogen plants to control total organic compound emissions to specific levels, which may result in the construction and operation of flare systems, or vapor recovery systems. Proposed Rule 13-5 also includes an alternative standard that allows for 90 percent control of methane. Overall, Proposed Rule 13-5 is expected to result in a substantial decrease in GHG emissions due to the control of methane emissions from hydrogen plant vents, however, flares can also generate GHG emissions from the combustion of fuel (e.g., natural gas). The GHG emissions from these new sources, as well as the decrease in GHG emissions from the control of emissions from hydrogen plants vents, will be evaluated in this subsection.

3.3.1 INTRODUCTION

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs identified by the Kyoto Protocol are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), haloalkanes (HFCs), and perfluorocarbons (PFCs). Although not included among the Kyoto Six GHGs, black carbon, a key component of fine PM, has been identified as a potent agent of climate change. Black carbon is the third largest GHG in the Bay Area on a carbon dioxide equivalence (CO_2e) basis. Diesel engines and wood-burning are key sources of black carbon in the Bay Area. It is also important to reduce emissions of "super-GHGs" (with very high global warming potentials) such as methane, black carbon, and fluorinated gases, in addition to carbon dioxide. CARB refers to these compounds as short-lived climate pollutants (SLCPs).

The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect."

While the cumulative impact of GHG emissions is global, the geographic scope of this cumulative impact analysis is the State of California. The analysis of GHG emissions is a different analysis than for criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is typically based on daily exceedances of applicable ambient air quality standards. Further, the ambient air quality standards for criteria pollutants are based on

relatively short-term exposure effects to human health, e.g., one hour and eight hours. Using the half-life of CO_2, 100 years, for example, the effects of GHGs are longer-term, affecting the global climate over a relatively long timeframe.

It is the increased accumulation of GHGs in the atmosphere that is a major driver of global climate change. Climate change involves complex interactions and changing likelihoods of diverse impacts. Due to the complexity of conditions and interactions affecting global climate change, it is not possible to predict the specific impact, if any, attributable to GHG emissions associated with a single project, which is why GHG emission impacts are considered to be a cumulative impact.

Emissions of GHGs, especially combustion of fossil fuels for energy, transportation, and manufacturing, contribute to the warming of the atmosphere that may cause rapid changes in the way different types of ecosystems typically function. For example, in some regions, changing precipitation or acceleration of melting snow and ice are altering hydrological systems, affecting water resources in terms of quantity and quality. Melting glaciers and polar ice sheets are expected to contribute to sea level rise. Rising sea levels are expected to contribute to an increase in coastal flooding events.

A warmer atmosphere could also contribute to chemical reactions increasing the formation of ground-level ozone. Ozone is a well-known lung irritant and a major trigger of respiratory problems like asthma attacks. Local changes in temperature and rainfall could alter the distribution of some waterborne illnesses and disease vectors. For example, warmer freshwater makes it easier for pathogens to grow and contaminate drinking water.

Potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (i.e., heat rash and heat stroke). In addition, climate sensitive diseases may increase, such as those spread by mosquitoes and other disease carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global climate change may also exacerbate air quality problems from increased frequency of exceeding criteria pollutant ambient air quality standards.

The Air District's Clean Air Plan, *Spare the Air, Cool the Climate* (2017), provides scientific data that California and the Bay Area is already experiencing a wide range of climate change impacts, which are predicted to intensify in the future negatively affecting natural systems, infrastructure, agriculture, air quality, and human health. The Air District's data and modeling show the following:

- Higher temperatures produce more high ozone days

- Higher temperatures produce more pollution from power plants and vehicles
- Changes in air mixing and flow can increase pollution levels
- Higher temperatures and drought are fueling wildfires
- Climate change will have non-air quality impacts on public health:
    - Heat-Related illnesses and death will increase
    - Urban heat island impacts will grow
    - Higher temperatures will increase vector-borne diseases
    - Other public health impacts from higher temperatures include worsening of allergy seasons, asthma, and other respiratory and cardiovascular diseases.

3.3.2 ENVIRONMENTAL SETTING

There are dozens of GHGs, but a subset of six of these gases has been identified by the Kyoto Protocol (plus carbon black) as the primary agents of climate change:

Carbon Dioxide (CO_2) is released to the atmosphere when fossil fuels (oil, gasoline, diesel, natural gas, and coal), solid waste, and wood or wood products are burned.

Methane (CH_4) is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in municipal solid waste landfills and the raising of livestock. Methane can also be emitted by venting during the hydrogen production and distribution process, which Proposed Rule 13-5 is intended to address.

Nitrous oxide (N_2O) is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels.

Hydrofluorocarbons (HFCs), **perfluorocarbons** (PFCs), and **sulfur hexafluoride** (SF_6), are generated by a variety of industrial processes. Emissions of these fluorinated gases are small on a mass basis, but they are potent agents of climate change on a per unit basis.

Black Carbon: Although not included among the Kyoto Six GHGs, black carbon is a key component of fine particulate matter and has been identified as a potent agent of climate change. Black carbon is the third largest GHG in the Bay Area on a CO_2-equivalent basis. Diesel engines and wood-burning are key sources of black carbon in the Bay Area. Since exposure to fine PM has a wide range of health impacts, reducing emissions of black carbon will provide important public health co-benefits.

Table 3.3-1 shows atmospheric lifespan, 20-year, and 100-year global warming potential (GWP) values, and key emission sources for GHGs, which are also addressed in the 2017 Clean Air Plan.

TABLE 3.3-1

Greenhouse Gases and Global Warming Potential

Greenhouse Gas	Atmospheric Lifespan	GWP * (20-year timeframe)	GWP * (100-year timeframe)	Key Emissions Sources
Carbon dioxide (CO_2)	20-200 years	1	1	Fossil fuel combustion
Nitrous oxide (N_2O)	114 years	268	298	Motor vehicles, agriculture, water treatment, composting
Methane (CH_4)	12 years	86	34	Natural gas production & distribution, solid waste disposal, ranching, dairies
Hydrofluorocarbons (HFCs)	1.5 to 264 years	506 to 6,940	138 to 8,060	Refrigeration, air conditioning
Perfluorocarbons (PFCs)	3,000 years or more	6,500	6,500	Semiconductor manufacturing
Sulfur Hexafluoride (SF_6)	3,200 years	17,500	23,500	Electricity grid losses
Black Carbon**	Days to weeks	3,235	900	Diesel engines, wood-burning

* The GWP values in Table 3.3-1 are taken from the IPCC 5th Assessment Report (AR5), with the exception of black carbon.
** The black carbon values are based on from US EPA report on black carbon:
https://www3.epa.gov/blackcarbon/2012report/Chapter2.pdf

An emissions inventory is a detailed estimate of the amount of air pollutants discharged into the atmosphere of a given area by various emission sources during a specific time period. In 2018, total GHG emissions in the State of California were an estimated 425 million metric tons of CO_2 equivalent ($MMTCO_2e$), a decrease of 6 $MMTCO_2e$ below the 2020GHG limit of 431 $MMTCO_2e$. GHG emissions from transportation account for about 40 percent of the total GHG emissions in the State, followed by energy industries (e.g., electric plants) with 15 percent of the total, and industrial activities with 21 percent. Emissions from other sections (e.g., commercial and residential, agricultural, and recycling and waste) have remained relatively constant in recent years (CARB, 2020).

Table 3.3-2 presents the GHG emission inventory by major source categories in calendar year 2015, as identified by the Air District. Transportation sources generate approximately 40 percent of the total GHG emissions in the District. The remaining 60 percent of the total District GHG emissions are from stationary and area sources.

TABLE 3.3-2

2015 BAAQMD Greenhouse Gas Emission Inventory
(metric tons of CO_2e)

Source Category	CO_2, CH_4, N_2O, HFC/PFC, SF6	Black Carbon	Total Emissions (CO_2e)
Transportation	**34,630,000**	**790,000**	**35,420,000**
On-road	30,420,000	330,000	30,750,000
Off-road	4,210,000	460,000	4,670,000
Electricity/Co-Generation	**12,110,000**	**130,000**	**12,240,000**
Co-Generation	5,790,000	90,000	5,880,000
Electricity Generation	5,040,000	40,000	5,080,000
Electricity Imports	1,280,000	-	1,280,000
Buildings	**8,880,000**	**390,000**	**9,270,000**
Residential Fuel Usage	5,240,000	210,000	5,450,000
Commercial Fuel Usage	3,640,000	180,000	3,820,000
Stationary Sources	**22,020,000**	**340,000**	**22,360,000**
Oil Refineries	15,470,000	210,000	15,680,000
Natural Gas Combustion	4,870,000	110,000	4,980,000
Natural Gas Distribution	460,000	-	460,000
Cement Manufacturing	990,000	-	990,000
Fugitive/Process Emissions	230,000	20,000	250,000
Waste Management	**2,280,000**	**20,000**	**2,300,000**
Landfills	1,830,000	20,000	1,850,000
Composting/POTWs	450,000	-	450,000
High-GWP Gases	**3,560,000**	**-**	**3,560,000**
HFCs and PFCs	3,470,000	-	3,470,000
SF6	90,000	-	90,000
Agriculture	**1,220,000**	**170,000**	**1,390,000**
Animal Waste	740,000	20,000	760,000
Soil Management	280,000	-	280,000
Agricultural Equipment	190,000	40,000	230,000
Biomass Burning	10,000	110,000	120,000
Total Emissions	**84,700,000**	**1,840,000**	**86,540,000**

Source: BAAQMD, 2017

The emission inventory in Table 3.3-3 focuses on GHG emissions projections due to human activities only, and compiles emission estimates that result from industrial, commercial, transportation, domestic, forestry, and agriculture activities in the San

Francisco Bay Area. The GHG emission inventory reports direct emissions generated from sources within the District. The report does not include indirect emissions, for example, a source using electricity has no direct emissions because emissions are emitted at the power plants. Emissions of CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 are estimated using the most current activity and emission factor data from various sources. Emission factor data were obtained from the U.S. Department of Energy's (DOE's) Energy Information Administration (EIA), the CEC, and CARB.

Under "business as usual" conditions, GHG emissions are expected to grow in the future due to population growth and economic expansion. Table 3.3-3 shows emissions trends by major sources for the period 1990 to 2020. The long term GHG emissions trends are expected to go upwards by approximately 0.5 percent per year in the absence policy changes. Year-to-year fluctuation in emissions trends are due to variation in economic activity and the fraction of electric power generation in this region (BAAQMD, 2015).

TABLE 3.3-3

Bay Area Emission Trends by Major Sources
(Million metric Tons CO_2e)

Category	1990	2008	2011	2014	2017	2020
Transportation	28.6	34.8	34.3	33.9	32.5	30.4
Industry/Commercial	21	28.9	31	32.6	34.3	36
Electricity/Co-Gen.	8.4	13.9	12.1	12.9	12.6	12.3
Residential Fuel	7	6.5	6.6	6.7	6.8	6.9
Off-Road Equipment	0.9	1.4	1.3	1.3	1.4	1.3
Agriculture	1.2	1.3	1.3	1.3	1.3	1.3
Total	67.1	86.8	86.6	88.7	88.8	88.2

Source: Bay Area Emission Inventory Summary Report: Greenhouse Gases. (BAAQMD, 2015)

The largest stationary sources of GHG emissions in Contra Costa and Solano Counties are shown in Table 3.3-2. Between 2015 and 2019, Contra Costa County had 28 and Solano County had two stationary source facilities that were required to report emissions to CARB (one of which was the Valero Refining Company in Benicia).

TABLE 3.3-4

Largest GHG Emitting Sources in Contra Costa and Solano Counties (Million metric Tons CO_2e)

Facility	Total 2015 Emissions (MT CO_2e)	Total 2019 Emissions (MT CO_2e)
Chevron Products Co. Richmond	4,522,795	4,521,944
Martinez Refining Company, LLC, Martinez	3,619,640	3,055,157
Tesoro Refining and Marketing Co., Golden Eagle Refinery, Martinez	2,076,234	2,302,965
San Francisco Refinery at Rodeo	1,477,215	1,346,105
PG&E Gateway Generating Station, Antioch	1,305,982	1,137,219
Valero Refining Co., California Benicia Refinery, Benicia	1,105,351	978,106
Air Liquide Large Industries US, LP, Rodeo	817,994	800,782
Crockett Cogeneration Plant, Crockett	791,210	735,568
Air Products & Chemicals Inc., Martinez, and Waterfront	742,219	717,297
Martinez Cogen Limited Partner	401,601	391,426
Air Products & Chemicals, Inc, Tesoro Martinez	196,659	264,073
GWF Power Systems, LP (site 3)	181,520	0
Campbell Soup Supply Co., LLC DBA Dixon Canning Corp, Dixon	34,841	34,546

Source: U.S. EPA 2021 GHG Emissions by Facility. Reported 8/20/21

3.3.3 REGULATORY SETTING

3.3.3.1 Federal Regulations

Greenhouse Gas Endangerment Findings: On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the CAA. The Endangerment Finding stated that CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 taken in combination endanger both the public health and the public welfare of current and future generations. The Cause or Contribute Finding stated that the combined emissions from motor vehicles and motor vehicle engines contribute to the greenhouse gas air pollution that endangers public health and welfare. These findings were a prerequisite for implementing GHG standards for vehicles. The U.S. EPA and the National Highway

Traffic Safety Administration (NHTSA) finalized emission standards for light-duty vehicles in May 2010 and for heavy-duty vehicles in August of 2011.

Renewable Fuel Standard (RFS): The RFS program was established under the Energy Policy Act of 2005 and required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the Energy Independence and Security Act of 2007, the RFS program was expanded to include diesel, required the volume of renewable fuel blended into transportation fuel be increased from nine billion gallons in 2008 to 36 billion gallons by 2022, established new categories of renewable fuel and required the U.S. EPA to apply lifecycle GHG performance threshold standards so that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces. The RFS is expected to reduce greenhouse gas emissions by 138 million metric tons, about the annual emissions of 27 million passenger vehicles, replacing about seven percent of expected annual diesel consumption and decreasing oil imports by $41.5 billion.

GHG Tailoring Rule: On May 13, 2010, U.S. EPA finalized the Tailoring Rule to phase in the applicability of the Prevention of Significant Deterioration (PSD) and Title V operating permit programs for GHGs. The rule was tailored to include the largest GHG emitters, while excluding smaller sources (restaurants, commercial facilities, and small farms). The first step (January 2, 2011 to June 30, 2011) addressed the largest sources that contributed 65 percent of the stationary GHG sources. Title V GHG requirements were triggered only when affected facility owners/operators were applying, renewing, or revising their permits for non-GHG pollutants. PSD GHG requirements were applicable only if sources were undergoing permitting actions for other non-GHG pollutants and the permitted action would increase GHG emission by 75,000 metric tons of CO_2e per year or more.

On June 23, 2014, the U.S. Supreme Court issued its decision in Utility Air Regulatory Group v. EPA, 134 S.Ct. 2427 (2014). The Court held that U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required to be subject to PSD (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of BACT. In accordance with the Supreme Court decision, on April 10, 2015, the D.C. Circuit issued an amended judgment in Coalition for Responsible Regulation, Inc. v. Environmental Protection Agency, Nos. 09-1322, 10-073, 10-1092 and 10-1167 (D.C. Cir. April 10, 2015), which, among other things, vacated the PSD and Title V regulations under review in that case to the extent that they require a stationary source to obtain a PSD or Title V permit solely because the source emits or has the potential to emit GHGs above the applicable major source thresholds. Currently, if a source triggers PSD for criteria air pollutants (e.g., NOx, SOx, PM, etc.) then it can also be evaluated for GHG BACT, but criteria pollutant increases must be exceeded before GHG BACT can be considered.

GHG Reporting Program: U.S. EPA issued the Mandatory Reporting of Greenhouse Gases Rule (40 CFR Part 98) under the 2008 Consolidated Appropriations Act. The

Mandatory Reporting of Greenhouse Gases Rule requires reporting of GHG data from large sources and suppliers under the Greenhouse Gas Reporting Program. Suppliers of certain products that would result in GHG emissions if released, combusted, or oxidized; direct emitting source categories; and facilities that inject CO_2 underground for geologic sequestration or any purpose other than geologic sequestration are included. Facilities that emit 25,000 metric tons or more per year of GHGs in CO_2e are required to submit annual reports to U.S. EPA. For the 2014 calendar year, there were over 8,000 entities that reported 3.20 billion metric tons of GHG emissions under this program. Carbon dioxide emissions accounted for the largest share of direct emissions with 91.5 percent, followed by methane with seven percent, and nitrous oxide and fluorinated gases representing the remaining 1.5 percent (U.S. EPA, 2016a).

National Program to Improve Fuel Economy: On September 15, 2009, the NHTSA and U.S. EPA announced a proposed joint rule that would explicitly tie fuel economy to GHG emissions reductions requirements. The proposed new corporate average fuel economy (CAFE) Standards would cover automobiles for model years 2012 through 2016 and would require passenger cars and light trucks to meet a combined, per mile, carbon dioxide emissions level. It was estimated that by 2016, this GHG emissions limit could equate to an overall light-duty vehicle fleet average fuel economy of as much as 35.5 miles per gallon. The proposed standards required model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of carbon dioxide per mile under EPA's GHG program. On November 16, 2011, EPA and NHTSA issued a joint proposal to extend the national program of harmonized GHG and fuel economy standards to model year 2017 through 2025 passenger vehicles. In August 2012, the President of the United States finalized standards that will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by Model Year 2025.

On August 2, 2018, the NHTSA proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule proposed to amend existing CAFE and tailpipe carbon dioxide emissions standards for passenger cars and light trucks, and to establish new standards covering model years 2021 through 2026. On March 31, 2020, the NHTSA and U.S. EPA finalized the SAFE vehicle rule, which set fuel economy and carbon dioxide standards that increase 1.5% in stringency each year from model years 2021 through 2026. These standards apply to both passenger cars and light trucks.

On August 10, 2021, the NHTSA proposed amendments to the CAFE standards set in 2020 for passenger cars and light trucks manufactured in model years 2024-2026, so that standards would increase in stringency at a rate of 8% per year rather than the 1.5% year set previously.

Clean Power Plan: On August 3, 2015, the U.S. EPA announced the Clean Power Plan. The Clean Power Plan set standards to reduce carbon dioxide emissions by 32 percent from 2005 levels by 2030. This Plan established emissions guidelines for states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, the U.S. EPA established: (1) carbon dioxide

emission performance rates representing the best system of emission reduction for two subcategories of existing fossil fuel-fired EGUs, fossil fuel-fired electric utility steam generating units and stationary combustion turbines; (2) state-specific carbon dioxide goals reflecting the carbon dioxide emission performance rates; and (3) guidelines for the development, submittal and implementation of state plans that establish emission standards or other measures to implement the carbon dioxide emission performance rates, which may be accomplished by meeting the state goals. In February 2016, the U.S. Supreme Court issued a stay of this rule pending final determination on litigation challenging the rule.

Planning for Federal Sustainability in the Next Decade: Published June 10, 2015, Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*, revokes multiple prior Executive Orders and memorandum. The Executive Order outlines goals for federal agencies in the area of energy, climate change, water use, vehicle fleets, construction, and acquisition. The goal is to maintain federal leadership in sustainability and GHG emission reductions. Federal agencies shall, where life-cycle cost-effective, beginning in fiscal year 2016:

1. Reduce agency building energy intensity as measured in Btu/ft^2 by 2.5 percent annually through 2025.
2. Improve data center energy efficiency at agency buildings.
3. Ensure a minimum percentage of total building electric and thermal energy shall be from clean energy sources.
4. Improve agency water use efficiency and management (including stormwater management).
5. Improve agency fleet and vehicle efficiency and management by achieving minimum percentage GHG emission reductions.

3.3.3.2 State Regulations

Executive Order S-3-05: In June 2005, then Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emission reduction targets. The goals were to reduce GHG emissions to 2000 levels by 2010, then to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

AB 32: Global Warming Solutions Act: On September 27, 2006, AB 32 (Nunez and Pavely), the California Global Warming Solutions Act of 2006, was enacted by the State of California and signed by Governor Schwarzenegger. AB 32 expanded on Executive Order S-3-05. The Legislature stated that "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 established a program to limit GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB 32 lays out a program to inventory and reduce GHG emissions in California and from power generating facilities located outside the state that serve California residents and businesses.

Cap-and-Trade Program: Authorized by AB 32, the cap-and-trade program is one of several strategies that California uses to reduce greenhouse gas emissions. The cap-and-trade program establishes a declining limit on major sources of GHG emissions throughout California, including refineries and hydrogen plants. CARB creates allowances equal to the total amount of permissible emissions (the "cap"). Each year, fewer allowances are created and the annual cap declines, which reduces the total amount of GHG emissions emitted in California. CARB adopted the California cap-and-trade program final regulations on October 20, 2011, and adopted amended regulations on September 12, 2012, with the first auction for GHG allowances on November 14, 2012. Funds received from the program are deposited into the Greenhouse Gas Reduction Fund and appropriated by the Legislature. It sets a GHG emissions limit that will decrease by two percent each year until 2015, and then three percent from 2015 to 2020 to achieve the goals in AB 32. On July 17, 2017 the California legislature passed AB 398, which extended the cap-and-trade program to December 31, 2030. AB 398 also prevents air districts from regulating CO_2 from stationary sources that are already subject to the cap-and-trade program.

SB 97 - CEQA: Greenhouse Gas Emissions: On August 24, 2007, then Governor Schwarzenegger signed into law Senate Bill (SB) 97 – CEQA: Greenhouse Gas Emissions stating, "This bill advances a coordinated policy for reducing greenhouse gas emissions by directing the Office of Planning and Research (OPR) and the Resources Agency to develop CEQA guidelines on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas emissions." OPR's amendments provided guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments did not establish a threshold for significance for GHG emissions and became effective on March 18, 2010.

Office of Planning and Research Technical Advisory on CEQA and Climate Change[1]: Consistent with SB 97, on June 19, 2008, OPR released its "Technical Advisory on CEQA and Climate Change," which was developed in cooperation with the Resources Agency, the Cal/EPA, and the CARB. According to OPR, the "Technical Advisory" offers the informal interim guidance regarding the steps lead agencies should take to address climate change in their CEQA documents, until CEQA guidelines are developed pursuant to SB 97 on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas emissions.

AB 1493 Vehicular Emissions: Carbon Dioxide: Prior to the U.S. EPA and NHTSA joint rulemaking, the Governor signed AB 1493 (Pavley 2002). AB 1493 requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state."

[1]The CA Climate Change website provides a complete list of regulations https://www.climatechange.ca.gov/state/regulations.html

CARB originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations that apply to 2009 and later model year vehicles. California's first request to the U.S. EPA to implement GHG standards for passenger vehicles was made in December 2005 and denied in March 2008. The U.S. EPA then granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009.

On April 1, 2010, the CARB filed amended regulations for passenger vehicles as part of California's commitment toward the National Program to reduce new passenger vehicle GHGs from 2012 through 2016. The amendments will prepare California to harmonize its rules with the federal Light-Duty Vehicle GHG Standards and CAFE Standards (discussed above).

On August 2, 2018, the NHTSA proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule proposed to amend existing CAFE and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. On March 31, 2020, the NHTSA and U.S. EPA finalized the SAFE vehicle rule, which sets fuel economy and carbon dioxide standards that increase 1.5% in stringency each year from model years 2021 through 2026. These standards apply to both passenger cars and light trucks.

On August 10, 2021, the NHTSA is proposed amendments to the CAFE standards set in 2020 for passenger cars and light trucks manufactured in model years 2024-2026, so that standards would increase in stringency at a rate of 8% per year rather than the 1.5% year set previously.

Executive Order S-1-07 (2007)[2]: Governor Schwarzenegger signed Executive Order S-1-07 in 2007 which finds that the transportation sector is the main source of GHG emissions in California. The executive order proclaims the transportation sector accounts for over 40 percent of statewide GHG emissions. The executive order also establishes a goal to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020.

In particular, the executive order established a Low-Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, the CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by CEC on December 24, 2007) and was submitted to CARB for consideration as an "early action" item under AB 32. CARB adopted the LCFS on April 23, 2009.

[2] CA climate change Executive Orders
https://www.climatechange.ca.gov/state/executive_orders.html

Senate Bill 375 (2008): SB 375 (Steinberg), signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) which prescribes land use allocation in that MPO's Regional Transportation Plan. CARB, in consultation with MPOs, is required to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned GHG emission reduction targets. CARB set the following reduction targets for ABAG/MTC region: reduce per capita seven percent of GHG emissions below 2005 levels by 2020 and 15 percent below 2005 levels by 2035.

Executive Order S-13-08 (2008): Governor Schwarzenegger signed Executive Order S-13-08 on November 14, 2008, which directs California to develop methods for adapting to climate change through preparation of a statewide plan. The executive order directs OPR, in cooperation with the Resources Agency, to provide land use planning guidance related to sea level rise and other climate change impacts.

Senate Bills 1078 and 107 and Executive Order S-14-08 (2008): SB 1078 (Chapter 516, Statutes of 2002, Committee on Budget and Fiscal Review) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, then Governor Schwarzenegger signed Executive Order S-14-08, which expanded the state's Renewable Portfolio Standard to 33 percent renewable power by 2020.

SB X-1-2 and the Clean Energy and Pollution Reduction Act of 2015: SB X-1-2, signed by then Governor Edmund G. Brown, Jr. in April 2011, created a new Renewables Portfolio Standard (RPS), which preempted CARB's 33 percent Renewable Electricity Standard. The new RPS applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. These entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirements by the end of 2020.

Clean Energy and Pollution Reduction Act of 2015, SB 350 (Chapter 547, Statutes of 2015) was approved by then Governor Brown on October 7, 2015. SB 350 will (1) increase the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) require the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail

customers by January 1, 2030; (3) provide for the evolution of the Independent System Operator into a regional organization; and (4) require the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

SB 862: In June 2014, SB 862 (Chapter 36, Statutes of 2014) established long-term funding programs from the cap-and-trade program for transit, sustainable communities and affordable housing, and high-speed rail. SB 862 allocates 60 percent of ongoing cap-and-trade revenues, beginning in 2015–2016, to these programs. The remaining 40 percent is to be determined by future legislatures. A minimum of 25 percent of cap-and-trade dollars must go to projects that provide benefits to disadvantaged communities, and a minimum of 10 percent must go to projects located within those disadvantaged communities. In addition, this bill established the CalRecycle Greenhouse Gas Reduction Revolving Loan Program and Fund.

Senate Bills 32 and 350 and Executive Order B-30-15 (2015)[3]: Then Governor Brown signed Executive Order B-30-15 in 2015 in order to reduce GHG emissions by 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent of 1990 levels by 2050. In particular, the Executive Order commissioned CARB to update the Climate Change Scoping Plan and the California Natural Resources Agency to update the state climate adaption strategy, Safeguarding California, every three years. The Safeguarding California Plan will identify vulnerabilities to climate change by sector and regions, including, at a minimum, the following sectors: water, energy, transportation, public health, agriculture, emergency services, forestry, biodiversity and habitat, and ocean and coastal resources; outline primary risks to residents, property, communities and natural systems from these vulnerabilities, and identify priority actions needed to reduce these risks; and identify a lead agency or group of agencies to lead adaptation efforts in each sector.

Executive Order B-55-18: Under Executive Order B-55-18 the State is required to achieve carbon neutrality by 2045 and maintain on-going net negative emissions.

[3] A complete list of California climate change legislation with a brief description provided on the CA Climate Change website https://www.climatechange.ca.gov/state/legislation.html.

3.3.3.3 Local Regulations

3.3.3.3.1 Air District

The Air District established a climate protection program in 2005 to explicitly acknowledge the link between climate change and air quality. In November 2013, the Air District's Board of Directors adopted a resolution outlining GHG gas reduction goals of achieving an 80 percent reduction in GHG below 1990 levels by 2050 and making a commitment to develop a regional climate protection strategy. The Air District regularly prepares inventories of GHG, criteria pollutants and toxic air contaminants to support planning, regulatory and other programs.

The District adopted a 10-point Climate Action Work Program in March 2014. The work program outlines the District's priorities in reducing GHG emissions that include: (1) establishing the goal of reducing GHG emissions 80 percent below 1990 levels by 2050; (2) updating the District's regional GHG emission inventory; (2) implementing GHG emissions monitoring; (4) developing a regional climate action strategy to meet the 2050 GHG emission reduction goal; (5) supporting and enhancing local actions through enhanced technical assistance to local governments in preparing local Climate Action Plans; (6) initiating rule development to enhance GHG reductions from sources subject to Air District regulations, such as refinery hydrogen plants that are the subject of Proposed Rule 13-5; (7) expanding enforcement of statewide regulations to reduce GHG emissions; (8) launching climate change and public health impacts initiative; (9) reporting progress to the public toward the 2050 goals and related performance objectives; and (10) exploring the Bay Area's energy future, including trends in fossil fuel demand and productions and exploring opportunities to promote the development of clean energy options.

In 2015 the Air District launched a GHG measurement program to provide the scientific basis that supports rulemaking and policy development for reducing GHG emissions. The program started monitoring GHGs in 2016 and includes a long-term fixed-site GHG monitoring network that measures concentrations of carbon dioxide, methane, and carbon monoxide at four sites. A dedicated mobile GHG monitoring research van also provides assistance in identifying emission hot spots and enhancing the regional emissions inventory.

Finally, in 2017 the Air District approved the Clean Air Plan: *Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area*. The 2017 Plan identified control measures that include potential rules, programs, and strategies that the Air District can pursue to reduce GHG emissions in the Bay Area in support of the goals of reducing GHG emissions to 90 percent below 1990 levels by 2050. As part of the 2017 Plan, the Air District developed a comprehensive Basin-wide Methane Strategy, which represents an agency-wide effort to better quantify and reduce the region's methane emissions. Proposed Rule 13-5 is one of the first rules developed as part of the Methane Strategy.

3.3.3.3.2 Local Jurisdictions

Numerous counties within the Bay Area have prepared and adopted Climate Action Plans including Alameda County, Contra Costa County, Marin County, San Francisco County, Sonoma County and Solano County[4]. These plans outline the county's measures and actions to reduce GHG emissions with each county's jurisdiction.

3.3.4 SIGNIFICANCE CRITERIA

Increased accumulation of GHGs in the atmosphere result in global climate change. Climate change involves complex interactions and changing likelihoods of diverse impacts. Due to the complexity of conditions and interactions affecting global climate change, it is not possible to predict the specific impact, if any, attributable to GHG emissions associated with a single project, which is why GHG emission impacts are considered to be a cumulative impact.

The Air District draft CEQA Guidelines (BAAQMD, 2017a) established a stationary source project-level GHG threshold of 10,000 metric tons of CO_2 equivalent ($MTCO_2e$) emissions per year. This operational threshold represents the emission level above which a project's individual emissions would result in a cumulatively considerable contribution to climate change. The Air District is planning to develop significance thresholds specifically for rules. Until that effort is complete and in order to provide a conservative air quality analysis, the stationary source project-specific GHG threshold of 10,000 $MTCO_2e$ recommended in the revised 2017 CEQA Guidelines (BAAQMD, 2017) will be used in the current GHG impacts analysis.

3.3.5 EVALUATION OF GHG/CLIMATE CHANGE IMPACTS

As discussed in the Notice of Preparation and Initial Study (see Appendix A), the overall objective of Proposed Rule 13-5 is to reduce emissions of GHGs as well as other organic compounds from hydrogen plants. Proposed Rule 13-5 will reduce emissions by requiring hydrogen plants to control total organic compound emissions to specific levels, which may result in the construction and operation of flare systems, vapor recovery, or other alternative compliance plans at hydrogen plants that serve the Valero Benicia and PBF Martinez refineries. Overall, Proposed Rule 13-5 is expected to result in a decrease in GHG emissions due to the control of methane emissions from hydrogen plant vents, however, flares and other combustion sources can also generate GHG emissions from the combustion of fuel (e.g., natural gas). The GHG emissions from these new sources, as well as the decrease in GHG emissions from the control of emissions from hydrogen plants vents, are evaluated in this section.

[4] A complete list and map of cities and counties of climate action planning efforts provided by CARB https://coolcalifornia.arb.ca.gov/local-government

3.3.5.1 Potential GHG Impacts During Construction Activities

Construction equipment associated with the installation of new flares or vapor recovery system could result in GHG emissions, although the amount generated by specific types of equipment can vary greatly. As shown in Table 3.3-5, different types of equipment can generate construction emissions in very different quantities depending on the type of equipment. For example, the estimated emissions of GHGs range from of 0.009 metric tons per hour (MT/hr) of CO2e for a welder to 0.07 MT/hr for an air compressor. To provide a conservative construction air quality analysis, a typical construction analysis assumes that, in the absence of specific information, all construction activities would occur for eight hours per day. This is considered a conservative assumption because workers may need to be briefed on daily activities, so construction may start later than their arrival times or the actual construction activities may not require eight hours to complete.

TABLE 3.3-5

GHG Emission Estimates for Typical Construction Equipment Assuming an 8-Hour Operational Day(1)

Equipment Type	CO_2e (MT/hr)	CO_2e (MT/8-hr day)
<40 T Cranes	0.03357	0.26854
>40T Cranes	0.05598	0.44785
Pile/Drill Rig	0.0585	0.46803
Welders	0.00854	0.0683
Lights	0.01846	0.14768
Generator	0.05795	0.46364
Forklifts	0.00954	0.07632
Loader/Backhoe	0.01907	0.15255
Air Compressors	0.06695	0.53562
Manlifts	0.0106	0.08483

(1) Emission Factors from Off-Road 2017.

To calculate the potential GHG emissions associated with the construction of one flare, it was assumed that construction activities would take about nine months and would require 50 workers per day. It is assumed that the rule would result in the construction of two flares. The potential GHG emissions associated with the construction of the flares are summarized in Table 3.3-6. The construction of vapor recovery of the vent gas would require a similar amount of piping as a flare and would also require a compressor, which would be equal to or less intensive than the installation of a complete flare system. Any other equipment that may be installed under an Alternative Compliance Plan is expected to include valves, flanges and piping and construction activities are expected to be minimal. Therefore, construction of two flares is presented as a worst-case analysis of construction emissions.

The estimated GHG construction emission increases associated with Proposed Rule 13-5 are 1,965 metric tons or 66 metric tons per year amortized over 30 years. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

TABLE 3.3-6

GHG Construction Emissions Summary

Construction Emissions	CO_2e (MT)	30-Year Amortized CO2e (MT/yr)
Construction Emissions Associated with Enclosure (1)	1,965	66

(1) See Appendix B for detailed emission calculations.

3.3.5.2 Potential GHG Impacts Associated with Operational Activities

The net effect of implementing Proposed Rule 13-5 is to reduce emissions of GHGs as well as other organic compounds from hydrogen plants. The operation of flares and other combustion sources has the potential to generate GHG emission impacts as part of the control process.

3.3.5.2.1 Potential Direct Impacts from Operations

Flares have been used to control TAC and ROG emissions from process upsets for many years by combusting vented gas during emergency conditions. In order to combust the vent gas, the flare must continually burn a pilot light, but it is not anticipated that supplemental natural gas will be necessary when hydrogen gas is vented, due to the high heating value of hydrogen. The pilot light uses natural gas, and therefore, will generate GHG emissions. However, the net effects of the installation of a flare would decrease GHG emissions by controlling methane emissions, which is a GHG.

The emissions for the pilot light are calculated using AP-42 emission factors for natural gas fired external fired combustion. It is assumed that each flare will have two pilot lights, which consume approximately 77 scf/hr of natural gas.

The emissions for the combustion of vent gas in the flares are calculated using AP-42 emission factors for industrial flares. The vented gas is expected to be primarily hydrogen with up to four percent methane, one percent non-methane hydrocarbons (NMHCs), and would contain no sulfur compounds. The operational emissions from two flares are summarized in Table 3.2-7. Detailed operational emission calculations are presented in Appendix B.

The operation of vapor recovery for control of the vent gas would require a similar amount of fugitive components as a flare. Additionally, the captured vent gas would be combusted in an existing on-site source. Overall, the operational emissions associated with a vapor recovery system are expected to result in a reduction in emissions as it is expected to reduce vent gas emissions, result in little fugitive emissions, and would not require new combustion sources (e.g., a new pilot light). Therefore, the operational emissions from a vapor recovery system are expected to be less than a flare.

The emissions associated with an Alternative Compliance Plan could vary but are expected to be limited to additional piping, valves, and flanges to re-route vent gases, resulting in minimal emissions and no increase in combustion emissions. An Alternative Compliance Plan would not result in increased combustion and would not be expected to result in any increases in GHG emissions.

Since, the operational emission of a vapor recovery system would be less than a flare or an Alternative Compliance Plan, the operational emissions for a flare are presented as a worst-case analysis.

TABLE 3.3-7

Increases in Operational GHG Emission

Emissions[(1)]	CO_2e (MT/year)
Pilot Gas Combustion (2 Flares)	148
Methane Combustion	6,349 ~~5,763~~
Hydrogen Combustion	27 ~~25~~
Total Increase in GHG Emission	6,524 ~~5,922~~

(1) See Appendix B for detailed emission calculations.

3.3.5.3 Potential GHG Emission Reduction Benefits

The implementation of Proposed Rule 13-5 will control methane emissions, regardless of whether a flare, vapor recovery, or Alternative Compliance Plan is used, resulting in a reduction in GHG emissions. Further, all systems are expected to capture and control the same amount of vent gas as the facilities are prohibited from venting to atmosphere of any emissions containing total organic compounds, as methane, in excess of 15 pounds per day and containing a concentration of more than 300 parts per million on a dry basis or must control methane emissions by 90 percent. The estimated emission benefits from implementation of Proposed Rule 13-5 are presented in Table 3.2-8.

TABLE 3.3-8

Predicted GHG Emission Reductions

Emissions[1]	CO_2e (MT/year)
Captured and Controlled Methane	85,783 ~~84,067~~
Total GHG Emission Reductions	77,543 ~~79,255~~

(2) See Appendix B for detailed emission calculations.

3.3.5.4 Summary of Operational Emission Impacts

Implementation of Proposed Rule 13-5 by may result in a minor increase in GHG emissions associated with the pilot gas if flares are used for compliance with the rule. Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477 ~~79,255~~ MT/year ~~MT~~CO_2e (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant thresholds and less than significant.

TABLE 3.3-9

Net GHG Emissions Associated with Implementation of Rule 13-5

Project GHG Emissions[1]	CO_2e (MT)
Potential GHG Emissions Increases	
Amortized Construction	66
Pilot Gas Combustion (2 Flares)	148
Methane Combustion	6,349 ~~3,611~~
Hydrogen Combustion	27 ~~12~~
Potential GHG Emission Reductions	
Captured and Controlled Methane	-84,067 ~~85,783~~
Total GHG Emission Reductions	-77,477 ~~79,254~~
Stationary Source GHG Significance Threshold	10,000
Significant?	No

(1) See Appendix B for detailed emission calculations.

3.3.6 CONCLUSION ON GHG EMISSION IMPACTS AND CUMULATIVE IMPACTS

Table 3.3-9 provides a summary of the estimated GHG emission increases associated with implementation of Proposed Rule 13-5, along with the estimated decreases in GHG emissions associated with Proposed Rule 13-5. As shown in Table 3.3-9, the emission reductions from Proposed Rule 13-5 are expected to greatly exceed the potential increase in GHG emissions, resulting in a beneficial impact on climate change. The GHG analysis is cumulative in nature. Since implementation of Proposed Rule 13-5 would be expected

to generate a reduction in GHG emissions, the GHG impacts from Proposed Rule 13-5 are not cumulatively considerable.

3.3.7 REFERENCES

BAAQMD, 2015. Bay Area Emission Inventory Summary Report: Greenhouse Gases, January 2015.

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CHAPTER 3.4

OTHER CEQA SECTIONS

Growth Inducing Impacts
Significant Environmental Effects Which Cannot Be Avoided And Significant Irreversible Environmental Changes
Potential Environmental Impacts Found Not to be Significant

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3.4 OTHER CEQA SECTIONS

3.4.1 GROWTH INDUCING IMPACTS

3.4.1.1 Introduction

CEQA defines growth-inducing impacts as those impacts of a proposed project that "could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects, which would remove obstacles to population growth" (CEQA Guidelines §15126.2(d)).

To address this issue, potential growth-inducing effects are examined with the following considerations:

- Facilitation of economic effects that could result in other activities that could significantly affect the environment;
- Expansion requirements for one or more public services to maintain desired levels of service as a result of the proposed project;
- Removal of obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area or through changes in existing regulations pertaining to land development;
- Adding development or encroachment into open space; and/or
- Setting a precedent that could encourage and facilitate other activities that could significantly affect the environment.

3.4.1.2 Economic and Population Growth, and Related Public Services

The Proposed Rule 13-5 would not directly foster economic or population growth or the construction of new housing in the Bay area. The Proposed Rule 13-5 may require construction of air pollution control equipment or operational measures/modifications within the confines of existing industrial facilities but would not be expected to involve new development outside of existing facilities. Further, new employees are not expected to be required to operate the additional air pollution control equipment. Therefore, it would not stimulate significant population growth, remove obstacles to population growth, or necessitate the construction of new community facilities that would lead to additional growth.

A project would directly induce growth if it would directly foster economic or population growth or the construction of new housing in the surrounding environment (e.g., if it would remove an obstacle to growth by expanding existing infrastructure). The proposed rule would not remove barriers to population growth, as it involves no changes to a General Plan, zoning ordinance, or related land use policy. The proposed rule does not include the development of new housing or population-generating uses or infrastructure that would directly encourage such uses. Therefore,

the Proposed Rule 13-5 would not directly or indirectly trigger new residential development in the District.

Further, the Proposed Rule 13-5 would not result in an increase in local population, housing, or associated public services (e.g., fire, police, schools, recreation, and library facilities) since the proposed project would not result in an increase in permanent workers or residents. Additional workers would be limited to temporary construction workers. Likewise, the proposed project would not create new demand for secondary services, including regional or specialty retail, restaurant or food delivery, recreation, or entertainment uses. As such, the proposed project would not foster economic or population growth in the surrounding area in a manner that would be growth-inducing.

3.4.1.3 Removal of Obstacles to Growth

The Proposed Rule 13-5 would not employ activities or uses that would result in growth inducement, such as the development of new infrastructure (i.e., new roadway access or utilities, such as wastewater treatment facilities) that would directly or indirectly cause the growth of new populations, communities, or currently undeveloped areas. Likewise, the Proposed Rule 13-5 would not result in an expansion of existing public service facilities (e.g., police, fire, libraries, and schools) or the development of public service facilities that do not already exist. The existing refineries and hydrogen plants are already built and receive public services and utilities. No additional services would be required.

3.4.1.4 Development of Encroachment Into Open Space

Development can be considered growth-inducing when it is not contiguous to existing urban development and introduces development into open space areas. The Proposed Rule 13-5 may require additional air pollution control equipment and measures within the confines of existing industrial areas. New development outside of the boundaries of industrial facilities is not expected to occur. Therefore, the Proposed Rule 13-5 would not result in development within or encroachment into an open space area.

3.4.1.5 Precedent Setting Action

In 2017 the Air District approved the Clean Air Plan: *Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area*. The 2017 Plan identified control measures that include potential rules, programs, and strategies that the Air District can pursue to reduce GHG emissions in the Bay Area in support of the goals of reducing GHG emissions to 90 percent below 1990 levels by 2050. As part of the 2017 Plan, the Air District developed a comprehensive Basin-wide Methane Strategy, which represents an agency-wide effort to better quantify and reduce the region's methane emissions. Proposed Rule 13-5 is one of the first rules developed as part of the Methane Strategy. Implementation of Proposed Rule 13-5 is not considered precedent setting but is expected to further the state's goals of reducing GHG emissions to 90 percent below 1990 levels by 2050.

The flares, vapor recovery systems and alternative compliance options that are expected to be implemented as part of the proposed rule amendments have been used and proven to be effective at refineries and other industrial facilities. Requiring technologies and measures that have been demonstrated to be effective to control air emissions from the affected industrial facilities would not result in precedent-setting actions that might cause significant environmental impacts.

3.4.1.6 Conclusion

The Proposed Rule 13-5 would not be considered growth-inducing, because it would not result in an increase in production of resources, would not require additional employees, or cause a progression of growth that could significantly affect the environment either individually or cumulatively.

3.4.2 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED AND SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. As evaluated in the preceding portions of Chapter 3 of this EIR, the Proposed Rule 13-5 may result in potentially significant unavoidable impacts on NOx emissions associated with the construction and operation of new flare systems, as identified in Table 3.4-1. Hydrogen Plants may install vapor recovery or use Alternative Compliance Plans as opposed to flare systems to comply with the proposed new rule, which would eliminate the significant NOx emission increases. However, since the Air District cannot prescribe how a facility will comply with Proposed Rule 13-5, and since total organic emissions can be controlled using flares, the NOx emissions associated with implementing Proposed Rule 13-5 are potentially significant.

TABLE 3.4-1

IMPACTS IDENTIFIED AS POTENTIALLY SIGNIFICANT IN THIS EIR FOR IMPLEMENTATION OF THE PROPOSED RULE 13-5

POTENTIALLY SIGNIFICANT IMPACTS
NOx Emissions Associated with the Construction of Two Flares Simultaneously
NOx Emission Impacts During Operations of Two Flares

3.4.3 POTENTIAL ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

The environmental effects of the Proposed Rule 13-5 that may have potentially significant adverse effects on the environment are identified, evaluated, and discussed in detail in the preceding portions of Chapter 3 of this EIR and in the Initial Study (see Appendix A) per the requirements of the CEQA Guidelines (§§15126(a) and 15126.2). The potentially significant adverse

environmental impacts as determined by the Initial Study (see Appendix A) are aesthetics, air quality, and GHG emissions. The air quality impacts were determined to be potentially significant. Aesthetics and GHG emissions were determined to have less than significant impacts. The analysis provided in the Initial Study has concluded that the following environmental topics would be less than significant: agriculture and forestry resources; biological resources; cultural resources; energy, geology, and soils; hazards and hazardous materials, hydrology and water quality, land use and planning; mineral resources; noise, population, and housing; public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire. The reasons for finding the environmental resources to be less than significant are explained in the following subsections, which are summarized from the NOP/IS (see Appendix A) unless otherwise noted.

3.4.3.1 Agriculture and Forestry Resources

Physical modifications at facilities due to the proposed project are expected to be limited to industrial facilities. Air pollution control equipment or measures would be constructed/implemented within the confines of the existing industrial facilities and adjacent to existing industrial structures. This equipment would be compatible with the existing industrial character of the area and would not be located in agricultural or forestland areas. Thus, no impacts to agriculture and forestry resources are expected.

The proposed project would not conflict with existing agriculture related zoning designations or Williamson Act contracts. Existing agriculture and forest resources within the boundaries of the Air District are not expected to be affected by the construction of additional air pollution control equipment or modification to existing emission sources. Therefore, there is no potential for conversion of farmland to non-agricultural use or conflicts related to agricultural uses or land under a Williamson Act contract or impacts to forestland resources.

3.4.3.2 Biological Resources

Physical modifications at facilities due to the Proposed Rule 13-5 are expected to be limited to existing hydrogen plants at two industrial facilities. The existing hydrogen plants are located within the confines of existing refineries. Air pollution control equipment or measures to control emissions from hydrogen plants would be expected to be constructed/implemented within the confines of the existing Valero and PBF refineries, and adjacent to the existing hydrogen plants. The construction staging areas would also be within the refineries and adjacent to the existing hydrogen plants, as the refineries have sufficient space for the relatively small construction activities and equipment laydown areas that would be required. The use of a gas recovery system would require the installation of a gas compressor, as well as piping to move the released gases back to the hydrogen plant. Equipment that may be required under an Alternative Compliance Plan may vary but could include valves, flanges and piping to re-route the vent streams. No grading activities and very minimal construction activity adjacent to the hydrogen plant would be required to install vapor recovery equipment and/or re-route vent emissions. While the exact location of the new equipment is not known, the flares, vapor recovery, or any other related equipment would be expected to be adjacent to the existing hydrogen plants to minimize the

distance and associated piping that would be required. These industrial facilities have been built and graded and no major grading would be expected to occur to install a flare, vapor recovery or other equipment. The transportation of equipment would also be via existing onsite and offsite roadways. Figure 3.4-1 shows the locations of the existing hydrogen plants at PBF. Figure 3.4-2 shows the location of the existing hydrogen plant at Valero. As can be seen in these figures/aerial photographs, the hydrogen plants are located within the confines of the existing refinery, where there is no vegetation (native or otherwise), no trees or shrubs and all biological resources have been removed or are non-existent.

It should be noted that there may be native vegetation and protected, threatened, endangered, candidate and other special status species in areas adjacent to the existing hydrogen plant facilities. The PBF Refinery and related hydrogen plants are surrounded by largely developed areas that include residential, commercial, and other industrial facilities, including wastewater treatment plants.

Marshland areas are located northeast of the Refinery and northeast of Interstate 680. However, the areas with native vegetation are outside of the refinery and on the opposite side of Interstate 680 over approximately 1,000 feet from the Refinery. Similarly, the Valero Benicia Refinery and associated hydrogen plant is surrounded by largely developed commercial and industrial facilities. Native chaparral and coastal sage scrub communities are located outside of the refinery on the hills adjacent to the Refinery. However, no laydown, construction or traffic is expected to occur outside of the existing developed Refinery. Thus, the potential construction activities within the existing refineries and hydrogen plants are not expected to result in any impacts to biological resources.

The proposed project is not expected to affect land use plans, local policies or ordinances, or regulations protecting biological resources such as a tree preservation policy or ordinances for the reasons already given. Land use and other planning considerations are determined by local governments and land use or planning requirements are not expected to be altered by the proposed project. Similarly, the Proposed Rule 13-5 is not expected to affect any habitat conservation or natural community conservation plans, biological resources, or operations, and would not create divisions in any existing communities, as construction activities would be limited to existing facilities in industrial areas that have already been developed and graded. Therefore, the proposed project is not expected to result in any impacts to biological resources.


EXISTING HYDROGEN PLANT
EXISTING HYDROGEN PLANT
EXISTING HYDROGEN PLANT
SOURCE: Google (02/24/21)
N
0
780'
HYDROGEN PLANT LOCATIONS
PBF MARTINEZ REFINERY
Environmental Audit, Inc.
Project No. 3185
N:\3185\PBF Martinez - H2 Plants.cdr

Figure 3.4-1


EXISTING HYDROGEN PLANT
SOURCE: Google (12/21/20)
0
540'
N
HYDROGEN PLANT LOCATION
VALERO BENICIA REFINERY
Environmental Audit, Inc.
Project No. 3185
N:\3185\Valero Benicia Refinery - H2 Plant.cdr
Figure 3.4-2

The analysis in this Draft EIR is based on the Air Districts currently proposed rule, discussions with the affected facilities, and understanding of how the affected facilities are expected to respond to the proposed rule. It should be noted that if the hydrogen plant owners or operators determine those other technologies are available or other locations may be used which are not located within the current industrial area, additional CEQA analyses may be required. These may include potential additional analyses such as surveys for special-status animal and plant species; the potential to impact ("take") special-status species; evaluation of the loss or modification of breeding, nesting, dispersal, and foraging habitat; obstruction of movement within migratory corridors; analyses for streambed alternation approvals, and other similar impact analyses. Based on current estimates, all work associated with the proposed project would be within the confines of the existing graded and developed industrial areas so impacts to biological resources are expected to be less than significant.

3.4.3.3 Cultural Resources

Generally, resources (buildings, structures, equipment) that are less than 50 years old are excluded from listing in the National Register of Historic Places unless they can be shown to be exceptionally important. The Proposed Rule 13-5 would require new air pollution control equipment to be constructed within the confines of the existing industrial facilities and adjacent to existing industrial structures. Affected facilities may have equipment or structures older than 50 years, however, this type of industrial equipment generally does not meet the criteria identified in CEQA Guidelines §15064.5(a)(3). Further, construction activities associated with the proposed project are expected to be limited to industrial areas that have already been developed. Thus, Proposed Rule 13-5 would not adversely affect historical or archaeological resources as defined in CEQA Guidelines §15064.5, destroy unique paleontological resources or unique geologic features, or disturb human remains interred outside formal cemeteries. Therefore, no impacts to cultural resources are anticipated to occur as a result of the proposed project as no major construction activities are required.

3.4.3.4 Energy

Proposed Rule 13-5 is expected to result in the construction of flares, r gas recovery facilities, or alternative compliance options at hydrogen plants that serve two refineries. Operating flares for compliance with Proposed Rule 13-5 would be the most energy-intensive compliance approach and is therefore considered in most detail. While flares combust waste gas, they also require the use of natural gas to operate the pilot lights which keeps the flares in stand-by state so they are available to operate, when needed. The amount of natural gas needed to operate the pilot light for the flare burners is not known as the new flare systems have not been designed. Based on a review of fuel use reported to the Air District by other similar facilities, the estimated increase in natural gas use for the pilot lights for two flares systems is expected to be 154 scf/hr (77 scf/hr for each flare) or about 1.35 million standard cubic feet (scf) per year (0.014 million therms). The current use of natural gas in Contra Costa and Solano Counties is an estimated 1,441 million therms per year. Therefore, Proposed Rule 13-5 would result in an increase in natural gas use of 0.001 percent increase in natural gas, a small fraction of the natural gas currently used. Proposed Rule 13-5 is

not expected to result in a significant increase in electricity.

The natural gas use for Proposed Rule 13-5 is not expected to use energy in a wasteful, inefficient, or unnecessary manner as it would be used to control total organic compound emissions, including GHG emissions. Further, the additional use of natural gas is not expected to conflict with an energy conservation or renewable energy plan and the state will continue to move toward the increased use of renewable energy sources, reducing GHG emissions statewide. For example, California has adopted the "Renewable Portfolio Standard" for electric power which requires that at least 33 percent of the state's electric power come from renewable sources by 2020, and at least 50 percent must come from renewables by 2030. Proposed Rule 13-5 would not be expected to interfere or impact compliance with these state requirements. Therefore, impacts to energy associated with the proposed project are considered less than significant.

3.4.3.5 Geology and Soils

Physical modifications at facilities due to the Proposed Rule 13-5 are expected to be limited to industrial facilities. New development potentially resulting in earthquake hazards are expected to be limited to the construction of air pollution control equipment or implementation of control measures at industrial facilities. New construction (including modifications to existing structures) requires compliance with the California Building Code. The California Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage. The California Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The California Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the California Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site. Compliance with the California Building Code would minimize the impacts associated with existing geological hazards.

Construction associated with the proposed project is expected to be limited to air pollution control equipment at industrial facilities. All construction would take place at already existing facilities that have been previously graded (see Figures 3.4-1 and 3.4-2). Thus, the proposed project is not expected to result in substantial soil erosion or the loss of topsoil as construction activities are expected to be limited to existing operating facilities that have been graded and developed, so that no major grading would be required. Therefore, impacts to geology and soils associated with the proposed project are considered less than significant.

3.4.3.6 Hazards and Hazardous Materials

Proposed Rule 13-5 is designed to minimize total organic compound, including methane emissions from hydrogen plant operations. Modifications may be required to install air pollution control equipment, which may include flare systems, vapor recovery, or alternative plans at two refineries. Construction activities associated with the emission control systems would occur in industrial areas

and would not introduce any new hazards or require the use of hazardous materials during either construction or operational activities.

The refineries and hydrogen plants currently combust natural gas and refinery fuel gas as fuel sources in heaters, boilers, hydrogen plants, flares, etc., in the course of doing business. While flares combust waste gas, they also require the use of natural gas or refinery fuel gas to operate the pilot lights which keeps the flares in a stand-by state so they are available to operate, when needed. Natural gas is flammable under certain conditions. Since the refineries and hydrogen plants already use natural gas, the installation of a new flare system will not introduce any new hazards to the facilities. Further, the use of a flare or vapor control systems would minimize total organic emissions from being discharged directly to the atmosphere, thus minimizing the release of potentially flammable materials. Existing regulations provide comprehensive measures to reduce hazards of explosive or otherwise hazardous materials. Compliance with these and other federal, state, and local regulations and proper operation and maintenance of equipment should ensure the potential for accidental releases of hazardous materials is not significant.

Neither of the affected hydrogen plants that serve the two refineries are located within a quarter of a mile of a school nor two miles of an airport, so no increase in hazard impacts that impact these facilities are expected. (Note that the PBF Refinery is located approximately 2.7 miles from Buchanan Field.) Additionally, the affected hydrogen plants are not located in areas that would be subject to wildfire hazard.

Implementation of Proposed Rule 13-5 is not expected to interfere with an emergency response plan or emergency evacuation plan. Therefore, hazards and hazardous materials impacts associated with the proposed project are considered less than significant.

3.4.3.7 Hydrology and Water Quality

Proposed Rule 13-5 is expected to result in the installation of flare, vapor recovery, or alternative control systems, which generally do not require water use. Some flares can use high velocity steam injection nozzles to increase gas turbulence in the flame boundary zones, drawing in more combustion air and improving mixing. These systems help to minimize smoke from flares. While steam may be used in the flare systems, they are not expected to generate a significant amount of wastewater. A small amount of water may be collected in a knockout vessel. Any collected water would be expected to be treated in existing wastewater treatment facilities, prior to discharge. The use of a flare or a vapor recovery system is not expected to require additional water. Alternative Compliance Plans are expected to use valves, flanges and piping that do not require the use of water or generate wastewater. Therefore, Proposed Rule 13-5 is not expected to result in any significant increase in water use, wastewater discharge, and would not be expected to result in water quality impacts.

The areas adjacent to the hydrogen plants where the emission control systems would be located are developed, paved, and urbanized (see Figures 3.4-1 and 3.4-2). There are no streams, rivers, or other natural drainage within the confines of the existing refineries or hydrogen plants that would be expected to be impacted by new emission control systems. Most rainwater and surface

water runoff within the existing industrial areas are controlled, collected, and treated within the existing wastewater treatment plants. Additionally, the project modifications are not expected to result in an increase in surface water or impact storm water drainage facilities, as no significant increase in new paved area is expected to be required. Therefore, the Proposed Rule 13-5 would not result in an increase is stormwater runoff, degradation of surface water, and is not expected to result in any violation of NPDES permits.

3.4.3.8 Land Use and Planning

Physical modifications at facilities due to the Proposed Rule 13-5 are expected to be limited to industrial facilities. Construction activities for new air pollution control equipment is expected to be located in already graded and developed portions of existing industrial facilities. Thus, the proposed project is not expected to have impacts to non-industrial land uses and would not result in impacts that would physically divide an established community.

The General Plans and land use plans for areas with industrial land uses, generally allow for and encourage the continued use of industrial areas within their respective communities. Some of the General Plans encourage the modernization of existing industrial areas, including refineries (Benicia, 2016 and Martinez, 2013). The construction of equipment within the confines of existing industrial facilities is not expected to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the affected industrial facilities. The jurisdictions with land use approval recognize and support the continued use of industrial facilities. The construction required as part of the proposed project would not interfere with those land use policies or objectives, since they would be within the confines of existing industrial facilities.

The proposed project has no components which would affect land use plans, policies, or regulations. Regulating emissions from existing facilities will not require local governments to alter land use, zoning, and other planning considerations. Habitat conservation, or natural community conservation plans, agricultural resources, or operations are not expected to be affected by the proposed project, and divisions of existing communities would not occur. Therefore, no impacts to land use and planning are associated with the proposed project.

3.4.3.9 Mineral Resources

Construction activities would occur within the confines of existing industrial facilities that have already been graded and developed. Construction of air pollution control equipment and modifications to existing industrial facilities as a result, the proposed project is not expected to affect mineral resources. Construction and operation of new equipment associated with the proposed project is not expected to require mineral resources that are of value to the region or result in the loss of a locally important mineral resource site. Thus, no impacts to mineral resources are expected.

3.4.3.10 Noise

Physical modifications at facilities due to installation of air pollution control equipment are expected to be limited to industrial facilities. Construction activities for new air pollution control

equipment is expected to be limited to industrial facilities and occur within the confines of existing industrial facilities and adjacent to existing industrial structures. The existing noise environment at each of the affected facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, trucks entering and exiting facility premises, locomotive and rail noise sources, and other adjacent industrial activities. Construction required for the installation of air pollution control equipment or facility modifications is not expected to significantly alter the existing noise of an industrial facility. Construction activities associated with the proposed project would generate temporary noise associated with construction equipment and construction-related traffic. Construction would likely require truck trips to deliver equipment, construction workers, and construction equipment (e.g., forklift, welders, backhoes, cranes, and generators). All construction activities would be temporary, would occur during daylight hours, and would occur within the confines of existing industrial facilities so that no significant increase in noise during construction activities is expected.

Air pollution control equipment is not generally a major noise source. The equipment would be located within heavy industrial areas, adjacent to existing hydrogen plants and other refinery units, and would be compatible with such uses. Further, all noise producing equipment must comply with local noise ordnances and applicable Occupational Safety and Health Administration (OSHA) and Cal/OSHA noise requirements. Therefore, industrial operations affected by the Proposed Rule 13-5 are not expected to have a significant adverse effect on local noise levels or noise ordinances.

The proposed project is not expected to generate or expose people to excessive groundborne vibration or groundborne noise. The use of large construction equipment that would generate substantial noise or vibration (e.g., backhoes, graders, jackhammers, etc.) would be limited because the sites are already graded and developed. Further, construction activities are temporary and would occur during the daylight hours, in compliance with local noise standards and ordinances. Therefore, the proposed project is not expected to generate excessive groundborne vibration or noise.

Affected facilities would still be expected to comply, and not interfere, with any applicable airport land use plans. None of the Proposed Rule 13-5 requirements would locate residents or commercial buildings or other sensitive noise sources closer to airport operations. There are no components of the Proposed Rule 13-5 that would substantially increase ambient noise levels within or adjacent to airports. Therefore, the noise impacts associated with the proposed project are considered less than significant.

3.4.3.11 Population and Housing

The population in the Bay Area is currently about 7.6 million people and is expected to grow to about 9.6 million people by 2040 (ABAG, 2017). The proposed project is not anticipated to generate any significant effects, either directly or indirectly, on the Bay Area's population or population distribution. The proposed project will require construction activities to modify existing operations and/or install air pollution control equipment at existing industrial facilities. It is expected that the existing labor pool would accommodate the labor requirements for the construction of the new and modified industrial equipment. In addition, it is not expected that the

affected facilities would need to hire additional personnel to operate new air pollution control equipment. The proposed project is not expected to result in the creation of any industry/business that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units or require the displacement of people or housing elsewhere in the Bay Area. Therefore, no impacts to population and housing are associated with the proposed project.

3.4.3.12 Public Services

There is no potential for adverse public service impacts as a result of adopting Proposed Rule 13-5 as it would not result in the need for new or physically altered government facilities to maintain acceptable service ratios, response times, or other performance objectives. Additionally, the affected industrial facilities have on-site security and fire protection personnel, so no increase in police or fire protection services is expected. Implementing the proposed rule would not cause a future population increase, thus it is not expected to affect land use plans, future development, or the demand for public facilities such as schools and parks. Therefore, no impacts to public services are associated with the proposed project.

3.4.3.13 Recreation

As discussed under "Land Use and Planning" and "Population and Housing," there are no provisions of the proposed project that would affect land use plans, policies, ordinances, or regulations as land use and other planning considerations are determined by local governments. No land use or planning requirements, including those relating to recreational facilities, will be altered by the proposed rule amendments. The proposed project does not have the potential to directly or indirectly induce population growth or redistribution. As a result, the proposed project would not increase the use of, or demand for, existing neighborhood or regional parks or other recreational facilities nor require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Therefore, no impacts to recreation are associated with the proposed project.

3.4.3.14 Transportation

Physical modifications due to Proposed Rule 13-5 are expected to be limited to industrial facilities. Construction activities for new air pollution control equipment would be limited and occur within the confines of existing industrial facilities and adjacent to existing industrial structures.

Construction would likely require truck trips to deliver equipment, construction workers, and construction equipment (e.g., forklift, welders, backhoes, cranes, and generators). All construction activities and related traffic would be temporary, would occur during daylight hours, would occur within the confines of existing industrial facilities, and would cease following the completion of construction. As discussed in "Population and Housing" above, the labor force in the Bay Area is sufficient to handle the temporary increase in construction-related jobs. No increase in permanent workers is expected due to the installation of additional air pollution control equipment or facility modifications, therefore, the proposed project is not expected to result in an increase in traffic or vehicle miles travelled, or conflict or be inconsistent with CEQA Guidelines §15064.3(b).

The proposed project would not increase traffic hazards or create incompatible uses. Proposed Rule 13-5 would not require the construction of any roadways or other transportation design features, so no changes to current roadway designs that would increase traffic hazards are expected. Since changes to the roadway system are not expected, no impacts to emergency access would be expected. Emergency access at the affected industrial facilities is not expected to be impacted, as no modifications that effect traffic or access are expected to be required. Based on the above, Proposed Rule 13-5 is not expected to increase vehicle trips or to alter the existing long-term circulation patterns, thus creating traffic hazards or impacting emergency access.

3.4.3.15 Tribal Cultural Resources

The Proposed Rule 13-5 may require the construction of air pollution control equipment and facility modifications to industrial facilities. Affected facilities may have equipment or structures older than 50 years, however, this type of equipment does not meet the criteria identified in CEQA Guidelines §15064.5(a)(3), are not listed or eligible for listing in the California Register of Historic Resources or a local register of historical resources (Public Resources Code Section 5020.1(k)) and are not considered to have cultural value to a California Native American tribe.

Construction associated with the proposed project is expected to be limited to the construction at two industrial facilities. All construction would take place at existing facilities that have been previously graded. Because construction will be limited to facilities that have been graded, the Proposed Rule 13-5 is not expected to require physical changes to a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe. The Proposed Rule 13-5 is not expected to result in a physical change to a resource determined to be eligible for inclusion or listed in the California Register of Historical Resources or included in a local register of historical resources.

As part of releasing the NOP/IS for public review and comment, the document was circulated to the State Clearinghouse that provides notice of the proposed project to all California Native American Tribes that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code § 21080.3.1(b)(1). The NAHC notification list provides a 30-day period during which a Native American Tribes may respond to the notice, in writing, requesting consultation on the Proposed Rule 13-5. No tribes have requested consultation.

Since construction activities will be limited to existing industrial facilities, the Proposed Rule 13-5 is not expected to affect historical or tribal resources as defined in Public Resources Section 5020.1(k), or 5024.1. Therefore, impacts to tribal resources are considered less than significant as a result of the proposed project.

3.4.3.16 Utilities and Service Systems

The potential water use and wastewater impacts associated with Proposed Rule 13-5 were discussed under Hydrology and Water Quality and potential natural gas and electricity use were discussed under Energy.

Air pollution control equipment and facility modifications to implement Proposed Rule 13-5 would occur within the confines of existing industrial facilities where stormwater is already controlled. The proposed project is not expected to require additional paving that would generate additional stormwater runoff. Therefore, the proposed project would not be expected to alter the existing drainage systems or require the construction of new storm water drainage facilities. Nor would the proposed project create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, no significant adverse impacts on storm drainage facilities are expected.

Construction of air pollution control equipment as a result of Proposed Rule 13-5 is not expected to significantly increase solid or hazardous wastes generated by the affected existing facilities. Flares do not generate solid waste for disposal. No change to existing solid waste streams from affected facilities would be expected. Therefore, no significant impacts to hazardous or solid waste disposal facilities are expected due to the proposed project. Facilities are expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

3.4.3.17 Wildfires

CalFIRE maps areas of significant fire hazard based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones, determine the requirements for special building codes designed to reduce the potential impacts of wildland fires on urban structures. The Valero Benicia Refinery and PBF Martinez Refinery are located within a non-Very High Fire Hazard Severity Zone, as the refineries and related hydrogen plants are urbanized, are located adjacent to the Bay and marshlands, and are not located adjacent to wildland areas. The land in the northwestern, southern, and eastern areas of Contra Costa County, including the western portions of the City of Martinez are classified as very high fire hazard zones by CalFIRE. The hills approximately one mile north of the Valero Benicia Refinery are considered moderate and high Fire Hazard Severity Zones. Nonetheless, the refineries and associated hydrogen plants are located well outside Very High Fire Hazard Zone, which indicates that they would not be subject to significant wildfire hazard. Implementation of Proposed Rule 13-5 would require additional equipment at these industrial facilities, but they would be located within heavy industrial areas and would not be expected to have an impact related to wildfires.

3.4.4 REFERENCES

ABAG, 2017. Association of Bay Area Governments Plan Bay Area 2040. Draft Environmental Impact Report. April 2017. SCH#2016052041

Benicia, City of, 2016. City of Benicia General Plan. Available at: https://www.ci.benicia.ca.us/vertical/sites/%7BF991A639-AAED-4E1A-9735-86EA195E2C8D%7D/uploads/General_Plan_-_Reduced_-_Updated_2016-compressed(1)(1).pdf

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CHAPTER 4

ALTERNATIVES ANALYSIS

Discussion of Alternatives
Description of Alternatives
Environmental Impacts of Project Alternatives
Conclusion
Comparison of Alternatives

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4.0 ALTERNATIVES ANALYSIS

4.1 DISCUSSION OF ALTERNATIVES

An EIR is required to describe a reasonable range of alternatives to the proposed project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project (CEQA Guidelines §15126.6(a)). As discussed in Chapter 3 of this EIR the proposed project could result in potentially significant impacts to air quality due to construction activities and an increase in NOx emissions should flares be installed to control total organic emissions from hydrogen plant vents. Therefore, the alternatives analysis should focus on alternatives that avoid or minimize these potentially significant impacts. The project objectives are as follows:

- Reduce emissions of GHGs, as well as other organic compounds, associated with operation of industrial hydrogen plants.
- Assist the Air District in meeting its policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030.
- Obtain additional data on total organic compound emissions from deaerators and carbon dioxide scrubber vent controls at industrial hydrogen plants.

Chapter 4 provides a discussion of alternatives to the proposed project as required by CEQA. According to the CEQA guidelines, alternatives should include feasible measures to attain the basic objectives of the proposed project and provide means for evaluating the comparative merits of each alternative. Though the range of alternatives must be sufficient to permit a reasoned choice, they need not include every conceivable project alternative (CEQA Guidelines, §15126.6(a)). The key issue is whether the selection and discussion of alternatives fosters informed decision making and public participation.

In accordance with CEQA Guidelines §15126.6(c), a CEQA document should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reason underlying the lead agency's determination. Section 15126.6(c) also states that among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives; (2) infeasibility; or (3) inability to avoid significant environmental impacts.

4.2 DESCRIPTION OF THE PROJECT ALTERNATIVES

The possible alternatives to the proposed rule are limited by the nature of the project. Other than the No Project Alternative, the other alternatives are limited to modifications to Rule 13-5 only.

4.2.1 ALTERNATIVE 1 – NO PROJECT ALTERNATIVE

CEQA Guidelines §151216.6 (e) requires evaluation of a "No Project Alternative." Under the No Project Alternative, Proposed Rule 13-5 would not be implemented, and no additional control of hydrogen plant vents would occur, i.e., no new flares, vapor recovery systems, or other measures to minimize methane emissions associated with industrial hydrogen plants would be installed.

4.2.2 ALTERNATIVE 2 – MORE STRINGENT CONTROL

Alternative 2 would increase the stringency of Proposed Rule 13-5 to control emissions to approximately 100% of the methane emissions from vent gas. To meet this level of control, it is assumed that the hydrogen plants that serve the PBF Martinez and Valero Benicia refineries would need to install pressure swing absorption (PSA) units.

As explained in Chapter 2, PSA produces a purer form of hydrogen. Many hydrogen plants use a PSA process for the final purification step at the back end of the steam-methane reforming operation to produce an ultra-pure hydrogen with a minimum purity of 99.99 percent concentration in the gas stream. A by-product of the PSA process, referred to as "tail gas" is impure hydrogen gas that does not meet specifications for refinery hydrogen consumers and is routed back to the steam-methane reformer as fuel and can contain methane concentrations ranging between 15 and 20 percent. The PSA process minimizes the need to use atmospheric vents during normal operation of the SMR vent.

Under Alternative 2, PSA units would be expected to be installed at the hydrogen plants that provide hydrogen to the PBF Martinez and Valero Benicia refineries.

4.2.3 ALTERNATIVE 3 –NO ALTERNATIVE COMPLIANCE PLAN

Alternative 3 would revise Proposed Rule 13-5 to eliminate Section 13-5-303 which allows for affected facilities to develop an Alternative Methane and GHG Compliance Plan to reduce emissions of methane and other GHGs to a similar emissions standard as provided in Section 13-5-301.

Under Alternative 3, hydrogen plants would need to comply with standards in Section 13-5-301 that would prohibit the owner or operator of an industrial hydrogen plant from venting to atmosphere any emissions containing total organic compounds, as methane, in excess of 15 pounds per day and containing a concentration of more than 300 parts per million on a dry basis. To meet the standards, it is expected that the hydrogen plants that

do not have PSA Units would install flare technology or gas recovery to control total organic compound emissions.

4.3 ENVIRONMENTAL IMPACTS OF PROJECT ALTERNATIVES

4.3.1 ALTERNATIVE 1 – NO PROJECT ALTERNATIVE

4.3.1.1 Aesthetic Impacts

Under Alternative 1, Proposed Rule 13-5 would not be implemented. Therefore, no additional emission control emission would be installed.

The aesthetic impacts associated with implementation of Rule 13-5 were determined to be less than significant. Although compliance with Rule 13-5 may result in the installation of two new flares, the flares would be installed in existing industrial areas, adjacent to existing hydrogen plants. The addition of new flares is not expected to be discernable from the overall skyline of the existing refineries from the bridge. In addition, the flames on the new or existing flares are not expected to be noticeable during the day.

No significant adverse impacts to aesthetics are expected from new flares installed to comply with Proposed Rule 13-5. It should be noted that the installation of gas recovery or other alternative control systems is expected to occur at ground level and would not be visible outside of the facilities and no aesthetic impacts would be expected due to installation of a gas recovery or alternative control systems. Under Alternative 1, no new equipment would be installed and there would be no increase in structures visible to the surrounding communities, so the aesthetic impact would be less than significant.

4.3.1.2 Air Quality

Under Alternative 1, the Proposed Rule 13-5 would not be implemented. No construction emissions would occur and no additional operational air quality impacts would occur.

The air quality impact analysis concluded that emissions associated with the construction of the two new flares simultaneously may exceed the CEQA significance thresholds for NOx emissions and would, therefore, be potentially significant. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

Air quality impacts associated with the Proposed Rule 13-5 were determined to be potentially significant for NOx emissions associated with additional combustion activities. The potential emission increase associated with the installation of flare systems to comply with Proposed Rule 13-5 would require the combustion of natural gas, refinery fuel gas, and/or the hydrogen plant vent gas. The use of the flare systems could potentially result in an emission increase in NOx of 33.5 tons per year which exceeds the Air District's CEQA threshold for NOx emissions of 10 tons per year (see Table 3.2-12). However, compliance

with Proposed Rule 13-5 would also be expected to result in a reduction in NMHC emissions of an estimated 2 tons per year The use of a vapor control system or an Alternative Compliance Plan are expected to require some fugitive components (valves, flanges, and compressors), which will result in a minor increase in fugitive NMHC emissions; however, the emission reductions associated with capturing total organic vapors is expected to substantially exceed any emission increases, resulting in an overall reduction. Under the No Project Alternative there would not be any additional emission control equipment or any increase in NOx emissions associated with emission control equipment (e.g., flares), however there would also not be a decrease in total organic compounds.

4.3.1.3 Greenhouse Gas Emissions

Under Alternative 1, the Proposed Rule 13-5 would not be implemented. No construction emissions would occur and no additional air pollution control equipment would be installed.

Implementation of Proposed Rule 13-5 would result in a minor increase in GHG emissions associated with the pilot gas for the flares. These emission increases would be avoided if vapor recovery systems are installed instead of flares, or if a facility implements an Alternative Compliance Plan. Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477 ~~79,255~~ MT/year ~~MT~~CO_2e (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significance thresholds and less than significant. Under Alternative 1, there would be no direct reduction in GHG emissions.

It should be noted that under the current GHG cap-and-trade program developed by CARB, GHG reductions or the purchases of emission credits are required for regulated stationary sources on an annual basis. It is possible that existing hydrogen plants could choose to minimize GHG emissions from vent gas for compliance with the GHG cap-and-trade program on their own. The timeframe for when this would happen or the expected emissions reductions are unknown and would be considered speculative. However, any GHG reductions that occur to comply with the cap-and-trade program are expected to occur at a slower timeline than would occur in response to Proposed Rule 13-5.

4.3.2 ALTERNATIVE 2 – MORE STRINGENT CONTROL

4.3.2.1 Aesthetics

Under Alternative 2, the increased stringency of Proposed Rule 13-5 would be expected to require the construction of a PSA unit to capture vent gas.

The aesthetic impacts associated with implementation of Rule 13-5 were determined to be less than significant because new equipment (including flares) would be consistent with the existing industrial environment and not expected to be noticeable in the existing industrial skyline. PSA units would be approximately one-half the height of a new flare

and would be less visible than flares due to the decrease in height. The PSA units would be installed at existing industrial areas, adjacent to existing hydrogen plants. The addition of new PSA units is not expected to be discernable from the overall skyline of the existing hydrogen plants and refineries.

No significant adverse impacts to aesthetics are expected from the potential installation of PSA units under Alternative 2.

4.3.2.2 Air Quality

Under Alternative 2, the increased stringency of Proposed Rule 13-5 would be expected to require the construction of a PSA unit to capture vent gas.

The air quality impact analysis concluded that emissions associated with the construction of the two new flares simultaneously may exceed the CEQA significance thresholds for NOx emissions and would, therefore, be potentially significant. The same is expected to be true for the simultaneous construction of two PSA units. The construction of a PSA unit is expected to require more construction equipment and more workers, so construction emissions are expected to remain potentially significant. Construction emissions are temporary as construction emissions would cease following completion of construction activities.

Operational air quality impacts associated with the Proposed Rule 13-5 were determined to be potentially significant for NOx emissions due to additional combustion activities. The potential emission increase associated with the installation of flare systems would require the combustion of natural gas, refinery fuel gas, and/or the hydrogen plant vent gas.

In the PSA process, the hydrogen is recovered and purified at a pressure close to the feed pressure, while adsorbed impurities are removed by lowering the pressure. The PSA tail-gas, which contains the impurities, can then be sent back to the fuel system even without a tail-gas compressor. The PSA process is not expected to require additional combustion sources so no increase in combustion emissions would be expected. The PSA process would result in fugitive components (flanges, valves, pumps, piping) but it would also control total organic emissions. Overall, the emissions of criteria pollutants as well as TAC emissions are expected to be less than the CEQA thresholds, and therefore, less than significant.

4.3.2.3 Greenhouse Gas Emissions

Under Alternative 2, the increased stringency of Proposed Rule 13-5 would be expected to require the construction of a PSA unit to capture vent gas.

Implementation of Alternative 2 is not expected to require any new combustion equipment and is expected to control total organic compound emissions from vent gas to less than 15 pounds per day and a maximum of 300 parts per million on a dry basis. Because of the technology, it is likely that the PSA unit would reduce total organic emissions even further.

Proposed Rule 13-5 would result in a minor increase in GHG emissions associated with the pilot gas if flares were operated. The other compliance options are not expected to require additional combustion sources or generate increases in GHG emissions. Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477 ~~79,255~~ MT/year ~~MT~~CO_2e (see Table 3.3-9) due to the control of vent gas. Construction of a PSA Unit is expected to require more construction equipment and generate additional GHG emissions during construction activities as compared to a flare or other compliance options, although construction activities will be temporary and cease following the completion of construction. The operation of a PSA unit is expected to be at least as effective as the standards in Proposed Rule 13-5, therefore, the GHG emissions reductions associated with the installation of PSA units are still expected to be over 77,477 ~~79,255~~ MT/year ~~MT~~CO_2e, providing beneficial GHG emission reductions.

4.3.3 ALTERNATIVE 3 – NO ALTERNATIVE COMPLIANCE PLAN

4.3.3.1 Aesthetic Impacts

Alternative 3 would revise Proposed Rule 13-5 to eliminate Section 13-5-303 which allows for affected facilities to develop an Alternative Methane and GHG Compliance Plan to reduce emissions of methane and other GHGs to a similar level to the emission standard provided in Section 13-5-301. Therefore, the expected methods to comply with the proposed rule under Alternative 3 would likely be through the use of flares or gas recovery systems.

The aesthetic impacts of Alternative 3 would be the same as Proposed Rule 13-5, as flares could be installed for emission control. The EIR analyzed flares as a worst-case scenario for aesthetic impacts, though compliance with Proposed Rule 13-5 by installing a gas recovery system or implementing an Alternative Compliance Plan would have less aesthetic impacts that installation of flares. As with the proposed project, the flares would be installed at existing industrial areas, adjacent to existing hydrogen plants. The addition of new flares is not expected to be discernable from the overall skyline of the existing refineries from the bridge. In addition, the flames on the new or existing flares are not expected to be noticeable during the day. The use of vapor recovery systems is not expected to be visible outside of the industrial facilities. Therefore, the aesthetic impacts of Alternative 3, are essentially the same as the worst-case scenario analyzed for the proposed project and are less than significant.

4.3.3.2 Air Quality

Alternative 3 would revise Proposed Rule 13-5 to eliminate Section 13-5-303 and the potential use of an Alternative Compliance Plan. Therefore, the expected methods to comply with the proposed rule under Alternative 3 would likely be through the use of flares or gas recovery systems.

The air quality impact analysis for the proposed project concluded that emissions associated with the construction of the two new flares simultaneously – the worst-case scenario – may exceed the CEQA significance thresholds for NOx emissions and would, therefore, be potentially significant. The same is expected to be true under Alternative 3, as two flares may be constructed simultaneously. Construction emissions are temporary as construction emissions would cease following completion of construction activities. However, compliance with Proposed Rule 13-5 could be achieved by implementation of an Alternative Compliance Plan, which would eliminate the potentially significant NOx emissions.

Air quality impacts associated with the Proposed Rule 13-5 were determined to be potentially significant for NOx emissions associated with additional combustion activities associated with the operation of two flares, which was analyzed as a worst-case scenario. However, affected facilities could comply with Proposed Rule 13-5 by implementing an Alternative Compliance Plan, which would avoid the operation of flares under the proposed project. The operation of two flares could result in an emission increase in NOx of 33.5 tons per year which exceeds the Air District's CEQA threshold for NOx emissions of 10 tons per year (see Table 3.2-12). The same air quality impacts may occur under Alternative 3 as two flares may be installed for compliance purposes. If vapor recovery systems are installed, this impact would not be expected to occur. Further, the use of flares would also be expected to result in a reduction in NMHC emissions of an estimated 2 tons per year providing a beneficial air quality impact, however Alternative 3 would be unlikely to avoid the potential NOx impacts associated with implementation of an Alternative Compliance Plan in Proposed Rule 13-5.

4.3.3.3 Greenhouse Gas Emissions

Alternative 3 would revise Proposed Rule 13-5 to eliminate Section 13-5-303 and the expected methods to comply with the proposed rule under Alternative 3 would likely be through the use of flares or gas recovery systems.

The GHG emissions under Alternative 3 are expected to be similar to the proposed project. Proposed Rule 13-5 may result in a minor increase in GHG emissions associated with the pilot gas for the flares. These GHG emissions increases would likely be avoided if vapor control systems were installed. Implementation of Rule 13-5 is expected to result in an overall emission reduction of over 77,477 ~~79,255~~ MT/year ~~MT~~CO_2e (see Table 3.3-9). Therefore, the GHG emissions associated with the project would be less than the significant

thresholds and less than significant. Under Alternative 3, the GHG impacts are potentially the same as the proposed project.

4.4 CONCLUSION

Alternative 1 - No Project Alternative would reduce the potentially significant NOx emission increases associated with construction and operational emissions increases under Rule 13-5, in the event that an industrial hydrogen plant complies with Rule 13-5 by installing a flare. However, Alternative 1 would not result in any reduction in total organic compounds, including methane and would not result in any reduction in GHG emissions. Further, Alternative 1 would not achieve any of the project objectives (see page 4-1).

Alternative 2 – More Stringent Control, would likely avoid the use of flares in favor of PSA units, which are expected to achieve the emission reductions in the proposed rule and avoid the potential NOx emission increases associated with new combustion sources. Alternative 2 would achieve the objectives of the proposed project but would do so at a substantially elevated cost and likely limit the options available to the applicants. Alternative 2 would be expected to achieve the project objectives.

Alternative 3 – No Alternative Compliance Plan, would have similar potential impacts as the worst-case scenario impacts of the proposed project as the control options would likely be limited to combustion sources (e.g., flares) and vapor recovery systems. Alternative 3 would achieve the objectives of the proposed project but would not provide applicants with options that have the potential to eliminate the potentially significant NOx emission impacts associated with combustion sources.

4.5 COMPARISON OF ALTERNATIVES

Pursuant to CEQA Guidelines §15126.6(d), an EIR should include sufficient information about each alternative to allow meaningful comparison with the proposed project. Section 15126.6(d) also recommends the use of a matrix to summarize the comparison. Table 4.5-1 provides this matrix comparison displaying the major characteristics and significant environmental effects of each alternative. Table 4.5-1 lists the alternatives considered in this EIR and how they compare to the proposed project. Table 4.5-1 presents a matrix that lists the significant adverse impacts as well as the cumulative impacts associated with the proposed project and the project alternatives for all environmental topics analyzed. The table also ranks each section as to whether the proposed project or a project alternative would result in greater or lesser impacts relative to one another.

As shown in Table 4.5-1, Alternative 1 would eliminate the potentially significant NOx emissions associated with project construction, operational, and cumulative impacts to less than significant, but would not achieve any reduction in total organic compound emissions, including methane, and would not achieve any of the proposed project objectives.

TABLE 4.5-1

COMPARISON OF ALTERNATIVES

ENVIRONMENTAL TOPIC	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 More Stringent Control	Alternative 3 No Alternative Compliance Plan
Aesthetic Impacts				
Aesthetic Impacts	LS	No Impact	LS(-)	LS(=)
Air Quality Impacts				
Air Quality - Construction Emissions	LS	No Impact (-)	PS(+)	PS(=)
Air Quality - Operational Criteria Pollutants	PS	No Impact (-)	LS(-)	PS(+)
Air Quality - Cumulative Air Quality Impacts	PS	No Impact (-)	LS(-)	PS(=)
Greenhouse Gas Impacts				
GHG Impacts	Beneficial	No Impact(-)	Beneficial(=)	Beneficial(=)
Achieve Project Objectives?				
	Yes	No	Yes	Yes

Notes:
Beneficial = Overall reduction
LS = Less than Significant
PS = Potentially Significant
(-) = Potential impacts are less than the proposed project.
(+) = Potential impacts are greater than the proposed project.
(=) = Potential impacts are approximately the same as the proposed project.

Alternative 2 would be expected to result in more construction activities so construction emissions would remain potentially significant. However, the potentially significant operational and cumulative air quality impacts associated with NOx from the proposed project would be eliminated. In addition, the project objectives would still be achieved, including the total organic compound emissions reductions. Alternative 2 would be considered the environmentally superior alternative as it would reduce project impacts but still achieve the project objectives and total organic compound emission reductions. However, implementation of Alternative 2 would be substantially more costly.

Alternative 3 – No Alternative Compliance Plan, would have similar impacts as the worst-case scenario impacts of the proposed project, as the control options would likely be limited to combustion sources (e.g., flares) and vapor recovery systems. Alternative 3 would achieve the objectives of the proposed project, but would not provide applicants with

options that have the potential to eliminate the potentially significant NOx emission impacts associated with combustion sources

The proposed project is likely the most cost-effective approach that achieves the project objectives and allows affected facilities the flexibility to use site-specific control measures that would reduce the potentially significant increase associated with new flares. Therefore, the proposed project is the preferred alternative.

M:\DBS\3185\EIR\8185 DEIR Ch. 4 – Alternatives(rev1).docx

CHAPTER 5

ORGANIZATIONS AND PERSON CONSULTED

Organizations and Persons Consulted
List of Environmental Impact Report Preparers

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5.1 ORGANIZATIONS AND PERSONS CONSULTED

The CEQA statues and Guidelines require that organizations and persons consulted be provided in the EIR. The following organizations and persons have provided input into this document.

Robert Cave
Victor Douglas
Jacob Finkle
Alexander Sohn
Madeline Stone

5.2 LIST OF ENVIRONMENTAL IMPACT REPORT PREPARERS

Bay Area Air Quality Management District
San Francisco, California

Environmental Audit, Inc.
Placentia, California

APPENDIX A

Notice of Preparation/Initial Study

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California Environmental Quality Act

Notice of Preparation of Draft Environmental Impact Report and Scoping Meeting for Draft Regulation 13: Climate Pollutants, Rule 5: Petroleum Refinery Hydrogen Plants

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TO: **Interested Parties**

FROM: **Bay Area Air Quality Management District**
375 Beale St., Suite 600
San Francisco, CA 94105

Lead Agency: **Bay Area Air Quality Management District**
Contact: **Jacob Finkle, Senior Air Quality Specialist** **Phone: (415) 749-8435**

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING

Notice is hereby given pursuant to California Public Resources Code §21091, 21092, 21092.2, and 21092.3 and CEQA Guidelines Section 15085 and 15087 that the Bay Area Air Quality Management District ("Air District"), as lead agency, will prepare a Draft Environmental Impact Report (EIR) in connection with the project described below.

Project Title: Draft Regulation 13: Climate Pollutants, Rule 5: Petroleum Refinery Hydrogen Plants

Project Location: The project would apply within the Bay Area Air Quality Management District ("Air District"), which includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, and the southern portions of Solano and Sonoma counties.

Project Description: Draft Regulation 13: Climate Pollutants, Rule 5: Petroleum Refinery Hydrogen Plants would limit vented emissions of total organic compounds (including both methane and other organic compounds) from hydrogen production, hydrogen carrying systems, and hydrogen end users such as process units at petroleum refineries. The Air District has a policy goal of reducing Bay Area greenhouse gas emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Methane is a potent and short-lived climate pollutant with a global warming potential 86 times greater than that of carbon dioxide, when compared on a 20-year time horizon. The intent of draft Rule 13-5 is to minimize both methane and other organic compound emissions, which can be vented from atmospheric vents at petroleum refinery hydrogen plants during normal operating conditions, startups, shutdowns, malfunctions, upsets, and emergencies.

Scoping Meeting: Notice is also given pursuant to California Public Resource Code, Sections 15206 and 15082 (c) that the Air District will conduct a California Environmental Quality Act (CEQA) scoping meeting using Zoom to discuss and accept oral comments on the scope and content described in a Notice of Preparation and an Initial Study (NOP/IS) prepared in anticipation of a draft Environmental Impact Report (DEIR) for the project. Information to access the virtual scoping meeting on Tuesday, July 27, 2021, from 10:00 a.m. to noon, is described below. Scoping meeting materials are available on the Air District's Regulation 13, Rule 5 web page: https://www.baaqmd.gov/rules-and-compliance/rules/reg-13-rule-5-petroleum-refinery-hydrogen-plants

Tuesday, July 27, 2021
10:00 a.m. – 12:00 p.m.
To join via web browser:
https://us02web.zoom.us/j/87633923230?pwd=QStZTjNlV0xTQ1BZSmxlTGxjZnA1UT09
To join via phone: +1 669 900 6833
Meeting ID: 876 3392 3230
Passcode: 677707

- For language interpretation, contact Aneesh Rana at arana@baaqmd.gov, or 415-749-4914 at least 72 hours before the meeting.
- Para información en español, llame al 415-749-4609

- 中文聯絡電話 415-749-4609
- Nói Tiếng Việt xin gọi 415-749-4609.

NOTICE: The Air District is taking steps to ensure Bay Area air quality and public health are protected while public health orders in San Francisco and other Bay Area counties are in place. This includes closing our 375 Beale Street office in San Francisco until further notice. For more information, please visit our website: https://www.baaqmd.gov/news-and-events/page-resources/2020-news/air-district-operations

Potential Environmental Effects: The Initial Study is attached to this Notice of Preparation. The Initial Study identifies and evaluates potential environmental effects. It is available for review at the Air District headquarters, on the Air District's website at http://www.baaqmd.gov/rules-and-compliance/rules/reg-13-rule-5-petroleum-refinery-hydrogen-plants, or by request. Requests for copies of the NOP/IS should be directed to Jacob Finkle (jfinkle@baaqmd.gov) at (415) 749-8435.

Comment Procedure: Comments relating to the environmental analysis in the NOP/IS should be addressed to Jacob Finkle, Bay Area Air Quality Management District, 375 Beale Street, Suite 600, San Francisco, CA 94105. Comments may also be sent by e-mail to jfinkle@baaqmd.gov. Comments on the NOP/IS will be accepted until Friday, July 30, 2021, at 5:00 p.m.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Initial Study for

Regulation 13: Climate Pollutants
Rule 5: Petroleum Refinery Hydrogen Plants

Prepared by:

Bay Area Air Quality Management District
375 Beale St., Suite 600
San Francisco, CA 94109

Contact: Jacob Finkle
(415) 749-8435

June 2021

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CHAPTER 1

PROJECT DESCRIPTION

Objectives

Project Location

Background

Proposed Project Description

Potential Emission Control Technologies

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1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD, District or Air District) is currently developing a new draft Regulation 13: Climate Pollutants, Rule 5, Petroleum Refinery Hydrogen Plants (Rule 13-5). Draft Rule 13-5 would limit vented emissions of total organic compounds from petroleum refineries' hydrogen production, hydrogen carrying systems, and hydrogen end users such as process units. Total organic compounds include organic compounds and methane. The State of California made the reduction of greenhouse gas emissions a priority. In September 2016, Governor Brown signed Senate Bill 32 (Chapter 249, Statutes of 2016), which mandated a greenhouse gas emissions reduction target of 40 percent below 1990 emission levels by 2030. Senate Bill 605 (Chapter 523, Statutes of 2014) requires the California Air Resources Board to develop a plan to reduce emissions of short-lived climate pollutants, and Senate Bill 1383 (Chapter 249, Statutes of 2016) requires the California Air Resources Board to approve and implement a plan by January 2018 to achieve these reductions. Senate Bill 1383 also sets a target for the reduction of methane emissions of 40 percent below 2013 levels by 2030. Pursuant to Senate Bill 605 and Senate Bill 1383, the California Air Resources Board subsequently developed the Short-Lived Climate Pollutant Reduction Strategy, adopted in March 2017.

The Air District has a policy goal of reducing Bay Area greenhouse gas emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. Methane is a potent and short-lived climate pollutant; its global warming potential is 86 times greater than that of carbon dioxide, when compared on a 20-year time horizon.[1] Methane represents the second largest emissions of greenhouse gases in the region, after carbon dioxide. In 2015, all methane sources located within the Air District emitted an estimated 10 million metric tons of carbon dioxide equivalent, about 10 percent of the Bay Area's greenhouse gas inventory. The sources of methane emissions include stationary sources such as landfills, wastewater treatment facilities, refineries, natural gas production and distribution systems; mobile sources such as cars and trucks; and natural sources such as wetlands. Reducing emissions of short-lived climate pollutants, including methane, can have a dramatic effect on climate change in the near term as their atmospheric lifetime is much less than longer-lived greenhouse gases, such as carbon dioxide. Given the importance of controlling methane, the Air District developed a comprehensive Basin-wide Methane Strategy as part of its 2017 Clean Air Plan (BAAQMD, 2017). The Methane Strategy is an agency-wide effort to better quantify and reduce the region's methane emissions. Draft Rule 13-5 is one of the first rules developed as part of this Strategy. Other source-specific methane rules are under development to address emissions from specific operations.

New draft Rule 13-5 is being developed because hydrogen plants at petroleum refineries are one the largest sources of methane at petroleum refineries. The intent of draft Rule 13-5 is to minimize both methane (a greenhouse gas (GHG)) and other organic compound emissions (together defined as "total organic compound emissions), normally vented from atmospheric vents at petroleum refinery hydrogen plants during normal operating conditions, startups, shutdowns, malfunctions,

[1] Based on the 20-year global warming potential reported for methane in the Intergovernmental Panel on Climate Change Fifth Assessment report.

upsets and emergencies. The reduction in total organic compound emissions would be achieved by providing hydrogen system operators the flexibility to use any gas control technology that is appropriate for minimizing total organic compound emissions in accordance with the requirements in Rule 13-5. Typically, hydrogen plant operations either capture and reuse hydrogen gases containing methane and other constituents, including organic compounds, for incorporation into refinery gas fuel systems or they use flares to burn the mixture of hydrogen gas, methane, and other constituents. Capturing hydrogen and other gases and reusing them in the refinery system could control total organic compound emissions up to nearly 100 percent. If flares are used to control total organic compound emissions from hydrogen plants, the hydrogen gases containing total organic compounds routed directly to a flare would have to meet a 98 percent control efficiency to comply with federal standards for refinery flares.

1.2 OBJECTIVES

The overall objective of the proposed new draft rule is the minimization of total organic compound emissions from hydrogen plants in the Bay Area. Specifically, the objectives of the Draft Rule 13-5 are to:

- Minimize total organic compound emissions that include methane and organic compound emissions from refinery hydrogen plants.
- Assist the District in meeting its policy goal of reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030.

1.3 PROJECT LOCATION

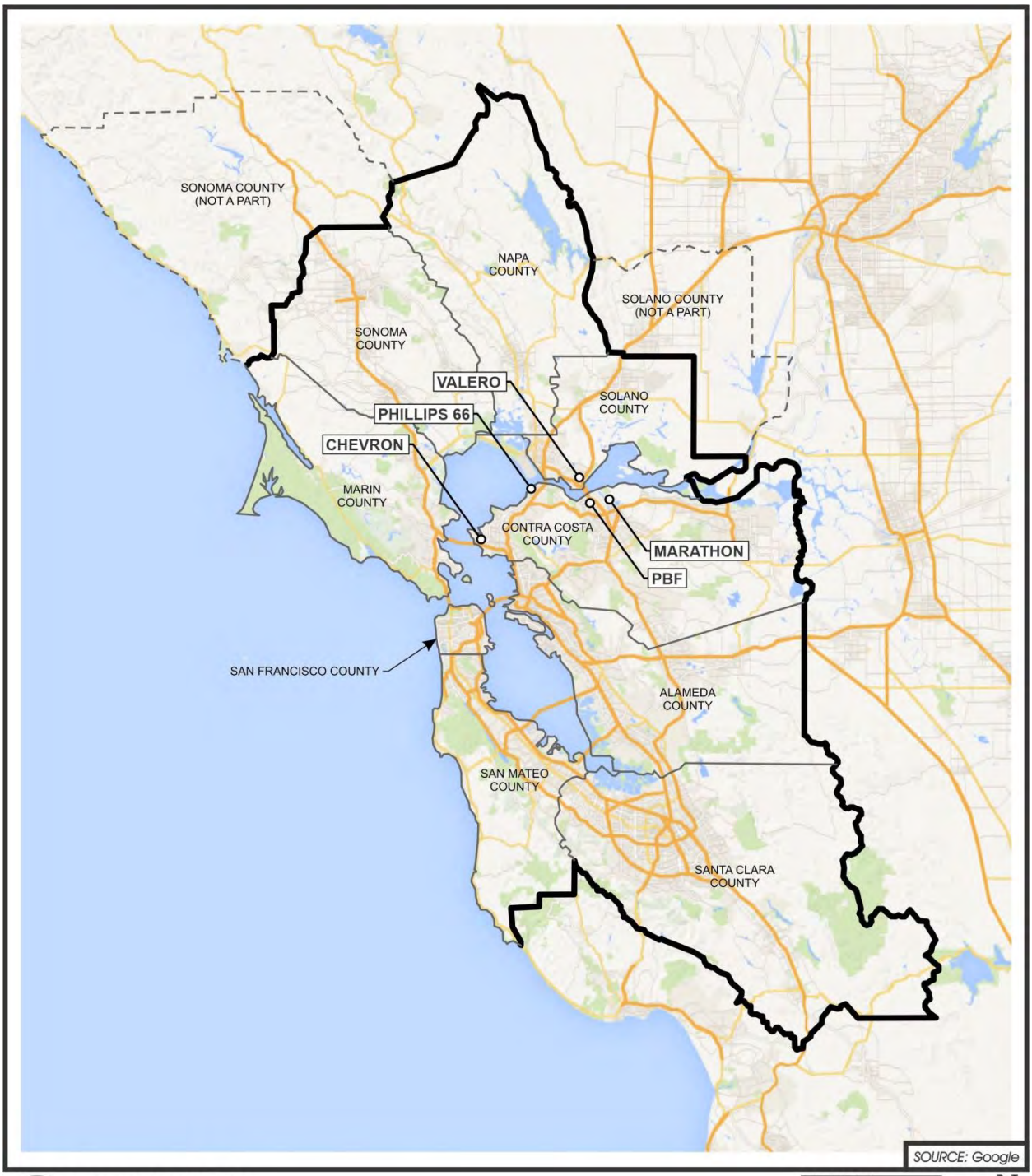
The Air District has jurisdiction of an area encompassing 5,600 square miles. The Air District includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties, and portions of southwestern Solano and southern Sonoma counties. The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys and bays (see Figure 1). The proposed Rule 13-5 would apply to hydrogen plants at the refineries within the Bay Area, the locations of which are shown on Figure 1. Two refineries are expected to need additional control technology to comply with Draft Rule 13-5, Valero in Benicia and the hydrogen plants that provide hydrogen to PBF in Martinez.

The PBF Martinez Refinery is located in north-central Contra Costa County, adjacent to the community of Martinez. The primary processing area of the Refinery is between Pacheco Boulevard and Marina Vista, and the wastewater treatment plant and wharf operations are between Marina Vista and the Carquinez Strait. Approximately 20 percent of the Refinery is located within the corporate limits of the City of Martinez. The remainder of the Refinery is in an unincorporated area of the County.

The PBF Martinez Refinery is located in a heavy industrial area, which allows for the manufacturing and processing of petroleum chemicals, fertilizers, and gas, as well as numerous other industrial and manufacturing uses. The Refinery is bordered to the north by heavy industrial land use and the Carquinez Strait water way. To the east of the PBF Martinez Refinery is Highway 680, public lands, and wetland areas that are designated as open space. Along the southern border of the Refinery is land designated as commercial, multiple family residential (light), and single family residential (heavy). The area west of the Refinery is similar in mix to the land use along the southern area, however, the central Martinez downtown area is located directly west of the Refinery.

The Valero Benicia Refinery is located at 3400 East Second Street, within an industrial area (Benicia Industrial Park) in the eastern portion of the City of Benicia, west of Interstate 680. The Refinery is located along the northern edge of the Suisun Bay below a low range of coastal hills. The Refinery occupies approximately 330 acres of the 880-acre Valero Benicia property; the remaining portion of which is undeveloped. The Refinery is designated as General Industrial by the City of Benicia General Plan and Zoning Ordinance.

The Valero Benicia Refinery is immediately bordered by approximately 550 acres of mostly undeveloped Valero property to the south and west, and general industrial uses to the north and east. Industrial uses in the Benicia Industrial Park are located east of the Refinery. This area consists largely of single-level warehouse and manufacturing buildings interspersed with parking areas and materials storage yards. Residential uses are located approximately 3,000 feet to the south and west of the Refinery, and approximately 2,100 feet to the northwest. This neighborhood is separated from the Valero Benicia Refinery site by undeveloped hills, including areas owned by Valero.



REFINERIES WITHIN THE
BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Project No. 3185 Figure 1
N:\3185\SiteLocMap.cdr

1.4 PROJECT BACKGROUND

1.4.1 REFINERY HYDROGEN USE

In the petroleum refining industry, hydrogen is used extensively in the processing of crude oil into refined fuels such as gasoline and diesel. Hydrogen is consumed in desulfurization units to remove contaminants from fuels and feedstocks. Additionally, hydrogen is used in the refinery fuel system. As petroleum refinery product specifications become more stringent to meet environmental requirements, refinery demand for hydrogen has continually increased to supply the refinery hydrogen consumers (process units). The two primary hydrogen consumers in Bay Area petroleum refineries are processes known as hydrotreating and hydrocracking

Hydrotreating is a process whereby hydrogen is added to a hydrocarbon gas (often referred to as a feedstock) stream over a bed of catalysts typically containing molybdenum with nickel or cobalt. The purpose of hydrotreating is to remove sulfur and other undesirable compounds, such as unsaturated hydrocarbons and nitrogen, from the hydrocarbon stream. Sulfur will poison (shorten the lifespan of) catalysts used in hydrocarbon processing applications so refineries take measures to protect catalysts to extend their operating longevity as long as possible. During hydrotreating, sulfur compounds react with hydrogen to form hydrogen sulfide, while nitrogen compounds react to form ammonia. Aromatics and olefins are saturated by the hydrogen and lighter products are created. The final result of the hydrotreating process is the substantial reduction of sulfur and other contaminants from the original feedstock.

Hydrocracking is a refinery process that produces lighter hydrocarbon molecules with higher value for diesel, aviation fuel and petrol fuel from long-chain hydrocarbons. In this process, heavy gas oils, heavy residues or similar boiling-range heavy distillates are reacted with hydrogen in the presence of a catalyst at high temperature and pressure. The heavy feedstocks molecules are broken (or "cracked") into light or middle distillate products—for example, naphtha, kerosene and diesel—or base stocks for lubricants. For some refineries, the hydrocracker unit is the top hydrogen consumer. Hydrogen is the key component that enables the hydrocracking process to reduce the product boiling range appreciably by converting the majority of the feedstock to lower-boiling, more desirable products.

1.4.2 REFINERY HYDROGEN PRODUCTION

The production, distribution and use of hydrogen within petroleum refineries is all part of an integrated system that is referred to as a "Refinery Hydrogen Plant" for the purposes of draft Rule 13-5. A petroleum refinery may incorporate one or more hydrogen plants into its hydrogen distribution network that delivers hydrogen to various refinery units that use hydrogen. A secondary method of producing hydrogen in petroleum refineries is known as "catalytic reforming" or "naphtha reforming units." However, the majority of hydrogen is produced in hydrogen plant steam methane reforming processes. The heart of the plant consists of a steam methane reformer and additional hydrogen purification steps that are integrated with all the processes in need of hydrogen throughout the refinery.

Hydrogen production via steam methane reforming generally includes four steps: 1) the purification of the feed gas (usually natural gas or refinery fuel gas, although other gases may be used); 2) steam and methane are reformed in the box to convert most of the methane gas to hydrogen via the chemical reaction $CH_4 + H_2O \rightleftharpoons CO + 3\ H_2$; 3) temperature shift reaction to convert some of the remaining methane to hydrogen; and 4) final product purification step. Hydrogen gas containing total organic compounds including methane may be vented to atmosphere at various locations throughout the plant.

Refinery hydrogen plants consist of two types, those with pressure swing adsorption and those without. Pressure swing absorption produces a purer hydrogen stream required by certain refinery applications. Prior to distributing hydrogen into the refinery hydrogen network, most hydrogen plants use a pressure swing adsorption process for the final purification step at the back end of the steam methane reforming operation to produce an ultra-pure hydrogen with a minimum purity of 99.99 percent concentration in the gas stream from what was previously a concentration ranging between 95 percent to 97 percent. A by-product of the pressure swing adsorption process, referred to as "tail gas" is impure hydrogen gas that does not meet specifications for refinery hydrogen consumers that is routed back to the steam methane reformer as fuel and can contain methane concentrations ranging between 15 and 20 percent.

By contrast, a hydrogen plant that does not use a pressure swing adsorption process produces a less pure hydrogen stream that contains a higher amount of total organic compounds, including methane—generally between four and six percent.

Methane emissions occur when impure hydrogen gases containing total organic compounds are purposely vented from atmospheric vents (sometimes referred to as process vents) located at various junctures throughout the hydrogen plant. With one exception, most atmospheric venting of impure hydrogen gas in Bay Area refineries occurs within the hydrogen plant steam methane reforming processes. For most facilities, hydrogen gas is not vented to atmosphere as a matter of course, it is only vented when necessary, usually for safety-related reasons such as refinery startups, shutdowns, emergencies, malfunctions, trips or process upsets. A total of nine operational hydrogen plants are associated with Bay Area refineries; four hydrogen plants—one at the Valero refinery and the other three, owned and operated by Air Products at the PBF refinery—regularly vent hydrogen gas from certain atmospheric vents during normal operations. Air Products is a third-party operator that supplies hydrogen to the PBF refinery. Most hydrogen plants typically have three to four atmospheric vents located in the steam methane reforming process unit. Each vent is used to release impure hydrogen gas under specific operational conditions.

1.5 PROPOSED PROJECT DESCRIPTION

The requirements in draft Rule 13-5 would apply to petroleum refinery hydrogen plants, including third-party operators that produce hydrogen in hydrogen plants and other parts of the refinery that integrate the hydrogen into refinery processes. Draft Rule 13-5 would address total organic compound emissions from hydrogen plants as follows:

Section 13-5-301, Emission Limits for Petroleum Refinery Hydrogen Plants, would prohibit the owner or operator of existing petroleum refinery hydrogen plants from venting to atmosphere hydrogen waste streams containing total organic compounds in excess of 15 pounds per day and containing a concentration of more of than 300 parts per million on a dry basis.

Draft Rule 13-5 includes a limited exemption for atmospheric vents for both deaerators and carbon dioxide scrubbers. These two types of vents may emit methane and possibly other organic compounds, however, more investigation is required to ascertain the extent of emissions associated with them. Thus, deaerator vents and carbon dioxide scrubbing vents will be exempted from Rule 13-5 emission limits. However, the owners or operators of these two source types will be required to install flowmeters and to monitor the total organic compound emissions on a periodic basis to verify total organic compound emission rates.

1.6 POTENTIAL EMISSION CONTROL TECHNIQUES AND TECHNOLOGIES

Implementation of draft Rule 13-5 would impose requirements that may result in the modifications to Hydrogen Plants and/or installation of new emission control equipment. The potential modifications and control equipment that may be used to comply are outlined in this section.

Because vented methane emissions from petroleum refinery hydrogen plants are not currently subject to emission limits, such emissions are usually uncontrolled unless the methane is a constituent of a gaseous stream that includes other air pollutants, such as volatile organic compounds, which are subject to emission limit requirements of other Air District regulation. However, not all volatile organic compound abatement technology will capture or control methane emissions. For example, activated carbon is commonly used to extract volatile organic compounds from gaseous streams via an adsorption process that traps organic molecules onto the surface of carbon molecules while the remainder of the gaseous stream continues to flow through the carbon bed. However, methane is not typically captured by activated carbon so it flows through unabated.

Flares are primarily used as a safety, not a control, device to reduce refinery gases that often may include a mixture of gases including volatile organic compounds, toxic air contaminants, oxides of nitrogen, sulfur oxides and methane. However, one Bay Area refinery and one third-party operator use flares dedicated specifically to control hydrogen gas emissions, and thus, methane emissions and any associated organic compound emissions. These particular types of flares destroy total organic compound emissions at a minimum 98 percent control efficiency.

Thermal oxidizers are another example of control technology used to thermally destroy industrial vapor streams. They are commonly used in refineries and chemical plants to control hydrocarbon-based vapors. Typically, thermal oxidizers are available in four different types depending on a variety of operational factors: direct-fired, recuperative, catalytic and regenerative thermal oxidizers. Thermal oxidizers can be used for planned atmospheric venting occurrences such as startups and some shutdowns; however, they generally cannot be used for unplanned events such as malfunctions, upsets, and emergencies.

A third method of controlling total organic compound emissions already employed at two local refineries is the use of a closed loop system, via flare headers, that captures hydrogen system gas streams, sometimes vented at other refineries, and reintroduces the captured gas into the refinery's fuel gas system. Only a small amount of captured total organic compound gas is vented to atmosphere because the gas recovery system only sends recovered gas to the flare for combustion for safety-related reasons such as emergencies, malfunctions, unplanned shutdowns, and upsets in the refinery system. The balance of captured gas is used in the gas recovery system. Less than two percent of flare header gas is emitted to the atmosphere post combustion. Flare headers, a collection system for refinery waste vapor streams, contains a mixture of refinery gases, including hydrogen gas.

The use of pressure swing adsorption can significantly reduce methane and other organic compound emissions, although they are not technically considered a control technology. Pressure swing adsorption purification is a method of separating one or more gas species from a gaseous stream containing additional (desirable) gas species. Pressure swing adsorption is used in hydrogen production as a final purification step to separate hydrogen gas molecules from other (impure) gas molecules, such as methane, carbon monoxide and carbon dioxide. An adsorbent material targets gas with dissimilar adsorption properties as an effective way of extracting very pure hydrogen. Tail-gas, a byproduct of the pressure swing adsorption process containing the removed impurities, is then sent back to the steam methane reformer as fuel for the steam methane reforming process. Normally, pressure swing adsorption purification removes methane molecules from the hydrogen gas stream only at the back end of the steam methane reforming process unit. Atmospheric venting prior to the pressure swing adsorption step contains methane and other air contaminants.

Two refineries are expected to need additional control technology to comply with Draft Rule 13-5: Valero in Benicia and the hydrogen plants that provide hydrogen to PBF in Martinez. It is expected that both facilities would install refinery flare technology to control total organic compound emissions. Air District staff estimate that flare systems at these refineries would result in a reduction of over 2,000 tons per year of methane, assuming a flare control efficiency of 98 percent.

CHAPTER 2

EVALUATION OF ENVIRONMENTAL IMPACTS

Introduction

General Information Form

Summary Checklist:
Environmental Factors Potentially Affected

Determination

Detailed Checklist and Discussion:
Evaluation of Environmental Impacts

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CHAPTER 2
Evaluation of Environmental Impacts

INTRODUCTION

The Initial Study is required to identify and evaluate the proposed project's environmental effects. The California Natural Resources Agency has published a standard checklist for lead agencies to use in doing so, in Appendix G of the CEQA Guidelines. The Appendix G environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. The Guidelines specifically authorize and encourage the use of Appendix G to satisfy the legal requirements for sufficiency of the Initial Study. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Initial Study for Proposed New Regulation 13, Rule 5, Petroleum Refinery Hydrogen Plants.
Lead Agency Name:	Bay Area Air Quality Management District 375 Beale Street, Suite 600 San Francisco, California 94105
Contact Person:	Jacob Finkle
Contact Phone Number:	415-749-8435
Project Location:	Proposed Rule 13-5 would apply to Petroleum Refinery Hydrogen Plants within the jurisdiction of the Bay Area Air Quality Management District, which encompasses all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano County and southern Sonoma County.
Project Sponsor's Name:	Bay Area Air Quality Management District
Project Sponsor's Address:	375 Beale Street, Suite 600 San Francisco, California 94105
General Plan Designation:	Rule 13-5 would apply to the area within the jurisdiction of the Bay Area Air Quality Management. Hydrogen Plants are located within heavy industrial areas.
Zoning:	Rule 13-5 would apply to the area within the jurisdiction of the Bay Area Air Quality Management. Hydrogen Plants are located within heavy industrial areas.
Description of Project:	See Chapter 1.
Surrounding Land Uses and Setting:	See "Project Location" in Chapter 1 and Land Use Section XI of the checklist.
Have California Native American tribes traditionally	No tribes have requested consultation.

and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☑ Aesthetics	☐ Agriculture and Forestry Resources	☑ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology & Soils	☑ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology & Water Quality	☐ Land Use & Planning	☐ Mineral Resources
☐ Noise	☐ Population & Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities & Services Systems	☐ Wildfire	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

☐ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☑ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Date:

Name:

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

		Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
I.	**AESTHETICS**. Except as provided in PRC §21099, would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☑	☐	☐	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☑	☐
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	☐	☐	☐	☑
d)	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☑	☐

Environmental Setting

The Air District covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano County and southern Sonoma County. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Important views of natural features include the San Francisco Bay and Pacific Ocean, Mount Tamalpais, Mount Diablo, and other peaks and inland valleys of the Coast Range. Cityscape views offered by buildings and distinctive Bay Area bridges, especially the Golden Gate and Bay Bridges and the San Francisco skyline, are also important built visual resources to the region (ABAG, 2017). Because of the variety of visual resources, scenic highways or corridors are located throughout the Bay Area and include 15 routes that have been designated as scenic highways and 29 routes eligible for designation as scenic highways (ABAG, 2017).

The Carquinez Strait forms a visually distinct, relatively narrow channel that connects San Pablo Bay to Suisun Bay. The approximately six-mile strait lies between two major bridges: the Carquinez Bridge, from Crockett to Vallejo; and the Benicia-Martinez Bridge, from Benicia to Martinez. Both bridges are visually distinct features in a landscape characterized by gently rolling terrain. The Carquinez Strait and Suisun Bay are characterized by a visual mix of industrial uses, small towns, and open areas of undeveloped land.

Industrial uses in the area are numerous, and include: terminals, including the Amorco Marine Terminal, Avon Marine Terminal, and TransMontaigne terminal; refineries, including the Tesoro Martinez Refinery, PBF (formerly Shell) Martinez Refinery, Valero Benicia Refinery, and Phillips 66 San Francisco Refinery (in Rodeo); the port of Benicia; C&H Sugar in Crockett; and other industrial uses in Benicia and Martinez. From I-680 to the Point Edith Wildlife Area on the east, the visual setting is open space, characterized by views of the marsh and shoreline. The marshland includes wetland grasses, low-level shrubs, and small ponds.

As discussed in the Project Description above (Section 1.5), the proposed Rule 13-5 will affect hydrogen plants in the Bay Area and hydrogen plants at two refineries, one in Contra Costa County (PBF Martinez Refinery), and one in Solano County (Valero Benicia Refinery), are expected to require the installation of new flare systems. These facilities are located within heavy industrial areas, which generally do not have scenic resources.

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The proposed project would have a substantial adverse effect on a scenic vista.
- The proposed project would substantially damage scenic resources, including but not limited to trees, rock outcropping, and historical buildings within a state scenic highway.
- The proposed project would substantially degrade the existing visual character or quality of the site and its surroundings.
- The proposed project would add a visual element of urban character to an existing rural or open space area or add a modern element to a historic area.
- The proposed project would create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Discussion of Impacts

1. a. Potentially Significant. A scenic vista is a location that offers a high quality and visually interesting view. Regional, county, and city policies address aesthetic issues in the area. These policies include the general plans of both Contra Costa and Solano counties, and of the cities of Martinez and Benicia. Three highways within Contra Costa County have been designated as scenic highways: Route 4 from Route 160 near Antioch to Route 84 near Brentwood; Route 24 from the Caldecott Tunnel to I-680 near Walnut Creek; and Route 680 from Alameda County line to Route 24. Two highways have been designated as scenic in Solano County: Highway 29 from Route 37 near Vallejo to Route 211 near Napa; and Highway 128 from Route 1 near Mendocino to Route 505. While no designated State Scenic Highways are located in the vicinity of the refineries (Caltrans 2020), the City of Benicia has identified Interstate 680 north of the Benicia-Martinez bridge as a scenic route. Although it is not a State Scenic Highway, the San Francisco Bay Conservation and Development Commission's (BCDC) San Francisco Bay Plan Map 2 (2020) designates the Benicia-Martinez Bridge as a scenic drive (BCDC, 2020).

The existing refineries are located in heavy industrial areas of Contra Costa and Solano Counties and near a number of other industrial facilities in Martinez and Benicia. New unit construction activities would be expected to occur near the operating portions of existing refineries and/or hydrogen plants. Several new flare systems are expected to be constructed and potentially visible because of their height (75 to 120 feet), although the views of the refineries and industrial areas would remain essentially unchanged and continue to include views of heavy industrial equipment. However, flares would be visible to the surrounding public and potentially residential areas. The flares may also be visible from the scenic vistas on the Benicia-Martinez Bridge. Therefore, the potential impacts to scenic vistas resulting from the installation and operation of additional flares are potentially significant and will be evaluated in the EIR.

1. b) Less than Significant. Construction activities and subsequent operations of flare systems, if implemented, will occur within the operating portions of the existing refineries or adjacent industrial areas. While Proposed Rule 13-5 could result in the construction and operation of several new flare systems, it would not result in changes or modifications to trees, rock outcroppings, or historic buildings located along scenic highways. The views of the refineries/hydrogen plants would remain essentially unchanged and continue to include views of heavy industrial equipment. Thus, the Proposed Rule 13-5 would not damage or degrade existing scenic resources.

1. c) No Impact. Under Proposed Rule 13-5, new flare systems are expected to be constructed within the confines of two existing operating refineries or adjacent to existing hydrogen plants. Thus, the project would not result in any changes in the visual quality or character of the site or the surrounding communities. The existing hydrogen plants are in heavy industrialized areas that are urbanized. The construction of flare systems within heavy industrialized areas are expected to be compatible with existing zoning and other regulations governing scenic quality. Therefore, the proposed project would have no impact on the visual character or quality of the area or result in significant adverse aesthetic impacts.

1. d) Less than Significant. The refineries and hydrogen plants typically operate 24 hours per day and the sites are lighted for nighttime work activities. The proposed project would result in the construction of two new flares systems. The new equipment would be installed in the operating portions of the refinery or adjacent to hydrogen plants, which are already lighted for nighttime operations and would not be expected to change the overall lighting of the existing facilities. Therefore, the proposed project is not expected to result in any significant light or glare impacts or have any adverse aesthetic impacts to the surrounding community.

Conclusion

Based upon these considerations, there could be a potentially substantial adverse impact on a scenic vista, which will be evaluated in the Environmental Impact Report. Other aesthetic impacts are expected to be either less than significant or are not expected to have an environmental impact.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURE and FORESTRY RESOURCES.** In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.--Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e)	Involve other changes in the existing environment which, due to their location or nature, could result in	☐	☐	☐	☑

conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Environmental Setting

The Air District covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Some of these agricultural lands are under Williamson Act contracts. Agricultural land under Williamson Act contract includes both prime and nonprime lands. Prime agricultural land includes land with certain specific soil characteristics, land that has returned a predetermined annual gross value for three of the past five years, livestock-supporting land with specific carrying capacities, or land planted with fruit or nut trees, vines, bushes or crops that have a non-bearing period of less than five years (Government Code §51200-51207). Nonprime lands include pasture and grazing lands and other non-irrigated agricultural lands with lesser soil quality.

Proposed Rule 13-5 is expected to require installation of flare systems at hydrogen plants that serve the Valero Benicia, and PBF Martinez refineries. The land adjacent to the Carquinez Strait and Suisun Bay are characterized by a mix of industrial uses, small towns, and open areas of undeveloped land. The closest agricultural area to these refineries is the Briones Hills Agricultural Preservation Area located approximate 8 miles southwest of the PBF Martinez Refinery. The area includes open space, characterized by views of the marsh and shoreline. The marshland includes wetland grasses, low-level shrubs, and small ponds. Forest lands and agricultural lands are not located in the vicinity of the refineries.

Significance Criteria

Project-related impacts on agriculture and forest resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion of Impacts

2. a) and b) No Impact. Land designated by the California Resources Agency as Prime Farmland, Unique Farmland or Farmland of Statewide Importance are considered Farmland for CEQA purposes. The Martinez and Benicia communities are urbanized and there are no designated Farmlands within the community. The area in the vicinity of the refineries and surrounding areas are developed and are designated as Urban and Built-Up Land by the California Department of Conservation. Further, the area is urbanized and not zoned for agricultural use so no Williamson Act contracts are located within the Martinez or Benicia areas.[2] Construction activities would be within industrial areas and no agricultural lands would be impacted. Therefore, the project would not conflict with existing zoning for agricultural use or with a Williamson Act contracts and would not convert agricultural lands to non-agricultural lands.

2. c) and d) No Impact. The Martinez and Benicia communities are urbanized areas and there are no forest land or timberland resources in the community or vicinity of the refineries. The construction activities would be within industrial areas and no forest land or timberland resources would be impacted. Therefore, the proposed project would not conflict with existing zoning for, or cause re-zoning of forest land, and would not result in the loss of forest land or conversion of forest land to non-forest use or impact timberland zoned as Timberland Production.

2. e) No Impact. Implementation of the Proposed Rule 13-5 would not involve changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, since agricultural and forest land resources are not located within or adjacent to the PBF Martinez and Valero Benicia refineries.

Conclusion

Based upon these considerations, no significant adverse impacts to agricultural and forest resources are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse agricultural and forest land resources were identified, no further evaluation of agricultural and forest land resources will be required in the EIR.

[2] California Department of Conservation, Farmland Mapping and Monitoring Program. Available at https://maps.conservation.ca.gov/DLRP/CIFF/.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	**AIR QUALITY.** When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard?	☑	☐	☐	☐
c)	Expose sensitive receptors to substantial pollutant concentrations?	☑	☐	☐	☐
d)	Result in other emissions (such as those leading to odors adversely affecting substantial number of people?)	☐	☐	☐	☑

Environmental Setting

The San Francisco Bay Area is characterized by a large, shallow basin surrounded by mountain ranges tapering into sheltered inland valleys. The basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of mountains, valleys and bays. Combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast.

Air quality conditions in the San Francisco Bay Area have improved since the Air District was created in 1955. The long-term trend of ambient concentrations of air pollutants and the number of days on which the region exceeds ambient air quality standards (AAQS) have generally declined, although some year-to-year variability primarily due to meteorology, causes some short-term increases in the number of exceedance days. The increase of severity and frequency of wildfire smoke episodes since 2017 has led to an increase in levels of annual particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and particulate matter less than 10 microns in diameter (PM_{10}) and indicates the need for continued reductions. The San Francisco Bay Area is in attainment of the State AAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). However, the Bay Area is not in attainment of the State 24-hour PM_{10} standard, annual PM_{10} standard, and annual $PM_{2.5}$ standard. The Air District is designated

unclassifiable/attainment for the federal CO, NO_2, SO_2, lead, PM_{10} and 2013 annual $PM_{2.5}$ standards. A designation of unclassifiable/attainment means that the U.S. EPA has determined to have sufficient evidence to find the area either is attaining or likely attaining the NAAQS.

Based on the 2020 air quality data from the Air District monitoring stations, no monitoring stations measured an exceedance of any of State or federal AAQS for CO or NO_2. There was one exceedance of the federal 1-hour SO_2 standard in 2020 at the Crockett station, and one exceedance of the federal PM_{10} standard in 2020 at the Concord station. The State 24-hour PM_{10} standard was exceeded at one or more Bay Area stations on eleven days in 2020.

The Bay Area is designated as a non-attainment area for the federal and State eight-hour ozone standard and the federal 2006 24-hour $PM_{2.5}$ standard. The State and federal eight-hour ozone standards were exceeded at one site or more in the Air District on ten and nine days in 2020, respectively; most frequently in the Eastern District, the Santa Clara Valley, and the South Central Bay zones. The federal 24-hour $PM_{2.5}$ standard was exceeded at one or more Bay Area stations on 25 days in 2020 throughout the Air District.

Significance Criteria

Construction Emissions

The Air District's 2017 Thresholds of Significance will be used in the current air quality analysis for construction emissions (see Table 3.2-8).

TABLE 2-1

Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors

Pollutant/Precursor	Daily Average Emissions (lbs/day)
ROG	54
NOx	54
PM_{10}	82*
$PM_{2.5}$	54*
PM_{10}/ $PM_{2.5}$ Fugitive Dust	Best Management Practices

*Applies to construction exhaust emissions only.
Source: BAAQMD, 2017a

Operational Emissions

The 2017 project-level stationary source CEQA thresholds are identified in Table 2-2. These represent the levels at which a project's individual emissions would result in a cumulatively considerable contribution to the Air District's existing air quality conditions for individual projects. These thresholds are based on the federal offset requirements for ozone precursors for

which the Bay Area is designated as a non-attainment area, which is an appropriate approach to prevent further deterioration of ambient air quality and thus has nexus and proportionality to prevent regionally cumulative significant impacts (e.g., worsened status of non-attainment). Despite being a non-attainment area for state PM_{10} and non-attainment for federal $PM_{2.5}$, the Federal NSR significant emission rate annual limits of 15 and 10 tons per year, respectively, are the thresholds established by the Air District, as the Air District has not established an offset requirement limit for $PM_{2.5}$ and the existing limit of 100 tons per year is much less stringent and would not be appropriate for the Federal 24-hour $PM_{2.5}$ standards. These operational thresholds represent the emission levels above which a project's individual emissions would result in a cumulatively considerable contribution to the Bay Area's existing air quality conditions (BAAQMD, 2017a). To provide a conservative air quality analysis, the air quality impacts analysis will use the project-specific thresholds (see Table 2-2) recommended in the revised 2017 CEQA Guidelines (BAAQMD, 2017a).

TABLE 2-2

Thresholds of Significance for Operation-Related Criteria Air Pollutants and Precursors

Pollutant/Precursor	Daily Average Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	10
NOx	54	10
PM_{10}	82	15
$PM_{2.5}$	54	10

Source: BAAQMD, 2017a

For air toxics concerns, the threshold for a significant air quality impact is a lifetime cancer risk of ten additional cancers per million people exposed or a non-cancer (i.e., chronic or acute) risk greater than 1.0 hazard index (BAAQMD, 2017a).

Discussion of Impacts

3. a) No Impact. Proposed Rule 13-5 is not expected to conflict with or obstruct implementation of the applicable air quality plan. The applicable air quality plan is the Air District's 2017 Clean Air Plan, *Spare the Air, Cool the Climate* ("Plan"). The Plan outlines a strategy for achieving the Bay Area's clean air goals by reducing emissions of ozone precursors, particulate matter, TACs and other pollutants in the region (BAAQMD, 2017b). The proposed project would support the Air District's objectives of reducing VOC and GHG emissions and related climate change impacts. Therefore, the proposed project will not conflict with or obstruct implementation of the 2017 Clean Air Plan.

3. b) and c) Potentially Significant. The existing refineries include the operation of numerous units and equipment. Two refineries are expected to need additional control technology to comply with Draft Rule 13-5: the Valero Benicia Refinery and the hydrogen plants that provide hydrogen to the PBF Martinez Refinery.

At hydrogen plants, flares use oxidation to burn combustible components, mostly hydrogen and hydrocarbons. In combustion, gaseous hydrocarbons react with atmospheric oxygen to form carbon dioxide and water. Properly operated flares achieve at least 98 percent destruction efficiency in the flare plume, meaning that hydrocarbon emissions amount to less than two percent of the hydrocarbons in the gas stream (U.S. EPA, 2018). Emissions from flaring may include carbon particles (soot), hydrocarbons, carbon monoxide, nitrogen oxides, and sulfur oxides. However, flaring events are expected to be sporadic and not predictable because flaring would only occur when the produced hydrogen is found to be off specification or during upset conditions. While Proposed Rule 13-5 would result in a reduction in organic emissions, it can also result in an increase in particulate matter, carbon monoxide, volatile organic, and nitrogen oxide emissions due to the combustion of gases. Therefore, flare operational emissions associated with Proposed Rule 13-5, including the potential for toxic air contaminants and cumulative impacts, will be evaluated in the EIR.

3. d) No Impact. The proposed Rule 13-5 is expected to reduce total organic emissions from hydrogen plants. Hydrogen plants are not typically sources of odors because their feedstocks include natural gas and the products they produce (primarily hydrogen) is not odorous. Since the proposed rule would reduce total organic emissions, the rule is not expected to result in an increase in odor impacts.

Conclusion

Based on the above considerations, operation of new flare systems may result in additional emissions of non-attainment criteria pollutants and will be evaluated in the EIR. No significant adverse impacts to the applicable attainment plan and odor emissions are expected so these items will not be further evaluated in the EIR.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Environmental Setting

The Air District covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The Bay Area supports numerous distinct natural communities composed of a diversity of vegetative types that provide habitat for a wide variety of plan and wildlife species. Broad habitat categories in the region include grasslands, coastal scrubs and chaparral, woodlands and forests, riparian systems and freshwater aquatic habitat, and wetlands. Extensive aquatic resources are provided by the San Francisco Bay Delta estuary, as well as numerous other rivers and streams. Urban and otherwise highly disturbed habitats, such as agricultural fields, also provide natural functions and values as wildlife habitat (ABAG, 2017).

Both refineries are located adjacent to Suisun Bay. Suisun Bay is a shallow estuarine bay bounded by Chipps Island on the east and the Benicia-Martinez Bridge on the west. Suisun Marsh, the largest brackish water marsh in the United States and the largest wetland in California, forms its northern boundary. Tidal marshes are also found adjacent to the Suisun Bay in both Martinez (e.g, Point Edith Wildlife Management Area) and Benicia.

Proposed Rule 13-5 will affect hydrogen plants in the Bay Area. These facilities are located within heavy industrialized where native vegetation and biological resources have been removed.

Significance Criteria

The proposed project impacts on biological resources will be considered significant if:

- The project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- The project has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.
- The project has a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- The project interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- The project conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Discussion of Impacts

4 a, b, c and d). No Impact Proposed Rule 13-5 is designed to reduce total hydrocarbon emissions from hydrogen plants. Modifications may be required to install air pollution control equipment, e.g., flare systems. Construction activities associated with the proposed project are expected to occur in heavy industrial areas adjacent to the existing hydrogen plants that serve the Valero Benicia and PBF Martinez refineries, where native biological resources have been removed and are non-existent. Thus, the proposed project is not expected to result in any impacts to biological resources and would not be expected to impact riparian, wetlands, or other sensitive communities.

4 e and f). No Impact Proposed Rule 13-5 is not expected to affect land use plans, local policies or ordinances, or regulations protecting biological resources such as a tree preservation policy or ordinances for the reasons described above. Land use and other planning considerations are determined by local governments and land use or planning requirements are not expected to be altered by the proposed project. Similarly, Proposed Rule 13-5 is not expected to affect any habitat conservation or natural community conservation plans, biological resources or operations, and would not create divisions in any existing communities, as construction activities would be limited to existing industrial facilities that have already been developed, graded, and native vegetation has been removed.

Conclusion

Based upon these considerations, no significant adverse impacts to biological resources are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse biological resources were identified, no further evaluation of biological resources will be required in the EIR.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☑	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☑	☐
c)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☑	☐

Environmental Setting

The Air District covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Cultural resources are defined as buildings, sites, structures, or objects which might have historical architectural, archaeological, cultural, or scientific importance. Cultural resources also include paleontological sites, which can consist of mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units.

The Carquinez Strait represents the entry point for the Sacramento and San Joaquin Rivers into the San Francisco Bay. This locality lies within the San Francisco Bay and the west end of the Central Valley archaeological regions, both of which contain a rich array of prehistoric and historical cultural resources. The areas surrounding the Carquinez Strait and Suisun Bay have been occupied for millennia given their abundant combination of littoral and oak woodland resources.

Historic resources are standing structures of historic or aesthetic significance. Architectural sites dating from the Spanish Period (1529-1822) through the late 1960s are generally considered for protection if they are determined to be historically or architecturally significant. These may include missions, historic ranch lands, and structures from the Gold Rush and the region's early industrial era. More recent architectural sites may also be considered for protection if they could gain historic significance in the future (ABAG, 2017).

Of the 8,199 sites recorded in the Bay Area, there are 1,006 cultural resources listed on the California Register of Historic Resources (CRHR), meaning that they are significant at the local, State or federal level; of those, 744 are also listed on the National Register of Historic Places (NRHP). From this list, 249 resources are listed as California Historic Landmarks. The greatest concentration of historic resources listed on both the NRHP and the CRHR in the Bay Area occurs in San Francisco, with 181 resources. Alameda County has the second highest number with 147 resources (ABAG, 2017).

Proposed Rule 13-5 will affect hydrogen plants in the Bay Area. These facilities are located within heavy industrial areas which have been graded and developed. Cultural resources are not usually located in industrial areas.

Significance Criteria

The proposed project impacts to cultural resources will be considered significant if:

- The project results in a substantial adverse change in the significance of historical resources as defined in CEQA Guidelines §15064.5. A substantial adverse change includes physical demolition, destruction, relocation, or alteration of a resource or its immediate surroundings such that the significance of the historical resources would be materially impaired.
- Cause a substantial adverse change in the significance of an archaeological resources pursuant to CEQA Guidelines §15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

Discussion of Impacts

5 a, b, and c). Less than Significant. CEQA Guidelines state that generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources including the following:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B. Is associated with the lives of persons important in our past;

C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

D. Has yielded or may be likely to yield information important in prehistory or history (CEQA Guidelines §15064.5).

Generally, resources (buildings, structures, equipment) that are less than 50 years old are excluded from listing in the National Register of Historic Places unless they can be shown to be

exceptionally important. Proposed Rule 13-5 is designed to minimize total hydrocarbon emissions from hydrogen plant operations. Modifications may be required to install air pollution control equipment, e.g., flare systems. The construction of air pollution control equipment would occur in existing heavy industrial areas. The refineries may have equipment or structures older than 50 years. However, this type of equipment usually does not meet the criteria identified in CEQA Guidelines §15064.5(a)(3) as historic resources.

Further, construction activities associated with Proposed Rule 13-5 would occur at existing hydrogen plants that are located in heavy industrial areas. These areas have already been graded and developed, and no substantial grading is expected to be required to install flare systems at the existing facilities. Thus, the proposed new rule would not adversely affect historical or archaeological resources as defined in CEQA Guidelines §15064.5, or disturb human remains interred outside formal cemeteries. Therefore, impacts to cultural resources are expected to be less than significant, as a result of the proposed project as no major construction activities are required.

Conclusion

Based upon these considerations, no significant adverse impacts to cultural resources are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse cultural resources were identified, no further evaluation of cultural resources will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient or unnecessary consumption of energy resources, during project construction or operations?	☐	☐	☑	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☑	☐

Environmental Setting

Pacific Gas and Electric Company (PG&E) supplies electricity to over five million customers in central and northern California. The counties within the Air District (Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma) used over 54,866 gigawatt/hours (millions of kilowatt/hours) in 2018.[3] Residential electricity use accounts for approximately 29 percent of the electrical use and non-residential use accounts for approximately 71 percent. PG&E's electricity is supplied by natural gas power plants, nuclear generation, large hydroelectric facilities, and renewable sources (e.g., wind, geothermal, biomass, and small hydroelectric power).

In 2018, in California, about 35 percent of electricity was generated by natural gas, 31 percent was generated by renewables, 11 percent was generated by hydroelectric facilities, 9 percent was generated by nuclear, and 3 percent was generated by coal.[4]

In 2019, the counties within the Air District used approximately 2,850 million therms of natural gas.[5] Solano County used 236 million therms of natural gas, with non-residential use accounting for 75 percent of the natural gas consumption and residential use accounting for 25 percent of the consumption. Contra Costa County used approximately 1,205 million therms of natural gas with non-residential use accounting for approximately 85 percent of natural gas consumption and residential use accounting for approximately 15 percent of natural gas consumption.

[3] California Energy Commission, Electricity Consumption by County. Available at https://ecdms.energy.ca.gov/elecbycounty.aspx
[4] California Energy Commission, Total System Electric Generation. Available at: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html
[5] California Energy Commission, Gas Consumption by County. Available at: http://www.ecdms.energy.ca.gov/gasbycounty.aspx

Significance Criteria

The impacts to energy will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion of Impacts

6. a and b) Less Than Significant. Proposed Rule 13-5 is expected to result in the construction of flares at hydrogen plants that serve two refineries. While flares combust waste gas, they also require the use of natural gas to operate the pilot lights which keeps the flares in stand-by state so they are available to operate, when needed. The amount of natural gas needed to operate the pilot light for the flare burners is not known as the new flare systems have not been designed. Based on a review of fuel use reported to the Air District by other similar facilities, the estimated increase in natural gas use for the pilot lights for two flares systems is expected to be 12 to 15 million standard cubic feet (scf) per year (0.12 to 0.15 million therms). The current use of natural gas in Contra Costa and Solano Counties is an estimated 1,441 million therms per year. Therefore, Proposed Rule 13-5 would result in an increase in natural gas use of 0.008 to 0.01 percent increase in natural gas, a small fraction of the natural gas currently used. Proposed Rule 13-5 is not expected to result in a significant increase in electricity.

The natural gas use for Proposed Rule 13-5 is not expected to use energy in a wasteful, inefficient or unnecessary manner as it would be used to control total organic compound emissions, including GHG emissions. Further, the additional use of natural gas is not expected to conflict with an energy conservation or renewable energy plan and the state will continue to move toward the increased use of renewable energy sources, reducing GHG emissions statewide. For example, California has adopted the "Renewable Portfolio Standard" for electric power which requires that at least 33 percent of the state's electric power come from renewable sources by 2020, and at least 50 percent must come from renewables by 2030. Proposed Rule 13-5 would not be expected to interfere or impact compliance with these state requirements.

Conclusion

Based upon these considerations, no significant adverse energy impacts are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse energy resources were identified, no further evaluation of energy impacts will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY / SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☑	☐
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv) Landslides?	☐	☐	☑	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the California Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☑	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	☐	☐	☑	☐

Environmental Setting

Most of the Bay Area is located within the natural region of California known as the Coast Ranges geomorphic province. The Coast Range, extends about 400 miles from Oregon south into Southern California, and is characterized by a series of northwest trending ridges and valleys that roughly parallel the San Andreas fault zone. Much of the Coast Range province is composed of marine sedimentary and volcanic rocks located east of the San Andreas Fault. The region west of the San Andreas Fault is underlain by a mass of basement rock that is composed of mainly marine sandstone and various metamorphic rocks (ABAG, 2017). Unconsolidated alluvial deposits, artificial fill, and estuarine deposits, (including Bay Mud) underlie the low-lying region along the margins of the Carquinez Straight and Suisun Bay.

The San Francisco Bay Area is a seismically active region, that lies along the San Andreas Fault, which forms the boundary between the Pacific and North American tectonic plates. Movement between the plates has created several other active faults parallel to the San Andreas, including the Hayward, Concord-Green-Valley, Greenville, Rodgers Creek and San Gregorio Faults. The existing refineries are located near the Concord-Green Valley Fault, the West Napa and Rodgers Creek Faults, the Hayward Fault, and the Calaveras Fault to the south (CSLC, 2015). The Concord-Green Valley fault is the closest fault to refineries in Benicia and Martinez and estimated to generate a magnitude 6.9 earthquake (ABAG, 2017). A major seismic event on any of these active faults could cause significant ground shaking and potential surface fault rupture. Earthquake ground shaking may have secondary effects on certain foundation materials, including liquefaction, seismically induced settlement, and lateral spreading.

Important vertebrate and invertebrate fossils and unique geologic units have been documented throughout California. The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks. Pleistocene or older (older than 11,000 years) continental sedimentary deposits are considered to have a high paleontological potential while Holocene-age deposits (less than 10,000 year old) are generally considered to have a low paleontological potential because they are geologically immature and are unlikely to contain fossilized remains of organisms. Metamorphic and igneous rocks have a low paleontological potential, either because they formed beneath the surface of the earth (such as granite), or because they have been altered under heat and high pressures (ABAG, 2017).

Significance Criteria

The proposed project impacts on the geological environment will be considered significant if:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.

- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion of Impacts

7 a, c, and d). Less Than Significant. Proposed Rule 13-5 is designed to minimize total organic emissions from hydrogen plants. Modifications may be required to install air pollution control equipment, e.g., flare systems. Construction activities associated with installation of air pollution control equipment would occur in existing heavy industrial areas that have already been graded and developed and are not expected to have any impacts on geology and soils.

New construction requires compliance with the California Building Code. The California Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage. The California Building Code basis seismic design on minimum lateral seismic forces ("ground shaking"). The California Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the California Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site. Compliance with the California Building Code would minimize the impacts associated with existing geological hazards.

7 b). Less Than Significant. Construction associated with Proposed Rule 13-5 would include new flare systems at existing hydrogen plants. All construction activities would take place at already existing heavy industrial facilities that have been previously graded. Thus, proposed Rule 13-5 is not expected to result in substantial soil erosion or the loss of topsoil as construction activities are expected to be limited to existing industrial areas that have been previously graded and developed.

7 e). No Impact. Septic tanks or other similar alternative wastewater disposal systems are typically associated with small residential projects in remote areas. Proposed Rule 13-5 would affect existing hydrogen plants that have existing wastewater treatment systems or connected to appropriate wastewater facilities. Flare systems do not generate wastewater and would not rely on septic tanks or similar alternative wastewater disposal systems. Based on these considerations, septic tanks or other alternative wastewater disposal systems would not be impacted by the Proposed Rule 13-5.

7 f). Less Than Significant. Construction activities associated with the Rule 13-5 would occur at existing hydrogen plants that are located in industrial areas. These areas have already been graded and developed, and no substantial grading is expected to be required to implement Rule 13-5. Thus, Proposed Rule 13-5 would not be expected to adversely affect paleontological resources.

Therefore, no significant impacts to paleontological resources are anticipated to occur as a result of the proposed project as no major construction activities are expected to be required.

Conclusion

Based upon these considerations, no significant adverse impacts to geology and soils are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse impacts to geology and soils were identified, no further evaluation of geology and soils will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☑	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐

Environmental Setting

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global climate change is caused primarily by an increase in levels of greenhouse gases (GHGs) in the atmosphere. The major greenhouse gases are the so-called "Kyoto Six" gases – carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs) – as well as black carbon.[6] These greenhouse gases absorb longwave radiant energy (heat) reflected by the earth, which warms the atmosphere in a phenomenon known as the "greenhouse effect." The potential effects of global climate change include rising surface temperatures, loss in snow pack, sea level rise, ocean acidification, more extreme heat days per year, and more drought years.

Increases in the combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.) since the beginning of the industrial revolution have resulted in a significant increase in atmospheric levels of GHGs. CO_2 levels have increased from long-term historical levels of around 280 ppm before the mid-18th century to over 400 ppm today. This increase in GHGs has already caused noticeable changes in the climate. The average global temperature has risen by approximately 1.4°F (0.8°C) over the past one hundred years, and 16 of the 17 hottest years in recorded history have occurred since 2001, according to the National Oceanic and Atmospheric Administration.

The Bay Area's contribution to the global total is approximately 85 million tons per year of GHG emissions (measured as carbon dioxide equivalent emissions or CO_2e). Transportation sources

[6] Technically, black carbon is not a gas but is made up of solid particulates or aerosols. It is included in the discussion of greenhouse gas emissions because, like true greenhouse gases, it is an important contributor to global climate change.

generate approximately 40 percent of the total, with the remaining 60 percent coming from stationary sources and area sources (BAAQMD, 2017b).

Significance Criteria

The Air District's May 2017 CEQA Air Quality Guidelines (BAAQMD, 2017a) indicate that a project-level significance threshold for emissions is appropriate. The project level GHG threshold for stationary source projects is 10,000 metric tons of carbon dioxide equivalent (CO_2e) emissions under the Air District draft CEQA Guidelines. This threshold is expected to capture approximately 95 percent of all GHG emissions from new permit applications from stationary sources within the jurisdiction of the Air District. The threshold level was calculated as an average of the combined CO_2 emissions from all stationary source permit applications submitted to the Air District during the three-year analysis period (BAAQMD, 2017a). The project-level GHG significance thresholds of 10,000 MT CO_2eq will be used to evaluate the cumulative GHG impacts associated with proposed Rule 13-5.

Discussion of Impacts

8 a). Potentially Significant. The analysis of GHG emissions is a different analysis than for criteria pollutants for the following reasons. For criteria pollutant, significance thresholds are based on daily emissions because attainment or non-attainment is typically based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects to human health, e.g., one-hour and eight-hour. Using the half-life of CO_2, 100 years for example, the effects of GHGs are longer-term, affecting the global climate over a relatively long timeframe. GHGs do not have human health effects like criteria pollutants. Rather, it is the increased accumulation of GHGs in the atmosphere that may result in global climate change. Due to the complexity of conditions and interactions affecting global climate change, it is not possible to predict the specific impact, if any, attributable to GHG emissions associated with a single project. Furthermore, the GHG emissions associated with the proposed rule would be small relative to total global or even state-wide GHG emissions. Thus, the significance of potential impacts from GHG emissions related to the proposed project has been analyzed for long-term operations on a cumulative basis, as discussed below.

The overall objective of Proposed Rule 13-5 is to reduce total organic compound emissions, including methane (GHG) emissions from hydrogen plants. The Proposed Rule 13-5 will reduce emissions by requiring hydrogen plants to control total organic compound (which includes methane) emissions to specific levels, which is expected to result in the construction and operation of flare systems at hydrogen plants that serve the Valero Benicia and PBF Martinez refineries. Overall, Proposed Rule 13-5 is expected to result in a significant decrease in GHG emissions due to the control of methane emissions from hydrogen plant vents, however, flares can also generate GHG emissions from the combustion of fuel (e.g., natural gas). The GHG emissions from these new sources, as well as the decrease in GHG emissions from the control of emissions from hydrogen plants vents, will need to be evaluated. Therefore, GHG emissions associated with Proposed Rule 13-5 will be evaluated in the EIR.

8 b) Less Than Significant. Proposed Rule 13-5 will not conflict with any plans, policies, or regulations addressing climate change. California has committed to reducing its GHG emissions to 1990 levels by 2020, to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 through a number of legislative and regulatory requirements, plans and policies. This commitment is enshrined in AB 32, the Global Warming Solutions Act of 2006, which adopted the 2020 target; in 2016's SB 32 (Pavley), which adopted the 2030 target; and in Executive Order S-3-05, which adopted the 2050 target.

To achieve these emission reduction goals, California has adopted regulatory measures aimed at reducing GHG emissions from mobile sources. These measures include standards for motor vehicle emissions, sometimes called the Pavley regulations, and the state's Low Carbon Fuel Standard, which set limits on the carbon intensity of transportation fuels. California has also adopted SB 375, the Sustainable Communities and Climate Protection Act of 2008, which requires regional transportation and land use planning agencies to develop coordinated plans, called "Sustainable Communities Strategies," to reduce GHG emissions from the transportation sector by promoting denser development and alternatives to driving. The current Sustainable Communities Strategy for the Bay Area is *Plan Bay Area 2040*, which was adopted by the Metropolitan Transportation Commission and the Association of Bay Area Governments in July of 2017 (ABAG, 2017).

The Air District's 2017 Clean Air Plan, *Spare the Air, Cool the Climate* outlines a strategy for achieving the Bay Area's clean air goals by reducing emissions of ozone precursors, particulate matter, TACs and other pollutants in the region. The Proposed Rule 13-5 would support the Air District's objectives of reducing GHG emissions and related climate change impacts.

Contra Costa County adopted a Climate Action Plan on December 15, 2015 (CCC, 2015) which presents a GHG target consistent with AB32 and the AB32 Scoping Plan of reducing community-wide emissions 15% below 2005 levels by 2020. Solano County has also adopted a Climate Action Plan which presents a GHG target of 20% below 2005 baseline emissions by 2020 (County of Solano, 2011).

As discussed above, applicable plans, policies and regulations are aimed at limiting global climate change and at reducing regional and state-wide emissions to 80 percent below 1990 levels by 2050 in order to achieve that goal. Proposed Rule 13-5 will not conflict with the Bay Area's progress towards achieving that emission reduction target. In fact, it would implement portions of the 2017 Clean Air Plan that are aimed at reducing GHG emissions. Therefore, Proposed Rule 13-5 would not conflict with any regulatory efforts to achieve the state and regional GHG emission reduction goals under CARB's Scoping Plan, the District's 2017 Clean Air Plan, *Plan Bay Area 2040*, or any other local climate action plan.

Conclusion

Based on the above considerations, operation of new flare systems will control methane emissions from hydrogen plants but may result in additional GHG emissions from combustion, therefore, GHG emissions will be evaluated in the EIR. No significant adverse impacts to the applicable

attainment plan, policies or regulations that apply to GHG emission reductions are expected so this issue will not be further evaluated in the EIR.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**HAZARDS & HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c)	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d)	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☑	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☑	☐
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☑

Environmental Setting

The PBF Martinez and Valero Benicia refineries and surrounding areas contains a mix of industrial, commercial, transportation, and residential uses. Many ongoing industrial operations use, store or transport hazards materials, or generate hazardous waste. Industrial sites that are contaminated or have contaminated groundwater remain in the area, posing a potential hazard to human health and the environment. Industrial uses in the area are numerous and include: terminals, including the Amorco Marine Terminal, Avon Marine Terminal, and TransMontaigne terminal; refineries, including the Marathon Martinez Refinery, PBF Martinez (formerly Shell) Martinez Refinery, Valero Benicia Refinery, and Phillips 66 San Francisco Refinery (in Crockett); the port of Benicia; C&H Sugar in Crockett; and other industrial uses in Benicia and Martinez.

Hazards at a facility can occur due to natural events, such as earthquake, and non-natural events, such as mechanical failure or human error. A hazard analysis generally considers compounds or physical forces that can migrate off-site and result in acute health effects to individuals outside of the proposed project site. The risk associated with a facility is defined by the probability of an event and the consequence (or hazards) should the event occur.

The major types of public safety risks at refineries and industrial facilities consist of risk from accidental releases of regulated substances and from major fires and explosions. Shipping, handling, storing, and disposing of hazardous materials inherently poses a certain risk of a release to the environment. The regulated substances currently handled by refineries include chlorine, sulfuric acid, hydrogen sulfide, and ammonia. The refineries also handle petroleum products including propane, butane, isobutane, gasoline, fuel oils, diesel, and other products, which pose a risk of fire and explosion.

A hazard analysis generally considers the compounds or physical forces that can migrate off-site and result in acute health effects to individuals outside of the refinery boundaries. It should be noted that hazards exist to workers on-site. However, the workers are trained in fire and emergency response procedures, wear protective clothing, have access to respiratory protection, and so forth. Therefore, workers could be exposed to hazards and still be protected because of training and personal protective equipment. The general public does not typically have access to these safety measures and, therefore, could be adversely affected if a hazard situation results in impacts to areas off-site.

The potential hazards associated with industrial activities are a function of the materials being processed, processing systems, and procedures used to operate and maintain the facility. The hazards that are likely to exist are identified by the physical and chemical properties of the materials being handled and their process conditions, and can include the following events:

> **Exposure to Toxic Gas Clouds:** Toxic gas clouds, (gases, e.g., hydrogen sulfide), could form a dense cloud and migrate off-site, thus, exposing individuals to toxic materials. "Worst-case" conditions tend to arise when very low wind speeds coincide with an accidental release, which can allow the chemicals to accumulate as a dense cloud rather than disperse.

Exposure to Flame Radiation: Flame (thermal) radiation is the heat generated by a fire and the potential impacts associated with exposure to it. Exposure to thermal radiation would result in burns, the severity of which would depend on the intensity of the fire, the duration of exposure, and the distance of an individual to the fire.

Thermal radiation can be caused by pool fire (fire of spilled material), torch fire (rupture of line followed by ignition), boiling liquid-expanding vapor explosion (BLEVE) of a pressurized storage vessel and/or flash fires (ignition of slow-moving flammable vapors).

Exposure to Explosion Overpressure: Process vessels containing flammable explosive vapors and potential ignition sources are present at the refineries. Explosions may occur if the flammable/explosive vapors come into contact with an ignition source. The greatest threat to off-site receptors could occur from a vapor cloud explosion (release, dispersion, and explosion of a flammable vapor cloud), or a confined explosion (ignition and explosion of flammable vapors within a building or confined area). An explosion could cause impacts to individuals and structures in the area due to overpressure.

Exposure to Contaminated Water: An upset condition and spill has the potential to adversely affect ground water and water quality. A spill of hazardous materials could occur under upset conditions, e.g., earthquake, tank rupture, and tank overflow. In the event of a spill, materials could migrate off-site if secondary containment and appropriate spill control measures are not in place.

Significance Criteria

The proposed project impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance with National Fire Protection Association standards.
- Non-conformance with regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Discussion of Impacts

9 a – b) Less Than Significant. Proposed Rule 13-5 is designed to minimize total organic compound and methane emissions from hydrogen plant operations. Modifications may be required to install air pollution control equipment, which is expected to include flare systems at two refineries. Construction activities associated with the flare systems would occur in industrial areas and would not introduce any new hazards or require the use of hazardous materials during either construction or operational activities.

The refineries and hydrogen plants currently combust natural gas and refinery fuel gas as fuel sources in heaters, boilers, hydrogen plants, flares, etc., in the course of doing business. While flares combust waste gas, they also require the use of natural gas or refinery fuel gas to operate the pilot lights which keeps the flares in a stand-by state so they are available to operate, when needed. Natural gas is flammable under certain conditions. Since the refineries and hydrogen plant already use natural gas, the installation of a new flare system will not introduce any new hazards to the facilities. Further, the use of a flare system would minimize total organic emissions from being discharged directly to the atmosphere, thus minimizing the release of potentially flammable materials.

Health and Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

- Types of hazardous materials used and their locations;
- Training programs for employees including safe handling of hazardous materials and emergency response procedures and resources.
- Procedures for emergency response notification;
- Proper use of emergency equipment;
- Procedures to mitigate a release or threatened release of hazardous materials and measures to minimize potential harm or damage to individuals, property, or the environment; and
- Evacuation plans and procedures.

Hazardous materials at existing facilities would continue to be used in compliance with established OSHA or Cal/OSHA regulations and procedures, including providing adequate ventilation, using recommended personal protective equipment and clothing, posting appropriate signs and warnings, and providing adequate worker health and safety training. The exposure of employees is regulated by Cal-OSHA in Title 8 of the CCR. Specifically, 8 CCR 5155 establishes permissible exposure levels (PELs) and short-term exposure levels (STELs) for various chemicals. These requirements apply to all employees. The PELs and STELs establish levels below which no adverse health effects are expected. These requirements protect the health and safety of the workers, as well as the nearby population including sensitive receptors.

In general, all local jurisdictions and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the

possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area.

The above regulations provide comprehensive measures to reduce hazards of explosive or otherwise hazardous materials. Compliance with these and other federal, state and local regulations and proper operation and maintenance of equipment should ensure the potential for accidental releases of hazardous materials is not significant. Therefore, the Proposed Rule 13-5 is not expected to create a significant hazard to the public or environment.

9. c) No Impact. The Valero Benicia Refinery and the PBF Martinez Refinery are not located within a quarter mile of an existing school site. Proposed Rule 13-5 would not result in any physical changes or modifications that would generate hazardous emissions or result in the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, no increase in hazardous emissions that impact a school site is expected due to the proposed project.

9. d) Less Than Significant. Government Code §65962.5 requires creation of lists of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits or site cleanup activities.

The Water Quality Control Board's GeoTracker reports that the Valero Benicia Refinery is subject to a Cleanup and Abatement Order to address groundwater impacts, which include aviation fuels, benzene, MTBE, diesel, gasoline, kerosene, mercury, toluene, waste oil, xylene, and other metals and hydrocarbons. The facility is currently in the process of remediation that includes pumping and treating contaminated groundwater, soil vapor extraction, and enhanced bioremediation (SWRCB, 2020a).

The Water Quality Control Board's GeoTracker reports that releases to groundwater have occurred associated with the PBF (formerly Shell Oil Co.) Martinez Refinery. Releases include crude oil, diesel, gasoline, other petroleum products, waste oil, polycyclic aromatic hydrocarbons, metals, and volatile organic compounds. The facility is required to complete site investigations and cleanup of discharges that impact the waters of the State (SWRCB, 2020b).

Proposed Rule 13-5 would have no impact on these cleanup actions or otherwise adversely affect the existing Cleanup and Abatement Orders. The Orders will remain in effect and continue to establish requirements for site monitoring and cleanup of existing contamination. As a result, the Proposed Rule 13-5 may require new flare systems at these refineries, but it would not have any impact on these cleanup actions or create any additional hazards to the public or the environment associated with cleanup activities.

9. e) Less Than Significant. The Valero Benicia Refinery and the PBF Martinez Refinery are not located within 2 miles of an airport. The PBF Martinez Refinery is located approximately 38 miles northwest from Buchanan Field airport, an airport in the City of Concord. Airport Influence

Areas are used in land use planning to identify areas commonly overflown by aircraft as they approach and depart an airport, or as they fly within established airport traffic patterns. The Buchanan Field Airport Influence Area is defined as the area within 14,000 feet of the ends of the primary surfaces for runways. The Contra Costa County *Airport Land Use Compatibility Plan* Countywide Policy 4.3.5 requires FAA review and approval of any structure over 200 feet in height. Proposed Rule 13-5 may require construction of new flare systems; however, the flares are not expected to be higher than existing structures at the refineries and are not expected to exceed 200 feet in height. Therefore, the project is not expected to result in any additional safety risk associated with operations at the Buchanan Field Airport.

9 f). Less Than Significant. Proposed Rule 13-5 would not require modifications that would impair implementation or physically interfere with any emergency response plan or emergency evacuation plan. Under Rule 13-5, modifications may be required to install air pollution control equipment at hydrogen plants that provide hydrogen to two existing refineries. All construction activities would occur within the confines of the existing industrial areas so no emergency response plans at other facilities would be impacted. The existing refineries have prepared, adopted, and implemented emergency response plans. The emergency response plans may need to be updated following completion of construction activities. However, new control equipment required by Rule 13-5 would not be expected to alter the route that employees would take to evacuate the site, as the evacuation routes generally direct employees outside of the main operating portions of the facility. Therefore, implementation of Proposed Rule 13-5 would not be expected to impair implementation of interfere with an adopted emergency response plan or emergency evacuation plan.

9. g) No Impact. The California Department of Forestry and Fire Protection (CalFIRE) maps areas of significant fire hazard based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones, determine the requirements for special building codes designed to reduce the potential impacts of wildland fires on urban structures. The Valero Benicia Refinery and PBF Martinez Refinery are located within a non-Very High Fire Hazard Severity Zone, as the area is urbanized, is located adjacent to the Bay and marshlands, and not located adjacent to wildland areas. The land in the northwestern, southern, and eastern areas of Contra Costa County, including the western portions of the City of Martinez are classified as very high fire hazard zones by CalFIRE. The hills approximately one mile north of the Valero Benicia Refinery are considered moderate and high Fire Hazard Severity Zones. Nonetheless, the refineries are located well outside Very High Fire Hazard Zone, which indicates that it is not subject to significant wildfire hazard. Implementation of Proposed Rule 13-5 would require additional equipment at these refineries/hydrogen plants, but they would be located within heavy industrial areas and would not be expected to have an impact related to wildland fires.

Conclusion

Based upon these considerations, no significant adverse impacts to hazards and hazardous materials are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse impacts to hazards and hazardous materials were identified, no further evaluation of hazards and hazardous materials are required in the EIR.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**HYDROLOGY / WATER QUALITY.** Would the project:				
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☑	☐
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☑	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
	i) result in substantial erosion or siltation onsite or offsite;	☐	☐	☑	☐
	ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☑	☐
	iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;	☐	☐	☑	☐
	iv) impede or redirect flood flows?	☐	☐	☑	☐
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☑
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☑	☐

Environmental Setting

Both the Valero Benicia and PBF Martinez refineries are located adjacent to the Suisun Bay. The Suisun Bay is located in the eastern portion of the San Francisco Bay Estuary and is a major

drainage basin for the Sacramento and San Joaquin River delta system. Creeks drain from land areas surrounding the refineries into the Suisun Bay.

The San Francisco Bay estuary system is one of the largest in the country and drains approximately 40 percent of California. Water from the Sacramento and San Joaquin Rivers of the Central Valley flow into what is known as the Delta region, then into the sub-bays, Suisun Bay and San Pablo Bay, and finally into the Central Bay and out the Golden Gate strait. Some of the fresh water flows through the Delta and into Bay, but much is diverted from the Bay for agricultural, residential, and industrial purposes, as well as delivery to distant cities of southern California as part of state and federal water projects (ABAG, 2017).

Of the water segments that make up the San Francisco Bay Estuary, Suisun Bay is the first water body that receives flows from the Sacramento and San Joaquin watershed. Much of the land surrounding the Sacramento and San Joaquin watershed is devoted to agricultural and forestry land uses, with some major urban centers that contribute discharges into the rivers. Pollutants produced by these activities reach Suisun Bay through discharge from wastewater treatment plants, storm water runoff, and agricultural drain water, and disposal of dredged material. According to the Regional Water Quality Control Board, the Suisun Bay is on the Clean Water Act Section 303(d) list as an impaired water body because of low dissolved oxygen and methyl mercury contamination (SWRCB, 2020).[7] Water quality problems in Suisun Bay have been attributed to legacy contamination from point and non-point source pollution, and include declines in fish population, elevated contaminated fish tissue levels, and elevated contaminated shellfish tissue levels.

Together, surface water and ground water supply approximately 31 percent of Bay Area water. Surface water from local rivers and streams (including the Delta) is an important source for all Bay Area Water agencies, but particularly in the North Bay counties, where access to imported water is more limited because of infrastructure limitations. The greatest proportion of Bay Area water is imported from Sierra Nevada and Delta sources, comprising approximately 66 percent of supply. The primary Sierra Nevada sources are the Mokelumne River and Tuolumne River watersheds. Several Bay Area water agencies receive Delta water through the State and Central Valley Water Projects, which comprise a vast network of canals and aqueducts for the delivery of water throughout the Bay Area and the Central Valley (ABAG, 2017).

Wastewater treatment in the Bay Area is provided by various agencies as well as individual city and towns wastewater treatment systems. Some treatment plants serve individual cities while others serve multiple jurisdictions. More than 50 agencies provide wastewater treatment throughout the Bay Area. Both the Valero Benicia and PBF Martinez refineries have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of National Pollutant Discharge Elimination System (NPDES) permits.

[7] California Regional Water quality Control Board, Suisun March TMDLs. Available at: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/suisunmarshtmdl.html

Significance Criteria

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 263,000 gallons per day of potable water.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion of Impacts

10 a). Less Than Significant. Process wastewater, sanitary sewage, and most of the storm water runoff from the refineries are collected and managed in the existing wastewater treatment systems that are regulated by an NPDES permit. Proposed Rule 13-5 is designed to minimize total organic and methane emissions from hydrogen plant operations and is expected to require the installation of new flare systems at existing hydrogen plants, which are located within developed, existing industrial areas. Construction activities associated with the proposed rule could require the use of water to minimize dust associated with dirt moving activities. Water would be misted to keep soil moist, thus minimizing fugitive dust. Water would not be sprayed in sufficient quantities to generate water runoff that could potentially result in waste discharge or water quality impacts.

Proposed Rule 13-5 are expected to result in the installation of flare systems, which generally do not require water to use. Some flares can use high velocity steam injection nozzles to increase gas turbulence in the flame boundary zones, drawing in more combustion air and improving mixing. These systems help to minimize smoke from flares. While steam may be used in the flare systems, they are not expected to generate a significant amount of wastewater. A small amount of water may be collected in a knockout vessel. Any collected water would be expected to be treated in existing wastewater treatment facilities, prior to discharge. Therefore, Proposed Rule 13-5 is not expected to result in any significant increase in water runoff, wastewater discharge, would not be expected to result in water quality impacts, and would not result in the degradation of surface water. Proposed Rule 13-5 is not expected to result in any violation of NPDES permits.

10 b and e) Less Than Significant. Proposed Rule 13-5 is designed to minimize total organic compound emissions from the operation of hydrogen plants. No grading or extensive site preparation is expected to be required to construct foundations. Site preparation is expected to be limited to the construction of foundations for flares, thus requiring little or no water for fugitive dust control. Therefore, little or no water for dust suppression purposes is expected to be needed for construction activities under the proposed new rule and rule amendments.

Modifications may be required to install flare systems, which are not major users of water. Water demand impacts are limited to the use of water needed to make steam, if steam is used for smoke suppression. Refineries and hydrogen plant are fairly large users of water. The potential increase in steam is expected to be within the range of water use for the existing facilities and not result in a substantial increase in water use. Therefore, Proposed Rule 13-5 will not significantly impact water demand or interfere with groundwater recharge or cause any notable change in the groundwater table level.

10 c) Less Than Significant. The proposed modifications required to comply with Proposed Rule 13-5 would be located within the operating portions of existing refineries and/or hydrogen plants. The project modifications are not expected to result in the construction of additional impervious surfaces. The area where the flare systems would be located are developed and urbanized. There are no streams, rivers or other natural drainage within the confines of the existing refineries or hydrogen plants that would be expected to be impacted by a new flare system. Most rainwater and surface runoff within the existing industrial areas are controlled, collected, and treated within the existing wastewater treatment plants. Additionally, the project modifications are not expected to result in an increase in surface water or impact storm water drainage facilities, as little new paved area will be required. Therefore, no significant adverse impacts to storm water runoff or existing drainage patterns are expected as a result of Proposed Rule 13-5.

10 d) Less Than Significant. As mapped on the National Flood Insurance Program Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency, the operating portions of the PBF Martinez Refinery and Valero Benicia Refinery are designated Zone X, which means that it is an area determined to be an area of minimal flood hazard (outside the 0.2 percent annual chance floodplain) (FEMA, 2020). The Valero Benicia Tank Farm is located adjacent to Sulphur Springs Creek which is designated a regulatory floodway, with the potential flood hazard adjacent to the east side of the creek and not within the Valero Benicia Refinery. Proposed Rule 13-5 would be expected to require a flare adjacent to the hydrogen plants, which are not located in flood hazard zones. Therefore, Proposed Rule 13-5 would not create or substantially increase risks from flooding or expose people or structures to significant risk of loss, injury or death involving flooding.

A seiche is a tidal change in an enclosed or semi-enclosed water body caused by sustained high winds or an earthquake. Tsunamis are seismically induced sea waves that, upon entering shallow near-shore waters, may reach heights capable of causing widespread damage to coastal areas. The waterfront area adjacent to the Suisan Bay is at risk of inundation from tsunamis that could be generated in the Pacific Ocean, San Francisco Bay, or Carquinez Strait. The area that is at risk of inundation from tsunamis along the waterfront is mostly marshland. The operating portions of both the PBF Martinez and Valero Benicia refineries are located outside of these inundation areas

because of their elevations. Based on the above, the proposed project is not expected to result in increased risk of inundation by seiche, tsunami, or mudflow.

Conclusion

Based upon these considerations, no significant adverse impacts to hydrology and water quality are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse impacts to hydrology and water quality were identified, no further evaluation of hydrology and water quality are required in the EIR.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**LAND USE / PLANNING.** Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☑
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑

Environmental Setting

The PBF Martinez Refinery is located in north-central Contra Costa County, approximately 25 miles east of San Francisco, adjacent to the community of Martinez. The primary processing area of the Refinery is between Pacheco Boulevard and Marina Vista, and the wastewater treatment plant and wharf operations are between Marina Vista and the Carquinez Strait. Approximately 20 percent of the Refinery is located within the corporate limits of the City of Martinez. The remainder of the Refinery is in an unincorporated area of the County.

The PBF Martinez Refinery is located in a heavy industrial area, which allows for the manufacturing and processing of petroleum chemicals, fertilizers, gas, as well as numerous other industrial and manufacturing uses. The Refinery is bordered to the north by heavy industrial land use and the Carquinez Strait water way. To the east of the PBF Martinez Refinery is Highway 680, public lands, and wetland areas that are designated as open space. Along the southern border of the Refinery is land designated as commercial, multiple family residential (light), and single family residential (heavy). The area west of the Refinery is similar in mix to the land use along the southern area, however, the central Martinez downtown area is located directly west of the Refinery.

The Valero Benicia Refinery is located at 3400 East Second Street, within an industrial area (Benicia Industrial Park) in the eastern portion of the City of Benicia, west of Interstate 680. The Refinery is located along the northern edge of the Suisun Bay below a low range of coastal hills. The Refinery occupies approximately 330 acres of the 880-acre Valero Benicia property; the remaining portion of which is undeveloped. The Refinery is designated as General Industrial by the City of Benicia General Plan and Zoning Ordinance.

The Valero Benicia Refinery is immediately bordered by approximately 550 acres of mostly undeveloped Valero property to the south and west, and general industrial uses to the north and east. Industrial uses in the Benicia Industrial Park are located east of the Refinery. This area consists largely of single-level warehouse and manufacturing buildings interspersed with parking areas and materials storage yards. Residential uses are located approximately 3,000 feet to the

south and west of the Refinery, and approximately 2,100 feet to the northwest. This neighborhood is separated from the Valero Benicia Refinery site by undeveloped hills, including areas owned by Valero.

In 1965, the McAteer-Petris Act (California Government Code, Section 66600 et seq.) established the San Francisco Bay Conservation and Development Commission to regulate development on and adjacent to the San Francisco Bay. The mandate of this Commission is to protect the Bay and the quality of its waters; to maximize public access to the Bay; to allow planned, controlled development along the Bay, particularly water-oriented land uses; to restrict uncoordinated and haphazard filling of the Bay; and to maintain salt ponds and managed wetlands along the Bay. The Commission developed the San Francisco Bay Plan (BCDC, 2020). as a comprehensive and enforceable plan for fulfilling its legislated mandate.

The Bay Plan identifies five high priority uses of the Bay and shoreline for which shoreline areas should be reserved. These "priority uses" are ports, water-related industry, airports, wildlife refuges, and water-related recreation. The San Francisco Bay Plan (BCDC, 2020) designates the refineries as a water-related industry, which is defined as an industry that requires "a waterfront location on navigable, deep water to receive raw materials and distribute finished products by ship, thereby gaining a significant transportation cost advantage."

Significance Criteria

The proposed project impacts will be considered significant on land use and planning if the project conflicts with the land use and zoning designations established by local jurisdictions, or any applicable habitat conservation or natural community conservation plan.

Discussion of Impacts

11 a and b) No Impact. The Proposed Rule 13-5 is designed to minimize total organic compound emissions from the operation of hydrogen plants. Modifications may be required to install flare systems at the hydrogen plants of two existing refineries. Construction of these flare systems as a result of Proposed Rule 13-5 would be located in existing industrial areas and, thus, are not expected to affect land use and planning. All construction would take place at already existing facilities that have been previously graded. Thus, the proposed project would not result in impacts that would physically divide an established community.

Land uses surrounding the refineries are primarily industrial. The General Plans and land use plans for areas with industrial land uses, such as Contra Costa County, allow for and encourage the continued use of industrial land uses within their respective communities. Proposed Rule 13-5 would not conflict with any applicable land use plan, policy or regulation of an agency, because new equipment would be located within the confines of existing industrial facilities. The jurisdictions with land use approval recognize and support the continued use of industrial facilities and Proposed Rule 13-5 would not interfere with those land use policies or objectives.

Conclusion

Based upon these considerations, no significant adverse impacts to land use and planning are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse impacts to land use and planning were identified, no further evaluation of land use and zoning are required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

Environmental Setting

According to the California Department of Conservation Division of Mines and Geology's Aggregate Resources Map, two Aggregate Resource areas are located in the Bay Area. North San Francisco has 492 million tons of permitted aggregate reserves sector and South San Francisco has 1,320 million tons of permitted reserves. Other smaller aggregate production areas in the Bay Area include Fremont, Pleasanton, Santa Clara, Santa Cruz, among others (California Geological Survey, 2018).

According to the California Department of Conservation Division of Mines and Geology's Aggregate Resources Map, Contra Costa and Solano Counties are not currently considered an Aggregate Resource sector. Areas with this designation are judged to be of prime importance in meeting future mineral needs in the region, and land use decisions must consider the importance of these resources to the region as a whole. No such areas are located in Solano or Contra Costa County.

The Contra Costa General Plan identified three regionally significant areas of mineral resources in the County: (1) a deposit of diabase (igneous rock used for roadbase and rip-rap) located in the Mt. Zion area near Concord and Clayton; (2) a geological deposit of sandstone (used to trench backfill and for the manufacture of heat resistant glass), located just south of Camino Diablo and east of Vasco Road; and (3) mining and brick production near Port Costa. These resource areas are designated for protection in the General Plan (Contra Costa, 2005).

Significance Criteria

The proposed project impacts on mineral resources will be considered significant if:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion of Impacts

12 a-b) No Impact. Proposed Rule 13-5 is not associated with any action that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The proposed modifications to the refineries/hydrogen plants would continue to be located within the existing industrial areas. These sites do not contain any known mineral resources including sand, gravel, timber resources, or oil or natural gas reserves. No known locally important mineral resources occur at the site. As a result, no significant adverse impacts on available mineral resources are anticipated.

Conclusion

Based upon these considerations, no significant adverse impacts to mineral resources are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse impacts to mineral resources were identified, no further evaluation of mineral resources are required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE. Would the project:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☑	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Environmental Setting

The ambient noise environment in the urban areas of the Bay Area is defined by a wide variety of noise sources, with the predominant noise source being traffic. Traffic noise exposure is primarily a function of the volume of vehicles per day, the speed of those vehicles, the type of ground surface, the number of those vehicles represented by medium and heavy trucks, the distribution of those vehicles during daytime and nighttime hours, and the proximity of noise-sensitive receptors to the roadway. Existing average traffic noise exposure ranges from 52.1 decibels (dBA) (next to collector and small roads) to a as high as 75.9 dBA (next to freeways). Bus transit also contributes to roadway noise levels. In San Francisco, a large portion of the transit bus fleet is electrified and, consequently, the contribution of bus transit to localized roadway noise levels is decreased (ABAG, 2013).

The Valero Benicia Refinery complex is bordered by approximately 470 acres of mostly undeveloped Valero property to the south and west, and general industrial uses to the north and east. Residential uses are located to the south (Hillcrest neighborhood) and west (Southampton neighborhood) of the Valero buffer land boundaries. The closest sensitive receptors to the Valero Benicia Refinery are residences off Lansing Circle, approximately 0.5 mile northwest of the Refinery The buffer lands separating the neighborhoods from the Refinery are designated for non-noise sensitive uses by the Benicia General Plan - designated as General Industrial, Limited

Industrial, and General Open Space (City of Benicia, 1999). Areas to the northeast and southeast of the Refinery are also non-noise sensitive land uses, consisting of Interstate 680 and the Benicia Industrial Park.

The dominant existing sources of both noise and vibration within the vicinity of the PBF Martinez Refinery include the refinery operations and traffic on the major roadways and nearby rail lines. Major roadways in the vicinity of the PBF Martinez Refinery include Pacheco Boulevard, Shell Avenue, Marina Vista Way, and Interstate 680 (I-680). Also, a rail line used by the Union Pacific Railroad Company (UPRR) and Amtrak to ferry passengers and freight, passes within approximately 50 feet north of the PBF Martinez Refinery. The closest airport to the PBF Martinez Refinery is Buchanan Field in Concord, approximately three miles to the southeast.

Significance Criteria

The proposed project impacts on noise will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise ordinance is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the closest off-site receptor.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion of Impacts

13 a) Less Than Significant. Under Proposed Rule 13-5, new flare systems would be constructed within the confines of two existing refineries or adjacent to existing hydrogen plants.

Construction Noise Impacts

Construction activities associated with the proposed rule may generate some noise associated with temporary construction equipment and construction-related traffic. Construction would likely require truck trips to deliver equipment, a construction crew of up to about 20 workers, and a few pieces of construction equipment (e.g., air compressors, cranes, forklift, generators, aerial lifts, rollers, welders, and hand tools). Table 2-3 presents typical noise levels associated with construction equipment.

TABLE 2-3

Construction Equipment Noise Levels

Equipment	Typical Noise Level 50 ft from Source (dBA)
Backhoe	80
Crane	83
Welder	80
Air Compressor	80
Compactor	82
Forklift	78
Concrete Pump	82
Concrete Saw	76
Generator	82
Man Lift	80
Truck	84

Source: U.S. FTA, 2018.

Construction activities would occur at existing refineries in heavy industrial areas. Noise from construction activities would diminish rapidly with distance from a construction site, generally at a rate of six decibels per doubling of distance. For example, a noise level of 86 decibels measured at 50 feet from the noise source would decrease to 80 decibels at 100 feet, 74 decibels at 200 feet, 68 decibels at 400 feet, 62 decibels at 800 feet, and 56 decibels at 1,600 feet. The closest residents to the Valero Benicia Refinery are approximately 0.5 mile (2,640 feet). Residents are located closer to portions of the PBF Martinez Refinery, although most of them are located over 1,000 feet from the operating refinery units. Therefore, construction noise levels would be 56-62 decibels at the closest residential areas.

Most local cities and counties limit construction activities to daytime hours (e.g., between 7:00 am and 7:00 pm Monday through Friday). Compliance with local noise requirements would limit noise activities to daytime hours during weekdays and avoid construction during the more sensitive nighttime hours. Further, construction activities are expected to be limited to industrial areas and would be temporary. Therefore, noise impacts associated with construction activities are expected to be less than significant.

Operational Noise Impacts

The existing noise environment at each of the affected refineries is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, trucks entering and exiting the refinery premises and adjacent businesses, noise from other businesses in the area, and rail traffic. Flares are generally not major sources of continuous noise at industrial facilities. A flare requires a pilot light (similar to a pilot on a gas stove) for continuous operation so that the flare is in standby condition and can operate immediately, when needed. The flare in stand-by operation is not a major noise sources and does not generate noise. A flare can be a source of noise when there is a flaring event. However, flaring events are expected to be sporadic, not predictable

because flaring would only occur when the produced hydrogen is found to be off specification or during upset or emergency conditions and, therefore, the related noise impacts are considered speculative. In addition, as discussed above, a noise level of 85 decibels measured at 50 feet from the noise source would decrease to 79 decibels at 100 feet, 73 decibels at 200 feet, 67 decibels at 400 feet, and 61 decibels at 800 feet, which is generally less than noise in most industrial/commercial areas. All noise producing equipment must comply with local noise ordnances and applicable OSHA and Cal/OSHA noise requirements. Compliance with these noise requirements would apply to the affected facilities and would be expected to limit noise activities to acceptable levels.

13 b). Less Than Significant. The proposed project is not expected to generate or expose people to excessive ground borne vibration or ground borne noise. No substantial grading is required because the affected facilities have already been graded and are level. Construction activities would include the use of construction equipment to develop footings/foundation for the flare but no large equipment that would generate substantial vibration is expected to be required, because the sites are already graded and developed. Further, construction activities are temporary and occur during the daylight hours, in compliance with local noise standards and ordinances. Therefore, Proposed Rule 13-5 is not expected to generate excessive ground borne vibration or noise.

13 c). No Impacts. The closest airport to either the PBF Martinez Refinery or the Valero Benicia Refinery is the Buchanan Field Airport, an airport in the City of Concord. The Airport is located approximately 3 miles from the PBF Martinez Refinery and over 6 miles from the Valero Benicia Refinery. As discussed above, flares would be placed in existing industrial areas. Proposed Rule 13-5 would not result in an increase in noise or place residential or occupational receptors closer to the Buchanan Field Airport. Therefore, Proposed Rule 13-5 would not expose people residing or working in the project area to excessive noise levels associated with airports.

Conclusion

Based upon these considerations, no significant adverse noise impacts are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse noise impacts were identified, no further evaluation of noise impacts are required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION / HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace a substantial number of existing people or housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Environmental Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Proposed Rule 13-5 would apply to facilities which are typically located within industrial or commercial areas.

Population in the Bay Area in 2015 was about 7.6 million people which is about 20 percent of California's population. The population of the Bay Area is expected to grow to about 9.6 million people by 2040. Approximately 4 million people in the Bay Area were employed in 2015, and that number is expected to grow to 4.7 million jobs by 2040. There were approximately 2.8 million households in the Bay Area in 2015, and the number of households is expected to increase to 3.4 million by 2040 (ABAG, 2017).

Significance Criteria

The proposed project impacts on population and housing will be considered significant if:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.
- The project displaces substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in a City or County Housing Element.

Discussion of Impacts

14 a). No Impact. Proposed Rule 13-5 is not anticipated to generate any significant effects, either directly or indirectly, on the Bay Area's population or population distribution.

It is expected that the existing labor pool would accommodate the labor requirements for the construction of two new flare systems, as the existing labor pool of 7.6 million people in the Bay Area can accommodate the estimated 20 construction workers per facility. In addition, it is not expected that the affected facilities would need to hire additional permanent personnel to operate the new equipment. As such, implementing Proposed Rule 13-5 is not expected to induce substantial population growth.

14 b). No Impact. Because the project modifications will occur within existing industrial facilities located in a highly urbanized area, no housing units will be displaced. Because the labor force is not expected to increase over historical levels, no additional housing will be necessary to accommodate the labor force. Substantial housing growth in the area will not occur as a result of the project modifications. Therefore, no significant adverse population or housing impacts are expected due to implementation of Proposed Rule 13-5.

Conclusion

Based upon these considerations, no significant adverse population and housing impacts are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse population and housing impacts were identified, no further evaluation of population and housing impacts are required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES.				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:	☐	☐	☐	☑
Fire protection?				
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑

Environmental Setting

Fire Protection

The Contra Costa County Fire Protection District (CONFIRE), provides fire and emergency medical services to nine cities (including Martinez), and the unincorporated areas, serving a population of 600,000 across a 254 square mile area with 25 fire stations. The CONFIRE is a well-equipped full-service fire agency, which provides service to business, residents, and industry, including several petroleum refineries and chemical manufacturing plants. CONFIRE serves many area communities including: Walnut Creek, Pleasant Hill, Concord, Pacheco, Martinez, Clayton, Lafayette, Clyde, Briones, El Sobrante, San Pablo, Antioch, Pittsburg, and Bay Point.

Two fire stations are located within approximately three miles of the PBF Martinez Refinery: (1) Fire Station 12, located at 1240 Shell Avenue, Martinez, approximately 0.25 mile southwest of the Refinery; and (2) Fire Station 11, located at 209 Center Street, Martinez, approximately 2.8 miles southeast of the Refinery.

The Benicia Fire Department provides fire protection and emergency services in the City of Benicia. Two fire stations are located within approximately two miles of the Valero Benicia Refinery: (1) Fire Station located at 150 Military West Benicia, is approximately 1.3 miles

southwest of the Valero Benicia Refinery; and (2) Benicia Fire Department Station 12 located at 601 Hastings Dr., Benicia, approximately 1.7 miles west of the Refinery.

Police Protection

Public protection services are provided in Contra Costa County by various city police departments and the County Sheriff. The PBF Martinez Refinery is served by the Contra Costa County Sheriff's Office and the California Highway Patrol. The County Sheriff's Office employs over 1,100 sworn personnel and professional employees and responds to over 600,000 calls per year. The Sheriffs' Patrol Division provides uniformed law enforcement services to the residents who either live in Contra Costa's 715 square miles of unincorporated land, a contract city or a special district.

The California Highway Patrol also provides public protection to the Martinez area, and the station closest to the PBF Martinez Refinery is the Contra Costa County Station, located on 5001 Blum Road in Martinez approximately 2 miles southeast of the Refinery. In addition to the police protection services provided by the County's Sheriff's Office, the Refinery maintains a 24-hour security force to provide on-site security. Refinery site access is controlled by an extensive security program including a perimeter fence serving as a physical barrier to prevent unknowing and unauthorized entry. All entry gates are staffed with 24-hr security personnel for surveillance.

The Benicia Police Department provides public protection services in Benicia. The Benicia Police Department is staffed with 32 sworn officers, 20 non-sworn employees, and 35 citizen volunteers. The closest station to the Valero Benicia Refinery is located 200 E. L St., Benicia, approximately 1.3 miles south west of the Refinery. In addition to the police protection services provided by the County's Sheriff's Office, the Refinery maintains a 24-hour security force to provide on-site security. Refinery site access is controlled by an extensive security program including a perimeter fence serving as a physical barrier to prevent unknowing and unauthorized entry. All entry gates are staffed with 24-hr security personnel for surveillance.

Schools

The Martinez Unified School District (MUSD) provides public school services to the Martinez area. There are four elementary schools in the MUSD including: (1) Las Juntas Elementary School, located at 4105 Pacheco Boulevard, Martinez; (2) John Muir Elementary School, located at 205 Vista Way, Martinez; (3) John Swett Elementary School, located at 4855 Alhambra Valley Road, Martinez; and (4) Morello Park Elementary School, located at 1200 Morello Park Drive. Two secondary schools are located in the MUSD including: (1) Martinez Junior High, located at 1600 Court Street, Martinez; and (2) Alhambra High School, located at 150 E Street. Two alternative and independent study schools are also located in the MUSD including Vicente Martinez High School, located at 614 F Street, Martinez; and (2) Briones School 925 Susana Street, Martinez.[8] The MUSD serves over 4,000 students in grades K-12.[9]
The Benicia Unified School District (BUSD) provides public school services in the Benicia area. There are four elementary schools, including: (1) Joe Henderson Elementary School, located at

[8] Martinez Unified School District. Available at: https://www.martinezusd.net/schools
[9] California Department of Education, Ed Data. Available at: http://www.ed-data.org/district/Contra-Costa/Martinez-Unified

650 Hastings Drive, Benicia; (2) Mary Farmer Elementary School, located at 901 Military West, Benicia; (3) Matthew Turner Elementary School, located at 540 Rose Drive, Benicia; and (4) Robert Semple Elementary School, located at 2015 E. 3rd Street, Benicia. One middle school is located in the BUSD, Benicia Middle School, located at 1100 Southampton Road, Benicia. Finally, two high schools are located in the BUSD, including: (1) Benicia High School, located at 1101 Military West, Benicia; and (2) Liberty High School, located at 351 East J Street, Benicia. The Benicia Unified School District services over 4,000 students in grades K through 12.[10]

Parks and Other Public Facilities

Parks in the Martinez areas include Cappy Rick's Park, a one-acre park located approximately 0.25 mile southwest of the PBF Martinez Refinery and Waterfront Park, a 150-acre park located approximately 0.25 mile northwest of the PBF Martinez Refinery. The Martinez Public Library is a branch of the Contra Costa County Library system and is located on the corner of Court and Ward Streets. The Martinez Senior Center is located at 818 Green Street and provides services for senior citizens, including activities, tours, and special events.

There are six parks within about 2 miles of the Valero Benicia Refinery: Waters End Park, Frank Skillman Park, Southampton Park, Francesca Terrace, Duncan Graham Park, and Overlook Park.

Significance Criteria

The proposed project impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion of Impacts

15. a) No Impact. New flares associated with Proposed Rule 13-5 would be located within the existing refineries/hydrogen plants. The existing refineries maintain personnel and equipment on-site for fire suppression efforts. Fire hydrants are located throughout the refineries that provide additional fire water flow in the event of an emergency. It is not expected that the refinery modifications will require an increase in the level of fire protection service needed to protect and serve the facility because there will be no new flammable materials stored on-site. Proposed Rule 13-5 would require the installation of flare systems at two refineries which use natural gas, a flammable material already used at the refineries. It is expected that the refineries will maintain equipment and fire response staffing as part of the existing refinery operations.

Compliance with State and local fire codes is expected to minimize the need for additional fire protection services. Both refineries have their own emergency response team, along with the local fire department and other emergency services. The addition of a flare to the refineries is not expected to increase the requirements for additional or altered fire protection.

[10] California Department of Education data, available at http://www.ed-data.org/district/Solano/Benicia-Unified.

Entry and exit at the existing refineries are currently monitored and no additional or altered police protection is expected. The Valero Benicia and PBF Martinez refineries are existing facilities with 24-hour security forces. All project modifications will occur within the confines of the existing refineries/industrial facilities which already have security measures in place. Therefore, no impacts to the local police department are expected related to the project modifications.

As noted in the "Population and Housing" discussion above, proposed Rule 13-5 is not expected to induce population growth because the existing local labor pool (e.g., workforce) is expected to be sufficient to accommodate the expected temporary construction work force of up to 20 workers per facility. No increase in permanent workers is expected to be required to operate the new flare systems. Therefore, there will be no increase in local population and thus no impacts are expected to local schools or parks.

Installation of the new flare systems would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives. The facilities affected by the Proposed Rule 13-5 are existing refineries/hydrogen plants for which public services are already required and no increase in the need for such services is expected. There will be no increase in population as a result of the adoption of the proposed new rule, therefore, no need for physically altered government facilities.

Conclusion

Based upon these considerations, no significant adverse impacts on public services are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse impacts on public services were identified, no further evaluation of impacts to public services is required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Environmental Setting

The Bay Area contains over one million acres of parks and open space areas. Approximately 265,000 acres of new parkland were added to the region's open space inventory between 2002 and 2013, representing a 26 percent increase. Additionally, approximately 200,000 acres of privately owned land are held in permanent reserve as of 2013. While access by the general public to these reserve areas is restricted, they are important for the preservation of wildlife habitats and the protection of the environment (ABAG, 2017).

Regional parks and major open space areas provide places where people can enjoy active and passive recreation activities. These activities typically include nature studies, camping, hiking, and similar activities. Regional parks and major open space areas often encompass hundreds or even thousands of acres and are typically established in order to protect uniquely valuable natural resources. Therefore, each regional park and open space area itself is unique and offers specific recreational opportunities that are not otherwise available in the immediate vicinity of most Bay Area residents. Within Contra Costa County, regional parks and open spaces are owned and managed by federal and state governments, the East Bay Regional Parks District, and municipalities. Regional parks and open space areas within ten miles of the Martinez area include the Carquinez Strait Regional Shoreline Park, the Martinez Regional Shoreline, Crockett Hills Regional Park, Sobrante Ridge Regional Park, John Muir National Historic Park, Briones Regional Park, Acalanes Ridge Open Space, Lime Ridge Open Space, and the Waterbird Regional Preserve (Contra Costa County, 2011).

There are six parks within about 2 miles of the Valero Benicia Refinery: Waters End Park, Frank Skillman Park, Southampton Park, Francesca Terrace, Duncan Graham Park, and Overlook Park.

Significance Criteria

The proposed project impacts on recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion of Impacts

16 a-b) No Impact. As discussed under "Land Use" (Section XI), there are no provisions in Proposed Rule 13-5 affecting land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by Proposed Rule 13-5. Construction associated with Proposed Rule 13-5 is expected to be limited to two new flare systems that may require up to 20 temporary construction workers each. Further, no increase in permanent workers is expected. All construction would take place within existing refineries/industrial areas that have been previously graded and developed. Thus, there would be no impacts on recreation facilities due to construction activities that could impact them or from increased use.

Proposed Rule 13-5 would not increase or redistribute population and, therefore, would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or the expansion of existing recreational facilities. Therefore, adoption of Proposed Rule 13-5 is not expected to have any significant adverse impacts on recreation.

Conclusion

Based upon these considerations, no significant adverse recreation impacts are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse recreation impacts were identified, no further evaluation of recreation impacts is required in the EIR.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.	**TRANSPORTATION** Would the project:				
a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☑	☐
b)	Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3 subdivision(b)?	☐	☐	☑	☐
c)	Substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
d)	Result in inadequate emergency access?	☐	☐	☐	☑

Environmental Setting

The Bay Area currently contains over 1,300 directional miles of limited-access highways, which include both interstates and state highways. In addition, the Bay Area has over 33,000 directional miles of arterials and local streets, providing more localized access to individual communities. Together, these roadway facilities accommodate nearly 21 million vehicle trips a day. There are over 11,500 transit route miles of service including heavy rail (BART), light rail (Muni Metro and VTA Light Rail), commuter rail (Caltrain and Alameda Commuter Express or ACE), diesel and electric buses, cable cars, and ferries. Cars, buses, and commercial vehicles travel about 158 million miles a day (2015) on the Bay Area freeways and local roads. Transit serves about 2.3 million riders on the average weekday (ABAG, 2017).

The region is served by numerous interstate and U.S. freeways. On the west side of San Francisco Bay, Interstate 280 and U.S. 101 run north-south. U.S. 101 continues north of San Francisco into Marin County. Interstates 880 and 660 run north-south on the east side of the Bay. Interstate 80 starts in San Francisco, crosses the Bay Bridge, and runs northeast toward Sacramento. Interstate 80 is a six-lane north-south freeway which connects Contra Costa County to Solano County via the Carquinez Bridge. State Routes 29 and 84, both highways that allow at-grade crossings in certain parts of the region, become freeways that run east-west, and cross the Bay. Interstate 580 starts in San Rafael, crosses the Richmond-San Rafael Bridge, joins with Interstate 80, runs through Oakland, and then runs eastward toward Livermore. From the Benicia-Martinez Bridge, Interstate 680 extends north to Interstate 80 in Cordelia. Interstate 780 is a four lane, east-west freeway extending from the Benicia-Martinez Bridge west to I-80 in Vallejo.

The PBF Martinez Refinery is located in central Contra Costa County, just south of the Carquinez Strait, immediately west of I-680, south of Marina Vista Avenue/Waterfront Road. The PBF Martinez Refinery is bounded by Marina Vista Avenue to the north, I-680 to the east, and various streets including Pacheco Blvd to the south. Regional access is provided by the Marina Vista interchange on I-680 and the Arnold/Solano interchange on Route 4.

Interstate 680 (I-680) is a six-lane north-south freeway in the Martinez/Benicia area and connects Contra Costa County to Solano County via the Benicia Bridge. A full-access interchange with State Route 4 (SR-4) is located just southwest of the Project site. I-680 is a major commute route, connecting Solano County and points north with the Diablo Valley, San Jose and the greater East Bay.

State Route 4 is a four-lane east-west divided freeway in the Martinez area. It connects Interstate 80 to the west with Pittsburg and Stockton to the east. According to Caltrans 2003 traffic volumes, average daily traffic on SR-4 are 89,000 ADT west of I-680; 83,000 ADT east of I-680; and 80,000 ADT east of Solano Way.

Waterfront Road is a two-lane, east-west roadway which runs along Suisun Bay. An interchange with I-680 is provided to the east of the PBF Martinez Refinery, with lighted signals controlling access to the northbound and southbound ramps, respectively. West of I-680, the roadway name changes to Marina Vista, and it provides a direct route into downtown Martinez.

Regional access to the Valero Benicia Refinery is provided primarily from I-680, with local access provided via Park Road, Bayshore Road, and Industrial Way.

Bayshore Road is a two-lane road that connects the Valero Benicia Refinery to the industrial port area along the southeastern edge of the City of Benicia, following the Suisun Bay shoreline; a partial interchange with I-680 provides access to and from the south.

Park Road is a two-lane road that connects the industrial port area long the southeastern edge of the City of Benicia to the industrial areas to the northeast. Park Road serves as the connection between the split interchange ramps at Industrial Way (southbound off-ramp and northbound on-ramp) and Bayshore road (southbound on-ramp and northbound off-ramp).

Industrial Way is a two-lane road that loops through the industrial area where the Valero Benicia Refinery is situated, providing access to numerous industrial parcels either directly or via connections with local streets; a partial interchange with I-680 provides access to and from the north.

Existing transit service is provided by the Central Contra Costa Transit Authority (CCCTA), which is the primary bus service provider in central Contra Costa County. Three CCCTA bus routes

operate near the PBF Martinez Refinery (99 Express, 27 and 17). The nearest bus stop to the Refinery is along Imhoff Drive. A Bay Area Rapid Transit (BART) light rail station is located in the North Concord/Martinez area.

Fairfield and Suisun Transit (FAST) operates an express intercity route—Route 40—that connects the City of Vacaville to the Bay Area Rapid Transit (BART) station in the City of Walnut Creek. Route 40 has one stop in each direction at the intersection of Park Road and Industrial Way, near the southern boundary of the Valero Benicia Refinery. From here, the northbound route continues via I-680 to the City of Fairfield, and the southbound route continues via I-680 to the Pleasant Hill BART Station; both utilize the bus hub at the intersection of Park Road and Industrial Way in Benicia.

Significance Criteria

The proposed project impacts on transportation will be considered significant if:

- The project would conflict with a program, plan, ordinance, or policy addressing the circulation system.
- The project conflicts with or is inconsistent with CEQA Guidelines § 15064.3 subdivision(b).
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased due to geometric design features or incompatible uses.
- The project would result in inadequate emergency access.

Discussion of Impacts

17. a and b) Less Than Significant. Proposed Rule 13-5 is expected to require the installation of flare systems at hydrogen plants that serve two refineries. Additional trucks would be required to deliver new air pollution control equipment as part of the construction phase. This would be a one-time delivery of equipment with no increase in peak hour truck traffic. Temporary construction workers (estimated to be a maximum of 20 workers per facility) would be required to install new air pollution control equipment, however, construction activities are not expected to be extensive or require a substantial increase in workers or related traffic. Further, construction workers would be temporary and the traffic would cease once construction activities are complete.

Following construction activities, the flare systems would not be expected to generate a substantial increase in traffic, either workers or trucks. As discussed in XIV - Population and Housing, it is not expected that the affected facilities would need to hire additional personnel to operate new equipment at existing facilities, so no increase in permanent worker or truck traffic would be expected. Proposed Rule 13-5 would not result in a conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines §

15064.3 subdivision(b), as no increase in traffic is expected to occur, following the completion of construction activities.

17. c and d) No Impact. The proposed project would not increase traffic hazards or create incompatible uses. Proposed Rule 13-5 would not require the construction of any roadways or other transportation design features, so no changes to current roadway designs that would increase traffic hazards are expected. Since changes to the roadway system are not expected, no impacts to emergency access would be expected. Emergency access at the affected refineries is not expected to be impacted, as no modifications that effect traffic or access are expected to be required. Based on the above, Proposed Rule 13-5 is not expected to increase vehicle trips or to alter the existing long-term circulation patterns, thus creating traffic hazards or impacting emergency access.

Conclusion

Based upon these considerations, no significant adverse transportation impacts are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse transportation impacts were identified, no further evaluation of transportation impacts is required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES.				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resourced Code section 5020.1(k), or	☐	☐	☑	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☐	☑	☐

Environmental Setting

The Carquinez Strait represents the entry point for the Sacramento and San Joaquin Rivers into the San Francisco Bay. This locality lies within the San Francisco Bay and the west end of the Central Valley archaeological regions, both of which contain a rich array of prehistoric and historical cultural resources. The areas surrounding the Carquinez Strait and Suisun Bay have been occupied for centuries given their abundant natural resources and moderate climate. The arrival of Native Americans into the Bay Area is associated with documented cultural resources from about 5,500 years ago (ABAG, 2017).

Six different groups of Native American population, identified by their language, lived within the Bay Area, including Costanoan, Eastern Miwok, Patwin, Coast Miwok, Pomo, and Wappo. Native villages and campsites were inhabited on a temporary basis and are found in several ecological

niches due to the seasonal nature of their subsistence base. Remains of these early populations indicate that main villages, seldom more than 1,000 residents, were usually established along water courses and drainages. By the late 1760s, about 300,000 Native Americans lived in California (ABAG, 2017).

Significance Criteria

The proposed project impacts to tribal resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of tribal cultural significance to a community or ethnic or social group or a California Native American tribe.
- Unique objects with cultural value to a California Native American tribe are present that could be disturbed by construction of the proposed project.

Discussion of Impacts

The State CEQA Guidelines were amended in July 2015 to include evaluation of impacts on tribal cultural resources, which include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe. Assembly Bill (AB) 52 specifies that a project that may cause a substantial adverse change to a tribal cultural resource may result in a significant effect on the environment. AB52 requires tribes interested in development projects within a traditionally and culturally affiliated geographic area to notify a lead agency of such interest and to request notification of future projects subject to CEQA prior to determining if a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. The lead agency is then required to notify the tribe within 14 days of deeming a development application subject to CEQA complete to notify the requesting tribe as an invitation to consult on the project. AB52 identifies examples of mitigation measures that will avoid or minimize impacts to a tribal cultural resources and applies to projects that have a notice of preparation or a notice of intent to adopt a negative declaration/mitigated negative declaration circulated on or after July 1, 2015.

18. a and b). Less Than Significant. As discussed under Cultural Resources (Section V), the Bay Area has locations that were historically used by Native Americans. Thus, there is the potential for the presence of unrecorded tribal cultural resources to be buried throughout the District. Under Proposed Rule 13-5, modifications are expected at two existing refineries to install new flare systems. The installation of a flare system is not expected to require the demolition of existing equipment. If refinery equipment older than 50 years is required to be removed, such equipment does not typically meet the criteria identified in Public Resources Code 5020.1(k) for listing in a local register of historical resources (Public Resources Code Section 5020.1(k), and are not considered to have cultural value to a California Native American tribe. Further, construction activities occur at existing refineries/industrial areas that have been previously graded and developed. Because construction will be limited to existing refineries/industrial facilities that have been graded and developed, Proposed Rule 13-5 is not expected to require physical changes to a site, feature, place, cultural landscape, sacred place or object with cultural value to a California

Native American Tribe. Furthermore, Proposed Rule 13-5 is not expected to result in a physical change to a resource determined to be eligible for inclusion or listed in the California Register of Historical Resources or included in a local register of historical resources. Proposed Rule 13-5 is not expected to require extensive construction or grading activities, therefore, impacts on historical and tribal resources as defined in Public Resources Section 5020.1(k), or 5024.1. Therefore, less than significant impacts to tribal resources are anticipated to occur as a result of Proposed Rule 13-5.

Conclusion

Based upon these considerations, no significant adverse tribal cultural resource impacts are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse tribal cultural resource impacts were identified, no further evaluation of tribal cultural resource impacts is required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIX. UTILITIES / SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	☐	☐	☑	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☑	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☑
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☑

Environmental Setting

Water Demand

The Contra Costa Water District (CCWD) is the principal utility that provides water to the Martinez area and the primary source of CCWD water is the Sacramento-San Joaquin Delta. The water is transported in the 48-mile Contra Costa Canal, which starts at Rock Slough, then stretches west to Clyde, south to Walnut Creek and north to Martinez. CCWD supplies about 250,000 residents in Brentwood, Clayton, Clyde, Concord, Pacheco, Port Costa, Bay Point and parts of

Pleasant Hill, Martinez, and Walnut Creek. CCWD also sells untreated water (raw water) from the canal to the cities of Antioch, Martinez and Pittsburg, and the Diablo Water District (Oakley). These five agencies treat, and distribute water serving an additional 250,000 people. CCWD sold 85,223 acre feet of water in 2019.[11] The Bollman Water Treatment Plant is CCWD's primary water treatment facility providing treated water to their service area.

The Valero Benicia Refinery receives water under existing contract with the City of Benicia. The City of Benicia receives water from the State Water project, under an agreement with the City of Vallejo, the Mojave Water Agency, and water from the State. The Benicia Water Treatment Plant has a treatment capacity of 12 million gallons per day. The transmission system consists of two pump stations and approximately 18 miles of pipeline. The distribution system consists of three pump stations, 8 pressure-reducing stations, and approximately 150 miles of pipelines. The storage system consists of 5 treated water reservoirs and Lake Herman with a capacity of 1,800 acre-feet.[12]

Given the large area covered by the Air District, public utilities are provided by a wide variety of local agencies. Most public wastewater treatment plants and industrial facilities have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of NPDES permits. Water is supplied to affected facilities by several water purveyors in the Bay Area. Solid waste is handled through a variety of municipalities, through recycling activities, and at disposal sites.

Wastewater/Stormwater

Wastewater produced at the refineries is treated in existing wastewater treatment plants and discharged into the Carquinez Straits via a wastewater effluent outfalls. Both the PBF Martinez and Valero Benicia refineries operate under an NPDES permit administered by the San Francisco Bay Regional Water Quality Control Board RWQCB. As discussed in Section 10, Hydrology and Water Quality, stormwater runoff would continue to be discharged through stormwater outfalls permitted under existing NPDES permits, which set discharge limits and monitoring requirements. Stormwater discharges and water quality at the storm water outfalls are managed through application of an existing Storm Water Pollution Prevention Plan (SWPPP), which incorporates the NPDES discharge limits and monitoring requirements as well as incorporates procedures, pollution prevention strategies, and best management practices (BMPs) used to meet these discharge limits.

Solid Waste

There are no hazardous waste disposal sites within the jurisdiction of the Air District. Hazardous waste generated at facilities, which is not recycled off-site, is required to be disposed of at a licensed hazardous waste disposal facility. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Hazardous waste can also be transported to permitted facilities outside of California.

[11] CCWD, 2020 https://www.ccwater.com/365/The-Source-of-Your-Water

[12] City of Benicia, 2020 https://www.ci.benicia.ca.us/?SEC=A652B7E1-9EED-44DC-BD21-3D563D7E483B

Contra Costa County has one Class II landfill, the Keller Canyon Landfill and West Contra Costa Landfill. The Keller Canyon Landfill has a maximum permitted daily disposal of 3,500 tons/day with a remaining capacity of 63,408,410 tons and an anticipated closure date of December 31, 2030.[13] Other landfills in the Bay Area include the Altamont Landfill in Alameda County, Forward Landfill in San Joaquin County; Potrero Hills Landfill in Solano County, and the Vasco Road Landfill in Alameda County.

Significance Criteria

The proposed project impacts on utilities/service systems will be considered significant if:

- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- An increase in demand for utilities impacts the current capacities of the electric utilities.
- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.
- The project increases demand for water by more than 263,000 gallons per day.
- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion of Impacts

19 a and b) Less Than Significant Impacts. The potential water use and wastewater impacts associated with implementation of the Proposed Rule 13-5 were discussed under Hydrology and Water Quality (see Section X). Proposed Rule 13-5 would result in the installation of flare system, which generally does not require water to use. While steam may be used in the flare systems, they are not expected to result in any measurable increase in water use or generate a significant amount of wastewater. A small amount of water may be collected in a knockout vessel. Any collected water would be expected to be treated in existing refinery wastewater treatment facilities, prior to discharge. Therefore, Proposed Rule 13-5 is not expected to result in any significant increase in water use or wastewater discharge.

The potential increase in energy consumption associated with proposed project was discussed under Energy (see Section VI). Proposed Rule 13-5 is not expected to require any significant increase in electricity or natural gas use and would not require any additional telecommunications facilities.

19 c). No Impact. The Proposed Rule 13-5 is not expected to result in the construction of new equipment that results in a substantial increase in wastewater generation. The refineries treat wastewater generated onsite and will continue to do so in the future. Therefore, Proposed Rule 13-5 would not impact or require additional capacity from any public wastewater treatment provider.

[13] Calrecycle, 2020, SWIS Facility/Sit Activity Details, Keller Canyon Landfill https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228

19 d and e) No Impact. Construction of flare systems as a result of Proposed Rule 13-5 will not significantly increase solid or hazards wastes generated by the affected existing facilities. No significant impacts on waste generation are expected due to implementation of Proposed Rule 13-5. The flare systems combust organic material but do not generate wastes, so no increase in waste generation is expected due to implementation of Proposed Rule 13-5. Therefore, no significant impacts to hazardous or solid waste disposal facilities are expected due to implementation of Proposed Rule 13-5. The affected refineries are expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

Conclusion

Based upon these considerations, no significant adverse impacts on utilities and service systems are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse impacts on utilities and service systems were identified, no further evaluation of utilities and service system impacts is required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evaluation plan?	☐	☐	☐	☑
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread or a wildfire?	☐	☐	☐	☑
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☑
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☑

Environmental Setting

Wildland fires are a natural part of the California landscape and the number of fires and their impact vary from year to year. 2019 was considered a mild fire year by the California Department of Forestry and Fire Protection (CalFire), who reported that 259,823 acres of land burned because of 7,860 incidents, resulting in 3 fatalities and 732 structures damaged or destroyed.[14] In comparison, CalFire reported that 3,627,010 acres of land burned as of the end of September 2020, because of 7,982 incidents, resulting in 25 fatalities and 7,517 structures damaged or destroyed.[15]

[14] CalFire Incident Reports https://www.fire.ca.gov/incidents/2019/

[15] CalFire Incident Reports https://www.fire.ca.gov/incidents/2020/

The California Department of Forestry and Fire Protection (CalFire) maps areas identify significant fire hazard based on fuels, terrain, weather, and other relevant factors. These zones, referred to as a Fire Hazard Severity Zones, then determine the requirements for special building codes designed to reduce the ignition potential of buildings.

Significance Criteria

- The impacts to wildfires will be considered significant if:
- The project results in new structures located within or adjacent to lands classified as very high fire hazard severity zones
- The project adversely effects emergency response or emergency evacuation plans.

Discussion of Impacts

20. a), b), c), and d) No Impact. CalFIRE maps areas of significant fire hazard based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones, determine the requirements for special building codes designed to reduce the potential impacts of wildland fires on urban structures. The Valero Benicia Refinery and PBF Martinez Refinery are located within a non-Very High Fire Hazard Severity Zone, as the refineries are urbanized, are located adjacent to the Bay and marshlands, and are not located adjacent to wildland areas. The land in the northwestern, southern, and eastern areas of Contra Costa County, including the western portions of the City of Martinez are classified as very high fire hazard zones by CalFIRE. The hills approximately one mile north of the Valero Benicia Refinery are considered moderate and high Fire Hazard Severity Zones. Nonetheless, the refineries are located well outside Very High Fire Hazard Zone, which indicates that they would not be subject to significant wildfire hazard. Implementation of Proposed Rule 13-5 would require additional equipment at these refineries, but they would be located within heavy industrial areas and would not be expected to have an impact related to wildland fires.

Conclusion

Based upon these considerations, no significant adverse wildfire impacts are expected due to implementation of Proposed Rule 13-5. Since no potentially significant adverse wildfire impacts were identified, no further evaluation of wildfire impacts is required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☑	☐	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☑	☐	☐	☐

Discussion of Impacts

21 a. Proposed Rule 13-5 is expected to require the installation of flare systems at two existing refineries. Construction activities associated with the proposed project are expected to occur in heavy industrial areas, where native biological resources have been removed and are non-existent. Thus, the proposed project is not expected to result in any impacts to biological resources and would not be expected to impact riparian, wetlands, or other sensitive communities.

The construction of air pollution control equipment would occur in existing heavy industrial areas. The refineries may have equipment or structures older than 50 years. However, this type of equipment usually does not meet the criteria identified in CEQA Guidelines §15064.5(a)(3) as historic resources. Further, the refineries have already been graded and developed, and no

substantial grading is expected to be required to install flare systems at the existing facilities. Thus, Proposed Rule 13-5 would not adversely affect historical or archaeological resources as defined in CEQA Guidelines §15064.5, or disturb human remains interred outside formal cemeteries. Therefore, no impacts to cultural resources are anticipated to occur as a result of the Proposed Rule 13-5 as no major construction activities are required.

Proposed Rule 13-5 does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory, as discussed in the previous sections of the CEQA checklist. As discussed in Section IV - Biological Resources, Section V - Cultural Resources, and Section XVIII – Tribal Cultural Resources, no significant adverse impacts are expected to biological, cultural or tribal cultural resources.

21 b-c) Potentially Significant. The existing refineries include the operation of numerous units and equipment. Two refineries are expected to need additional flare systems technology to comply with Proposed Rule 13-5, the Valero Benicia Refinery and the hydrogen plants that provide hydrogen to the PBF Martinez Refinery.

Flares use high-temperature oxidation to burn combustible components, mostly hydrocarbons, or waste gases from various types of industrial operations. In combustion, gaseous hydrocarbons react with atmospheric oxygen to form carbon dioxide and water. Properly operated flares achieve at least 98 percent destruction efficiency in the flare plume, meaning that hydrocarbon emissions amount to less than two percent of the hydrocarbons in the gas stream (U.S. EPA, 2018). Emissions from flaring may include carbon particles (soot), hydrocarbons, carbon monoxide, nitrogen oxides, sulfur oxides, and greenhouse gas emissions. While Proposed Rule 13-5 will result in a reduction in organic emissions, it can also result in an increase in particulate matter, carbon monoxide, volatile organic compounds, and nitrogen oxide emissions. Therefore, flare operational emissions associated with Proposed Rule 13-5, including the potential for toxic air contaminants, GHGs, and cumulative impacts, will be evaluated in the EIR.

CHAPTER 3

REFERENCES

References

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CHAPTER 3

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APPENDIX B

EMISSIONS CALCULATIONS

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APPENDIX B-1

Construction Emissions

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Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Construction Threshold Summary

		One Flare	Two Flares
Total Emissions	**Thresholds**	**Avg Day**	**Avg Day**
ROG	54	1.91	3.83
CO (lb/day)	NA	16.76	33.52
NOx (lb/day)	54	27.66	55.31
SOx (lb/day)	NA	0.10	0.20
PM10 (lb/day)[(2)]	82	7.23	14.46
PM2.5 (lb/day)[(1)(2)]	54	2.46	4.91
CO_2 (tonnes/day)	NA	4.95	9.91
30 yr Amortized CO_2 (tonnes/yr)	NA	33.44	66.89

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls

(2) Mitigated PM.

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Bay Area Air Quality Management District
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Air Quality Analysis
Construction Emission Summary for One Flare

	Year 1											
Emissions from Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
ROG (lb/day)	1.13	1.13	2.18	2.27	1.75	1.75	1.75	1.62	1.62	0.00	0.00	0.00
CO (lb/day)	10.44	10.44	17.81	19.95	14.10	14.10	14.10	12.97	12.97	0.00	0.00	0.00
NOx (lb/day)	11.31	11.31	21.68	23.11	17.29	17.29	17.29	16.17	16.17	0.00	0.00	0.00
SOx (lb/day)	0.03	0.03	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.00	0.00	0.00
PM10 (lb/day)	0.51	0.51	0.93	0.95	0.71	0.71	0.71	0.64	0.64	0.00	0.00	0.00
PM2.5 (lb/day)[1]	0.50	0.50	0.92	0.94	0.71	0.71	0.71	0.63	0.63	0.00	0.00	0.00
CO_2 (lb/day)	3043.84	3043.84	4968.85	5342.87	3806.66	3806.66	3806.66	3638.42	3638.42	0.00	0.00	0.00
CO_2 (tonnes/yr)												358.19

	Year 1											
Emission from Trips - Onsite/Offsite	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
ROG (lb/day)	0.39	0.39	0.52	0.52	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00
CO (lb/day)	3.48	3.48	4.12	4.12	1.76	1.76	1.76	1.76	1.76	0.00	0.00	0.00
NOx (lb/day)	20.34	20.34	27.06	27.06	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
SOx (lb/day)	0.12	0.12	0.15	0.15	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
PM10 (lb/day)	8.69	8.69	11.40	11.40	0.60	0.60	0.60	0.60	0.60	0.00	0.00	0.00
Exhuast PM (lb/day)	0.27	0.27	0.36	0.36	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Fugitive PM (lb/day)	8.42	8.42	11.04	11.04	0.60	0.60	0.60	0.60	0.60	0.00	0.00	0.00
PM2.5 (lb/day)[1]	2.38	2.38	3.13	3.13	0.16	0.16	0.16	0.16	0.16	0.00	0.00	0.00
Exhuast PM (lb/day)	0.26	0.26	0.34	0.34	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Fugitive PM (lb/day)	2.13	2.13	2.79	2.79	0.15	0.15	0.15	0.15	0.15	0.00	0.00	0.00
CO_2 (lb/day)	12793.91	12793.91	16834.59	16834.59	790.88	790.88	790.88	790.88	790.88	0.00	0.00	0.00
CO_2 (tonnes/yr)												645.13

	Year 1											
Fugitive Earthmoving PM - Peak	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
PM10 (lb/day)[2]	2.35	2.35	2.35	2.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM2.5 (lb/day)[1][2]	0.68	0.68	0.68	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Year 1											
Offroad Fugitive PM - Peak	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
PM10 (lb/day)[2]	1.54	1.54	1.54	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM2.5 (lb/day)[1][2]	0.32	0.32	0.32	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Year 1											
Paint	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
ROGC (lb/day)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		Year 1											
Total Emissions	**Thresholds**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
ROG	54	1.53	1.53	2.70	2.79	1.79	1.79	1.79	1.66	1.66	0.00	0.00	0.00
CO (lb/day)	NA	13.92	13.92	21.93	24.07	15.85	15.85	15.85	14.72	14.72	0.00	0.00	0.00
NOx (lb/day)	54	31.64	31.64	48.74	50.17	17.79	17.79	17.79	16.66	16.66	0.00	0.00	0.00
SOx (lb/day)	NA	0.14	0.14	0.20	0.20	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.00
PM10 (lb/day)[2]	82	13.08	13.08	16.22	16.24	1.32	1.32	1.32	1.24	1.24	0.00	0.00	0.00
PM2.5 (lb/day)[1][2]	54	3.89	3.89	5.06	5.08	0.86	0.86	0.86	0.79	0.79	0.00	0.00	0.00
CO_2 (tonnes/day)	NA	7.18	7.18	9.89	10.06	2.09	2.09	2.09	2.01	2.01	0.00	0.00	0.00
30 yr Amortized CO_2 (tonnes/yr)	NA												33.44

(1) https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls
(2) Mitigated PM.

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Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Construction Equipment Emission Rates

Equipment Type	OFFROAD2017 Category	Hp	2021 Emission Factors lb/hr						
			ROG	CO	NOx	SOx	PM10	PM2.5	CO2e
<40 T Cranes	ConstMin - Cranes	300	0.04999	0.2484	0.59260	0.00068	0.02399	0.02207	74.0025
>40T Cranes	ConstMin - Cranes	600	0.06277	0.5035	0.73228	0.00114	0.02907	0.02675	123.416
Pile/Drill Rig	ConstMin - Bore/Drill Rigs	Composite	0.03559	0.3817	0.42563	0.00119	0.01535	0.01412	128.978
Tractors	ConstMin - Off-Highway Tractors	Composite	0.03641	0.2800	0.29283	0.00059	0.01546	0.01422	63.5827
Welders	OFF - Light Commercial - Welders	Composite	0.02266	0.1453	0.13943	0.00025	0.00686	0.00631	18.8229
Lights	OFF - Military - Light	Composite	0.03479	0.2741	0.28345	0.00053	0.01200	0.01104	40.697
Generator	Portable Equipment - Rental	Composite	0.05034	0.3424	0.52886	0.00118	0.01887	0.01736	127.767
Hydro Vacs/Pumps	Portable Equipment - Rental Pump	Composite	0.02165	0.2417	0.19140	0.00063	0.00914	0.00841	67.8244
Fork Lifts	Industrial - Forklifts	Composite	0.01624	0.1414	0.14039	0.00019	0.00935	0.00860	21.031
Loader/Backhoe	ConstMin -	Composite	0.02248	0.2456	0.22116	0.00039	0.01191	0.01096	42.0396
Air Compressors	Portable Equipment - Rental Compress	Composite	0.03032	0.3306	0.30161	0.00136	0.01144	0.01053	147.602
Manlifts	Industrial - Aerial Lifts	Composite	0.00540	0.1339	0.08924	0.00022	0.00132	0.00121	23.3766

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Air Quality Analysis
Construction Equipment Emissions

		Month											
Equipment	**Hours (hr/day)**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
<40 T Cranes	8			1	1	1	1	1	1	1			
>40T Cranes	8												
Pile/Drill Rig	8			1	1								
Tractors													
Welders	8			2	2	2	2	2	2	2			
Light Plants													
Generator	8	1	1	1	1	1	1	1	1	1			
Hydro Vacs/Pumps	4												
Fork Lifts	8	1	1	1	1	2	2	2	1	1			
Loader/Backhoe	8	2	2	2	2								
Air Compressors	8	1	1	1	1	1	1	1	1	1			
Manlifts	8				2	2	2	2	2	2			

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Bay Area Air Quality Management District
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Air Quality Analysis
Construction Equipment Emissions

	Emission Rate (lb/hr)	Month											
ROG	**2021**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
<40 T Cranes	0.050	0.00	0.00	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.00	0.00	0.00
>40T Cranes	0.063	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pile/Drill Rig	0.036	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractors	0.036	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welders	0.023	0.00	0.00	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.00	0.00	0.00
Light Plants	0.035	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.050	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.00	0.00	0.00
Hydro Vacs/Pumps	0.022	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lifts	0.016	0.13	0.13	0.13	0.13	0.26	0.26	0.26	0.13	0.13	0.00	0.00	0.00
Loader/Backhoe	0.022	0.36	0.36	0.36	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressors	0.030	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.00	0.00	0.00
Manlifts	0.005	0.00	0.00	0.00	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.00
Total		1.13	1.13	2.18	2.27	1.75	1.75	1.75	1.62	1.62	0.00	0.00	0.00

Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Construction Equipment Emissions

	Emission Rate (lb/hr)	Month											
CO	**2021**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
<40 T Cranes	0.248	0.00	0.00	1.99	1.99	1.99	1.99	1.99	1.99	1.99	0.00	0.00	0.00
>40T Cranes	0.504	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pile/Drill Rig	0.382	0.00	0.00	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractors	0.280	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welders	0.145	0.00	0.00	2.32	2.32	2.32	2.32	2.32	2.32	2.32	0.00	0.00	0.00
Light Plants	0.274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.342	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	0.00	0.00	0.00
Hydro Vacs/Pumps	0.242	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lifts	0.141	1.13	1.13	1.13	1.13	2.26	2.26	2.26	1.13	1.13	0.00	0.00	0.00
Loader/Backhoe	0.246	3.93	3.93	3.93	3.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressors	0.331	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	0.00	0.00	0.00
Manlifts	0.134	0.00	0.00	0.00	2.14	2.14	2.14	2.14	2.14	2.14	0.00	0.00	0.00
Total		10.44	10.44	17.81	19.95	14.10	14.10	14.10	12.97	12.97	0.00	0.00	0.00

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Bay Area Air Quality Management District
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Construction Equipment Emissions

	Emission Rate (lb/hr)	Month											
NOX	**2021**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
<40 T Cranes	0.593	0.00	0.00	4.74	4.74	4.74	4.74	4.74	4.74	4.74	0.00	0.00	0.00
>40T Cranes	0.732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pile/Drill Rig	0.426	0.00	0.00	3.41	3.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractors	0.293	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welders	0.139	0.00	0.00	2.23	2.23	2.23	2.23	2.23	2.23	2.23	0.00	0.00	0.00
Light Plants	0.283	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.529	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	0.00	0.00	0.00
Hydro Vacs/Pumps	0.191	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lifts	0.140	1.12	1.12	1.12	1.12	2.25	2.25	2.25	1.12	1.12	0.00	0.00	0.00
Loader/Backhoe	0.221	3.54	3.54	3.54	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressors	0.302	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	0.00	0.00	0.00
Manlifts	0.089	0.00	0.00	0.00	1.43	1.43	1.43	1.43	1.43	1.43	0.00	0.00	0.00
Total		11.31	11.31	21.68	23.11	17.29	17.29	17.29	16.17	16.17	0.00	0.00	0.00

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Bay Area Air Quality Management District
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Construction Equipment Emissions

	Emission Rate (lb/hr)	Month											
SOx	**2021**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
<40 T Cranes	0.001	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
>40T Cranes	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pile/Drill Rig	0.001	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractors	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welders	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Plants	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Hydro Vacs/Pumps	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lifts	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loader/Backhoe	0.000	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressors	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Manlifts	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.03	0.03	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.00	0.00	0.00

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Bay Area Air Quality Management District
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Construction Equipment Emissions

	Emission Rate (lb/hr)	Month											
PM10	**2021**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
<40 T Cranes	0.024	0.00	0.00	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.00	0.00	0.00
>40T Cranes	0.029	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pile/Drill Rig	0.015	0.00	0.00	0.12	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractors	0.015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welders	0.007	0.00	0.00	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.00	0.00	0.00
Light Plants	0.012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.019	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.00	0.00	0.00
Hydro Vacs/Pumps	0.009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lifts	0.009	0.07	0.07	0.07	0.07	0.15	0.15	0.15	0.07	0.07	0.00	0.00	0.00
Loader/Backhoe	0.012	0.19	0.19	0.19	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressors	0.011	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.00
Manlifts	0.001	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
Total		0.51	0.51	0.93	0.95	0.71	0.71	0.71	0.64	0.64	0.00	0.00	0.00

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Bay Area Air Quality Management District
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Construction Equipment Emissions

	Emission Rate (lb/hr)	Month											
PM2.5	**2021**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
<40 T Cranes	0.022	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00
>40T Cranes	0.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pile/Drill Rig	0.014	0.00	0.00	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractors	0.014	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welders	0.006	0.00	0.00	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	0.00
Light Plants	0.011	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.017	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.00	0.00	0.00
Hydro Vacs/Pumps	0.008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lifts	0.009	0.07	0.07	0.07	0.07	0.14	0.14	0.14	0.07	0.07	0.00	0.00	0.00
Loader/Backhoe	0.011	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressors	0.011	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00	0.00	0.00
Manlifts	0.001	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
Total		0.47	0.47	0.86	0.88	0.66	0.66	0.66	0.59	0.59	0.00	0.00	0.00

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Bay Area Air Quality Management District
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Air Quality Analysis
Construction Equipment Emissions

	Emission Rate (lb/hr)	Month											
CO2EQ	**2021**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
<40 T Cranes	74.002	0.00	0.00	592.02	592.02	592.02	592.02	592.02	592.02	592.02	0.00	0.00	0.00
>40T Cranes	123.416	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pile/Drill Rig	128.978	0.00	0.00	1031.82	1031.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tractors	63.583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welders	18.823	0.00	0.00	301.17	301.17	301.17	301.17	301.17	301.17	301.17	0.00	0.00	0.00
Light Plants	40.697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	127.767	1022.14	1022.14	1022.14	1022.14	1022.14	1022.14	1022.14	1022.14	1022.14	0.00	0.00	0.00
Hydro Vacs/Pumps	67.824	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fork Lifts	21.031	168.25	168.25	168.25	168.25	336.50	336.50	336.50	168.25	168.25	0.00	0.00	0.00
Loader/Backhoe	42.040	672.63	672.63	672.63	672.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressors	147.602	1180.82	1180.82	1180.82	1180.82	1180.82	1180.82	1180.82	1180.82	1180.82	0.00	0.00	0.00
Manlifts	23.377	0.00	0.00	0.00	374.03	374.03	374.03	374.03	374.03	374.03	0.00	0.00	0.00
Total		3043.84	3043.84	4968.85	5342.87	3806.66	3806.66	3806.66	3638.42	3638.42	0.00	0.00	0.00

Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Onsite Construction Vehicle Trip Emissions

		Month (Vehicles per day)											
Vehicle	**Miles per Day**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Cars	2	50	50	50	50	50	50	50	50	50			
Pickup Trucks	2	2	2	2	2	2	2	2	2	2			
Total Light Vehicle Miles		104	104	104	104	104	104	104	104	104	0	0	0
Water Truck	2	1	1	1	1	1	1	1	1	1			
Delivery Truck	2	1	1	1	1	1	1	1	1	1			
1 Ton Truck	2												
Misc. MD Truck	5	1	1	1	1	1	1	1	1	1			
Total Medium Truck Miles		9	9	9	9	9	9	9	9	9	0	0	0
Truck, Dump Ford LT8000	2	20	20	20	20								
Concrete Truck	2			10	10								
Semi-Tractor, Diesel 20 Ton	2												
Misc. HD Truck	2	1	1	1	1	1	1	1	1	1			
Total Heavy Truck Miles		42	42	62	62	2	2	2	2	2	0	0	0

	Emission Rate (lb/mi)(1)	Month (Vehicles per day)											
ROG	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.0000139	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty	0.0000324	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty	0.0001081	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Idling	0.0007736	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.02	0.02	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CO	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.0009095	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.00
Medium Duty	0.0014309	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Heavy Duty	0.0004314	0.02	0.02	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Idling	0.0102637	0.22	0.22	0.32	0.32	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Total		0.34	0.34	0.45	0.45	0.12	0.12	0.12	0.12	0.12	0.00	0.00	0.00

NOx	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.0000680	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Medium Duty	0.0002139	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty	0.0063879	0.27	0.27	0.40	0.40	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Heavy Duty Idling	0.0104926	0.22	0.22	0.33	0.33	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Total		0.50	0.50	0.73	0.73	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00

SOx	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.0000030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty	0.0000052	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty	0.0000354	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Idling	0.0000183	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PM10	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty Exhaust	0.0000015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty Exhaust	0.0000024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Idle Exhaust	0.0000099	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Exhaust	0.0000863	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Exhaust PM		0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Duty Tire and Brake Wear	0.0000155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty Tire and Brake Wear	0.0000218	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Tire and Brake Wear	0.0002575	0.01	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Duty Fugitive Road Dust(2)	0.000221	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
Medium Duty Fugitive Road Dust(2)	0.000467	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Fugitive Road Dust(2)	0.002314	0.10	0.10	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Fugitive PM		0.14	0.14	0.19	0.19	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00
Total		0.14	0.14	0.19	0.19	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00

PM2.5	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty Exhaust	0.0000013	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty Exhaust	0.0000023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Idle Exhaust	0.0000095	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Exhaust	0.0000825	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Exhaust PM		0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Duty Tire and Brake Wear	0.0000046	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty Tire and Brake Wear	0.0000067	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Tire and Brake Wear	0.0000824	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Duty Fugitive Road Dust(2)	0.000054	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Medium Duty Fugitive Road Dust(2)	0.000115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Fugitive Road Dust(2)	0.000568	0.02	0.02	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Fugitive PM		0.03	0.03	0.05	0.05	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Total		0.04	0.04	0.05	0.05	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00

CO2e	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.305	31.77	31.77	31.77	31.77	31.77	31.77	31.77	31.77	31.77	0.00	0.00	0.00
Medium Duty	0.529	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	0.00	0.00	0.00
Heavy Duty	3.922	164.71	164.71	243.14	243.14	7.84	7.84	7.84	7.84	7.84	0.00	0.00	0.00
Heavy Duty Idling	2.029	42.60	42.60	62.89	62.89	2.03	2.03	2.03	2.03	2.03	0.00	0.00	0.00
Total		243.84	243.84	342.56	342.56	46.40	46.40	46.40	46.40	46.40	0.00	0.00	0.00

(1) Emfac2021 emission factors for the BAAQMD.

(2) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, January 2011

E = k(sL)0.91 x (W)1.02

Where: k = 0.0022 lb/VMT for PM10 and k=0.00054 for PM2.5, sL = road silt loading (gms/m2)

(0.03 for major/collector roads), W = weight of vehicles (2.5 tons for light; 5.5 for medium trucks,

and 24 for heavy trucks)

Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Offsite Construction Vehicle Trip Emissions

		Month (Vehicles per day)											
Vehicle	**Miles per Day**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Tradesmen	29.4	50	50	50	50	50	50	50	50	50			
Construction Staff	29.4	2	2	2	2	2	2	2	2	2			
Total Light Vehicle Miles		1528.8	1528.8	1528.8	1528.8	1528.8	1528.8	1528.8	1528.8	1528.8	0	0	0
Water Truck	50	1	1	1	1	1	1	1	1	1			
Delivery Truck	50	1	1	1	1	1	1	1	1	1			
1 Ton Truck	50												
Misc. MD Truck	50	1	1	1	1	1	1	1	1	1			
Total Medium Truck Miles		150	150	150	150	150	150	150	150	150	0	0	0
Truck, Dump Ford LT8000	150	20	20	20	20								
Concrete Truck	100			10	10								
Semi-Tractor, Diesel 20 Ton	50												
Misc. HD Truck	50	1	1	1	1	1	1	1	1	1			
Total Heavy Truck Miles		3050	3050	4050	4050	50	50	50	50	50	0	0	0

	Emission Rate (lb/mi)(1)	Month (Vehicles per day)											
ROG	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.0000139	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
Medium Duty	0.0000324	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty	0.0001081	0.33	0.33	0.44	0.44	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Heavy Duty Idling	0.0007736	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.37	0.37	0.49	0.49	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00

CO	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.0009095	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39	0.00	0.00	0.00
Medium Duty	0.0014309	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.00	0.00	0.00
Heavy Duty	0.0004314	1.32	1.32	1.75	1.75	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
Heavy Duty Idling	0.0102637	0.22	0.22	0.32	0.32	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Total		3.14	3.14	3.67	3.67	1.64	1.64	1.64	1.64	1.64	0.00	0.00	0.00

NOx	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.0000680	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	0.00
Medium Duty	0.0002139	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00
Heavy Duty	0.0063879	19.48	19.48	25.87	25.87	0.32	0.32	0.32	0.32	0.32	0.00	0.00	0.00
Heavy Duty Idling	0.0104926	0.22	0.22	0.33	0.33	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Total		19.84	19.84	26.33	26.33	0.47	0.47	0.47	0.47	0.47	0.00	0.00	0.00

SOx	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.0000030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty	0.0000052	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty	0.0000354	0.11	0.11	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Idling	0.0000183	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.11	0.11	0.15	0.15	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00

PM10	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty Exhaust	0.0000015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty Exhaust	0.0000024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Idle Exhaust	0.0000099	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Exhaust	0.0000863	0.26	0.26	0.35	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Exhaust PM		0.27	0.27	0.35	0.35	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Light Duty Tire and Brake Wear	0.0000155	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
Medium Duty Tire and Brake Wear	0.0000218	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Tire and Brake Wear	0.0002575	0.79	0.79	1.04	1.04	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Light Duty Fugitive Road Dust(2)	0.000221	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.00	0.00	0.00
Medium Duty Fugitive Road Dust(2)	0.000467	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.00	0.00	0.00
Heavy Duty Fugitive Road Dust(2)	0.002314	7.06	7.06	9.37	9.37	0.12	0.12	0.12	0.12	0.12	0.00	0.00	0.00
Total Fugitive PM		8.28	8.28	10.85	10.85	0.56	0.56	0.56	0.56	0.56	0.00	0.00	0.00
Total		8.54	8.54	11.20	11.20	0.57	0.57	0.57	0.57	0.57	0.00	0.00	0.00

PM2.5	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty Exhaust	0.0000013	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medium Duty Exhaust	0.0000023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Idle Exhaust	0.0000095	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Exhaust	0.0000825	0.25	0.25	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Exhaust PM		0.25	0.25	0.34	0.34	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Light Duty Tire and Brake Wear	0.0000046	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Medium Duty Tire and Brake Wear	0.0000067	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty Tire and Brake Wear	0.0000824	0.25	0.25	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Duty Fugitive Road Dust(2)	0.000054	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00	0.00	0.00
Medium Duty Fugitive Road Dust(2)	0.000115	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00
Heavy Duty Fugitive Road Dust(2)	0.000568	1.73	1.73	2.30	2.30	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00
Total Fugitive PM		2.09	2.09	2.74	2.74	0.14	0.14	0.14	0.14	0.14	0.00	0.00	0.00
Total		2.35	2.35	3.08	3.08	0.15	0.15	0.15	0.15	0.15	0.00	0.00	0.00

CO2e	**Month**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Light Duty	0.305	467.03	467.03	467.03	467.03	467.03	467.03	467.03	467.03	467.03	0.00	0.00	0.00
Medium Duty	0.529	79.34	79.34	79.34	79.34	79.34	79.34	79.34	79.34	79.34	0.00	0.00	0.00
Heavy Duty	3.922	11961.10	11961.10	15882.77	15882.77	196.08	196.08	196.08	196.08	196.08	0.00	0.00	0.00
Heavy Duty Idling	2.029	42.60	42.60	62.89	62.89	2.03	2.03	2.03	2.03	2.03	0.00	0.00	0.00
Total		12550.07	12550.07	16492.03	16492.03	744.48	744.48	744.48	744.48	744.48	0.00	0.00	0.00

(1) Emfac2021 emission factors for the BAAQMD.

(2) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, January 2011

E = k(sL)0.91 x (W)1.02

Where: k = 0.0022 lb/VMT for PM10 and k=0.00054 for PM2.5, sL = road silt loading (gms/m2)

(0.03 for major/collector roads), W = weight of vehicles (2.5 tons for light; 5.5 for medium trucks, and 24 for heavy trucks)

Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Offroad Construction Vehicle Dust Emissions

Vehicle	Miles/Trip	Trips/Day
Light Vehicles	0.05	2
Total Light Vehicle Miles		0.1
Delivey Trucks	0.05	1
Water Trucks	0.1	1
Total Medium Truck Miles		0.15
Concrete Truck	0.05	10
Dump Trucks	0.05	20
Total Heavy Truck Miles		1.5
Tractors	0.05	1
Fork Lifts	0.05	1
Loader/Backhoe	0.05	1
Total Heavy-Heavy Duty Miles		0.15

PM10	Emission Rate (lb/mi)[1]	Emissions (lb/day)
Light Duty	0.9021196	0.09
Medium Duty	1.2863357	0.19
Heavy Duty	2.1931267	3.29
Heavy Heavy Duty	2.4962390	0.37
Uncontrolled Total		3.95
Controlled Total[2]		1.54

(1) Based on Section 13.2.2 of EPA's Compilation of Air Pollutant Emission Factors (AP-42).
Emission Rate = 1.5((s/12)^.9)*((W/3)^.45)
s = silt content = 8.5%
W = Vehicle Weight (ton) =2.5 for light, 5.5 for medium, 15 for heavy, and 24 for heavy heavy (EMFAC2007).

(2) Controlled Emissions assume that watering 3 times per day reduces emissions by 61 percent (Uncontrolled Emissions x 0.39)

Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Paint Emissions

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Volume paint applied per day (gal)																								
VOC content (lb/gal)[(1)]	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
ROG Emissions (lb/day)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(1) 100g/L for industrial maintenance coatings.

Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Peak Monthly Fugitive PM Construction Emissions

Grading Operations	Average Pieces of Equipment Operating	Peak Pieces of Equipment Operating	Hours of Operation	PM10 Emission Factor (lb/hour)	Water Control Factor[5]	Controlled Emissions: Average PM10 Emissions (lbs/day)	Controlled Emissions: Peak PM10 Emissions (lbs/day)	Uncontrolled Emissions: Average PM10 Emissions (lbs/day)	Uncontrolled Emissions: Peak PM10 Emissions (lbs/day)	SCAQMD Emission Factor Source
Construction Activities[1]	2	2	8	0.348	0.39	2.17	2.17	5.56218435	5.56218435	Table A9-9-F

Stockpiles	Average Tons of Materials Handled Per Day	Peak Tons of Materials Handled Per Day	PM10 Emission Factor (lb/ton)	Water Control Factor[5]	Controlled Emissions: Average PM10 Emissions Pounds/day	Controlled Emissions: Peak PM10 Emissions Pounds/day	Uncontrolled Emissions: Average PM10 Emissions Pounds/day	Uncontrolled Emissions: Peak PM10 Emissions Pounds/day	SCAQMD Emission Factor Source
Construction Activities[2]	1000	1000	0.00005	0.39	0.02009809	0.02009809	0.05153357	0.05153357	Table A9-9-G

Assumptions: 1cubic yard trench spoils = 1 ton

WIND EROSION Disturbed Area and Temporary Stockpiles	Days of Construction	Average Acreage Disturbed Per Day	Peak Acreage Disturbed Per Day	PM10 Emission Factor (lb/day/acre)	Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	Average PM10 Emissions Tons/Year	Peak PM10 Emissions Tons/Year	SCAQMD Emission Factor Source
Construction Activities[3]	80	1	1	0.120	0.120	0.120	0.005	0.005	Table A9-9-E

Filling and Dumping	Estimated Materials Handled Per Day (tons)	Peak Tons of Materials Handled Per Day	PM10 Emission Factor (lb/ton)	Water Control Factor[5]	Controlled Emissions: Average PM10 Emissions Pounds/day	Controlled Emissions: Peak PM10 Emissions Pounds/day	Uncontrolled Emissions: Average PM10 Emissions Pounds/day	Uncontrolled Emissions: Peak PM10 Emissions Pounds/day	SCAQMD Emission Factor Source
Truck Filling[4]	1000.0	1000.0	5.15E-05	0.39	0.02009809	0.02009809	0.05153357	0.05153357	Table A9-9
Truck Dumping	1000.0	1000.0	5.15E-05	0.39	0.02009809	0.02009809	0.05153357	0.05153357	Table A9-9

TOTAL PM10 Pounds/day	Average	Peak
(Controlled Emissions)	2.3493	2.34927
(Uncontrolled Emissions)	5.722	5.722

(1) Emissions (lbs/hr) = [0.75 x ($G^{1.5}$)/($H^{1.4}$) x J
where G = silt content (7.5%), H = moisture content (15.0%) and J = hrs of operation (EPA AP-42 Table 11.9-1 for bulldozing overburden).

(2) Emissions (lbs/ton) = 0.00112 x [($G/5$)$^{1.3}$/($H/2$)$^{1.4}$] x I/J
where G=mean wind speed (4.1 mph), H=moisture content of surface material (15%); I=lbs of dirt handled per day; and J=2,000 lbs/ton. Wind speed data acquired from Long Beach 2005-2007 SCAQMD meteorological file.

(3) Emissions (lbs/day/acre) = 1.7 x [(G/1.5)*(365-H)/235] x I/15 x J
where G = silt content (7.5%); H = days with >0.01 inch of rain (34); I = percentage of time wind speed exceeds 12 mph (0.3%) and J= fraction of TSP (0.5). Wind speed data acquired from Long Beach SCAQMD meteorological file.

(4) Used SCAQMD Table 9-9 Default emission factors.

(5) Mitigated Emissions assume that watering 3 times per day controls emissions by 61 percent (Uncontrolled Emissions x 0.39). www.AQMD.gov/CEQA/handbook/mitigation/fugitive/Table XI-A.doc

APPENDIX B-2

Operational Emissions

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Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Oxidizer Operational Emissions

Purge Pilot Gas Emissions

Assumptions

Diameter	24 Inches	
Pilots*	2	
Operating Time	8,760 Hours	
Total Purge and Pilot Gas Consumption	77 scf/hr	Estimate from manufacturer.
Purge Gas Consumption	11 scf/hr	
Pilot Gas Consumption	65 scf/hr	
Total Gas Consumption	1,349,040 scf/yr	
Total Gas Consumption	1.35 mmscf/yr	

*https://www.epa.gov/sites/production/files/2019-08/documents/flarescostmanualchapter7thedition_august2019vff.pdf; Table 1.3

		One Flare		Two Flares	
Pollutant	Emission Factor (lb/mmscf)	Emissions (lb/yr)	Emissions (tons/yr)	Emissions (lb/yr)	Emissions (tons/yr)
ROG	5.5	7.4	0.0	14.8	0.0
CO	84.0	113.3	0.1	226.6	0.1
NOx	100.0	134.9	0.1	269.8	0.1
SOX	0.6	0.8	0.0	1.6	0.0
PM10	7.6	10.3	0.0	20.5	0.0
PM2.5	7.6	10.3	0.0	20.5	0.0
CO2	120,000.0	161,884.8	73.4	323,769.6	146.9
N2O	2.2	3.0	0.0	5.9	0.0
CH4	2.3	3.1	0.0	6.2	0.0
CO2e	120,734	162,874.7	73.9	325,749.5	147.8

AP-42 Table 1.4-1 for external fired natural gas combustion.
GHG emissions reported in metric tons.

Non-Methane Hydrocarbon Destruction

Assumptions

Controlled Gas - Flare 1	3.2 mmscf/day
Controlled Gas - Flare 2	4.9 mmscf/day
NMHC Compostions	1 percent
Controlled NMHC - Flare 1	0.0032 mmscf/day
Controlled NMHC - Flare 2	0.049 mmscf/day

		Flare 1		Flare 2		Total	
Pollutant	Control	Emissions (lb/yr)	Emissions (tons/yr)	Emissions (lb/yr)	Emissions (tons/yr)	Emissions (lb/yr)	Emissions (tons/yr)
ROG	0.98	1.67E+03	8.34E-01	2.52E+03	1.26E+00	4.19E+03	2.09E+00

NMHC mass taken as natural gas (20 lb/lb-mol @ 379.3 scf/lb-mol).

Appendix B
Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Oxidizer Operational Emissions

Methane Combustion Emissions
Assumptions

Heating Value of Methane	1011	btu/scf
Controlled Gas - Flare 1	3.2	mmscf/day
Controlled Gas - Flare 2	4.9	mmscf/day
Methane compositions	4	percent
Controlled Methane - Flare 1	0.13	mmscf/day
Controlled Methane - Flare 2	0.19	mmscf/day

		Flare 1		Flare 2		Total	
Pollutant	Emission Factor (lb/mmbtu)	Emissions (lb/yr)	Emissions (tons/yr)	Emissions (lb/yr)	Emissions (tons/yr)	Emissions (lb/yr)	Emissions (tons/yr)
ROG	0.0	0	0.0	0.0	0.0	0.0	0.0
CO	0.3	14,765	7.4	22,301.0	11.2	37,065.5	18.5
NOx	0.1	3,239	1.6	4,891.8	2.4	8,130.5	4.1
SOX	0.0	0	0.0	0.0	0.0	0.0	0.0
PM10	0.0	1,286	0.6	1,942.3	1.0	3,228.3	1.6
PM2.5	0.0	1,286	0.6	1,942.3	1.0	3,228.3	1.6
CO2	117.0	5,572,285	2,527.6	8,416,645.0	3,817.8	13,988,929.7	6,345.3
N2O	0.0	11	0.0	15.9	0.0	26.4	0.0
CH4	0.93 ~~0.0~~	44,313 ~~105~~	20.1 ~~0.0~~	66,932.3 ~~158.6~~	30.4 ~~0.1~~	111,245.1 ~~263.6~~	50.5 ~~0.1~~
CO2e	148.7 ~~117.1~~	7,082,052 ~~5,578,985~~	3,212.4 ~~2,530.6~~	10,697,068.9 ~~8,426,765.2~~	4,852.2 ~~3,822.4~~	17,779,120.5 ~~14,005,750.1~~	8,064.6 ~~6,353.0~~

Criteria pollutant emissions based on AP-42 emissions factors for light smoking petroleum flares.
https://www3.epa.gov/ttn/chief/efpac/protocol/Protocol%20Report%202015.pdf
Methane is not a VOC, and no VOC formation is expected.
No sulfurous compounds are expected to be present in the vent gas.
GHG emission factors are from Subpart C Table C-1 and C-2 for natural gas (kg/mmbtu) except for methane. Methane emission factor was derived assuming 2% of methane in the vent gas are emitted to the atmosphere which is not generated from the flare combustion process.
GHG emissions reported in metric tons.

Hydrogen Combustion Emissions
Assumptions

Heating Value of Hydrogen	325	btu/scf	
Controlled Gas - Flare 1	3.2	mmscf/day	
Controlled Gas - Flare 2	4.9	mmscf/day	
Hydrogen Composition	95	percent	
Controlled Hydrogen - Flare 1	3.1	mmscf/day	Assumes 95% hydrogen.
Controlled Hydrogen - Flare 2	4.6	mmscf/day	Assumes 95% hydrogen.

		Flare 1		Flare 2		Total	
Pollutant	Emission Factor (lb/mmbtu)	Emissions (lb/yr)	Emissions (tons/yr)	Emissions (lb/yr)	Emissions (tons/yr)	Emissions (lb/yr)	Emissions (tons/yr)
ROG	0	0.0	0.0	0.0	0.0	0.0	0.0
CO	0	0.0	0.0	0.0	0.0	0.0	0.0
NOx	0.07	24,726.5	12.4	37,348.0	18.7	62,074.5	31.0
SOX	0	0.0	0.0	0.0	0.0	0.0	0.0
PM10	0	0.0	0.0	0.0	0.0	0.0	0.0
PM2.5	0	0.0	0.0	0.0	0.0	0.0	0.0
CO2	0	0.0	0.0	0.0	0.0	0.0	0.0
N2O	0.0002	80.2	0.0	121.1	0.1	201.3	0.1
CH4	0	0.0	0.0	0.0	0.0	0.0	0.0
CO2e	0.07	23,893.4	10.8	36,089.7	16.4	59,983.2	27.2

Criteria pollutant emissions based on AP-42 emissions factors for light smoking petroleum flares.
https://www3.epa.gov/ttn/chief/efpac/protocol/Protocol%20Report%202015.pdf
Assumes only NOx and N2O emissions from hydrogen combustion.

Appendix B

N2O emissions factors from Subpart C Table C-1 and C-2 for natural gas (kg/mmbtu).
GHG emissions reported in metric tons.

Appendix B

Bay Area Air Quality Management District
Regulation 13, Rule 5
Air Quality Analysis
Operational Emissions Summary

	ROG	CO	NOx	SOX	PM10	PM2.5	CO2e (MT)
Emissions from Control Equipment							
Average Daily Emissions (lb)	0.0	102.2	193.1	0.0	8.9	8.9	18
Annual Emissions (tons)	0.0	18.6	35.2	0.0	1.6	1.6	6,524
Emission Reductions from Controlled Methane							
Annual Baseline Emissions (tons)	0.0	0.0	0.0	0.0	0.0	0.0	85,783
Average Daily Emissions Reduction assuming 98% Control (lb)	0.0	0.0	0.0	0.0	0.0	0.0	230
Annual Emissions Reduction assuming 98% Control (tons)	0.0	0.0	0.0	0.0	0.0	0.0	84,067
ROG Emission Reductions from Controlled NMHC							
Average Daily Emissions Reduction assuming 98% Control (lb)	11.5	0.0	0.0	0.0	0.0	0.0	0.0
Annual Emissions Reduction assuming 98% Control (tons)	2.1	0.0	0.0	0.0	0.0	0.0	0.0
Net Emissions							
Average Daily Emissions (lb)	-11.4	102.2	193.1	0.0	8.9	8.9	-212.4
Annual Emissions (tons)	-2.1	18.6	35.2	0.0	1.6	1.6	-77,543

Assumes 4% of the flared gas is methane for 0.32 mmscf/day.

Assumes 1% of the flared gas is natural gas for 0.081 mmscf/day.

Assumes 95% of the flared gas is hydrogen for 7.7 mmscf/day.

	~~ROG~~	~~CO~~	~~NOx~~	~~SOX~~	~~PM10~~	~~PM2.5~~	~~CO2e (MT)~~
~~**Emissions from Control Equipment**~~							
~~Average Daily Emissions (lb)~~	~~0.0~~	~~102.2~~	~~193.1~~	~~0.0~~	~~8.9~~	~~8.9~~	~~17.9~~
~~Annual Emissions (tons)~~	~~0.0~~	~~18.6~~	~~35.2~~	~~0.0~~	~~1.6~~	~~1.6~~	~~6527.9~~
~~**Emission Reductions from Controlled Methane**~~							
~~Average Daily Emissions (lb)~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~235.0~~
~~Annual Emissions (tons)~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~85782.8~~
~~**ROG Emission Reductions from Controlled NMHC**~~							
~~Average Daily Emissions (lb)~~	~~11.5~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~
~~Annual Emissions (tons)~~	~~2.1~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~	~~0.0~~
~~**Net Emissions**~~							
~~Average Daily Emissions (lb)~~	~~-11.4~~	~~102.2~~	~~193.1~~	~~0.0~~	~~8.9~~	~~8.9~~	~~-205.5~~
~~Annual Emissions (tons)~~	~~-2.1~~	~~18.6~~	~~35.2~~	~~0.0~~	~~1.6~~	~~1.6~~	~~-79254.8~~
~~BAAQMD CEQA Thresholds~~	~~10.0~~	~~NE~~	~~10.0~~	~~NE~~	~~15.0~~	~~10.0~~	~~10000.0~~
~~**Significant?**~~	~~**No**~~	~~**NA**~~	~~**Yes**~~	~~**NA**~~	~~**No**~~	~~**No**~~	~~**No**~~

Assumes 4% of the flared gas is methane for 0.32 mmscf/day. Assumes

1% of the flared gas is natural gas for 0.081 mmscf/day.

Assumes 95% of the flared gas is hydrogen for 7.70 mmscf/day.

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APPENDIX F

Response to Comments Summary

Summary of Comments and Response on the Regulatory Package for Proposed New Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants and Proposed Amendments to Regulation 8: Organic Compounds, Rule 2: Miscellaneous Sources

Table of Contents

Comment Period Ending March 10, 2022

List of Commenters

The following table lists the individuals and organizations from whom Air District staff received written comments prior to the March 10, 2022, comment deadline.

Commenter	Contact Information
Air Products and Chemicals, Inc. (Air Products)	Scot Govern Senior Principal Environmental Specialist Letter, March 10, 2022
Chevron Products Company (Chevron)	Laurie Mintzer Senior Environmental Permitting Specialist Letter, March 10, 2022
Davidson, Charles (C. Davidson)	Charles Davidson Private Individual Letter, March 9, 2022
Holtzman, Jed (J. Holtzman)	Jed Holtzman Private Individual Letter, March 10, 2022
Martinez Refining Company (MRC)	Richard Shih Senior Environmental Engineer Letter, March 10, 2022
Rosenblum, Stephen (S. Rosenblum)	Dr. Stephen Rosenblum, Ph.D., Chemistry Private Individual Email, February 19, 21, March 9, 2022
Valero Refining Company (Valero)	Taryn Wier Manager, Environmental Engineering Letter, March 10, 2022
Western States Petroleum Association (WSPA)	Kevin Buchan Senior Manager, Bay Area Region Regulatory Affairs Letter, March 10, 2022

General Comments

References to Previous Comments or Comments Submitted by Others

Comment: Several commenters referred to comments submitted previously in relation to earlier versions of draft regulatory language or Workshop and Staff Reports. Three industry representatives expressed support for the comments provided by WSPA.

Air Products, Chevron, MRC, Valero, WSPA

Response: The Air District reviewed previously submitted comments as referenced in current comments. The text of Proposed New Regulation 13: Climate Pollutants, Rule 5: Industrial Hydrogen Plants (Rule 13-5) has changed over time, in part in response to comments received earlier in the rulemaking process. To the extent any of these comments are germane to the current version of the documents and proposed regulatory language, they are addressed herein. The Air District acknowledges the support of Chevron, MRC, and Valero for all comments made by WSPA.

Comment Period

Comment: The commenter expressed concern that the final rule package was published with insufficient time to integrate substantive public comment, and the belief that this is the first opportunity to comment on the specifics of the Rule 13-5.

J. Holtzman

Response: The written comment period for this rule development is based on statutory requirements set forth under the California Environmental Quality Act (CEQA), which is a 45-day comment period for a Draft Environmental Impact Report (Draft EIR). For rules that do not require an EIR, the customary written comment period is typically 30 days, although this is not statutorily required. Throughout the development of this proposed regulation over the last three years, the Air District provided multiple opportunities for stakeholders to review and comment on draft concepts, draft rule language, and associated reports.

Existing Conditions Baseline

Comment: The commenter questioned the use of data from 2019 as representative of "existing conditions" of Bay Area air pollution in Table 3.2-2 of the Draft EIR and suggests that data from 2020 would be more appropriate as it is now 2022.

WSPA

Response: The economic impacts resulting from the COVID-19 pandemic and subsequent economic slowdown render more recent data (2020 in particular) nonrepresentative of normal operating conditions. Rule 13-5 relies on a three-year period of 2016 through 2018 for baseline conditions which is most representative of recent normal operations.

Basin-wide Methane Strategy

Comment: The commenter requested that the Air District recommit to pursuing a Basin-Wide Methane Strategy as originally proposed in the 2017 Clean Air Plan and suggested that Air District actions to date have been inadequate to address methane emissions in the Bay Area.

J. Holtzman

Response: The comment is noted. Rule 13-5 is the first Rule proposed as part of the Basin-Wide Methane Strategy. An important step in advancing the Basin-Wide Methane Strategy is securing approval of this Rule by the Air District Board of Directors. Additional methane-

reduction efforts that the commenter would like to occur in the Bay Area Air Basin are beyond the scope of this rulemaking effort.

Alternative Compliance Plan (ACP)

Comment 1: Two commenters requested that the ACP be expanded to include other greenhouse gas (GHG) reductions accomplished outside of the hydrogen plant from other parts of refinery operations or even offsite reductions. One asked to substitute non-methane GHG reductions greater than the 20 percent as provided in Rule 13-5 with emissions averaged over a three-year period. The other commenter sought clarification that emissions from deaerator vents and carbon dioxide vents are not part of the baseline emissions determination.

MRC, WSPA

Response 1: Rule 13-5 is being proposed to reduce methane and other organic compound emissions from hydrogen plants. Air District staff added the ACP option in Section 13-5-303 to provide additional flexibility that will enable hydrogen plant owners and operators to achieve methane reductions equivalent to those that would result from compliance with Section 13-5-301, and to provide a compliance approach that would likely eliminate the need for a flare. Air District staff believes that the compliance flexibility components of Rule 13-5 should be limited to emissions reductions that can be achieved within the hydrogen plants. In addition, some independent hydrogen plant operators do not have the ability to require non-methane GHG (ostensibly carbon dioxide) emission reductions from the refineries they serve. To apply the Rule consistently to all potentially affected facilities, the non-methane GHG allowance should be limited to sources at the hydrogen plant since this the source to which this Rule applies. Rule 13-5 allows for but does not require operators to reduce up to 20 percent of the required methane reductions in the form of other GHGs, including carbon dioxide, exchanged on an equivalent basis. This is a form of regulatory flexibility intended to facilitate compliance; it is appropriate for the Rule to limit these substitutions to conditions on where those reductions originate at a proportional limit to ensure that methane emissions reductions remain the primary focus of the Rule. Averaging emissions reductions over longer time periods could potentially lead to excessive short-term emissions and bring unnecessary complexity to implementation and enforcement of the Rule.

As previously discussed, Air District staff established the baseline methane emissions as the average of years 2016, 2017, and 2018. These emissions data do not include emissions from deaerator vents or carbon dioxide vents and these vents would not be included in the methane emissions inventory used to determine the baseline for Section 13-5-403.

Comment 2: One commenter suggested that the emissions standards of Rule 13-5 be replaced with a hydrogen venting minimization plan, pointing to refinery emissions reductions achieved through use of flare minimization plans in compliance with Air District Regulation 12: Miscellaneous Standards of Performance, Rule 12: Flares at Refineries. The commenter believes that building the Rule around a hydrogen venting minimization plan would result in less impact to the environment without the need for a flare and refers to previous comments to the Air District both written and verbal to this effect.

Valero

Response 2: Rule 13-5 was modeled on Regulation 8: Organic Compounds, Rule 2: Miscellaneous Operations (Rule 8-2) by setting maximum emission limits for uncontrolled sources of methane. The Air District has also included the ACP option in Section 13-5-303 to provide additional flexibility to achieve methane reductions equivalent to those that would result from compliance with Section 13-5-301, and to provide a compliance approach that would likely eliminate the need for a flare. A hydrogen venting minimization plan may serve as all or part of the ACP so long as it complies with all of the requirements of the Rule, including the 90 percent equivalent emissions reduction criteria. Requiring a minimum level of emissions reductions is necessary to achieve the purposes of the Rule.

Further, a minimization plan would not necessarily ensure a specific level of emission reduction that the Proposed Rule requires and would also necessitate that the affected facilities draft plans and Air District staff review and approve those plans and then the facilities comply with the elements of said plans. This level of effort is not necessary to reduce methane to the extent the emissions standards of Rule 13-5 require.

Comment 3: One commenter suggested that the ACP is unwarranted and asked that it be removed from Rule 13-5, and one commenter objected to any substitution of longer lived GHGs for methane.

J. Holtzman, S. Rosenblum

Response 3: The Air District statutory authority allows consideration of alternative means of compliance to achieve equivalent emissions reductions. The option set forth in Section 13-5-303 achieves this goal by allowing the affected facilities the opportunity to achieve equivalent emissions reductions with greater flexibility while potentially avoiding the construction of flare as the means of control. The detailed calculation demonstrating the equivalency will be included in the final Staff Report. Although the ACP allows for up to 20 percent substitution of other longer lived GHG emissions reductions, these reduction amounts would be subject to global warming potential (GWP) conversion as proscribed in the Rule. For example, 34 tons of carbon dioxide would need to be reduced as a substitution of one ton of methane reduced.

Comportment with State and Federal Programs

California's Cap-and-Trade Program (Cap-and-Trade)

Comment: One commenter questioned if the 20 percent GHG substitution provisions of the ACP option, as detailed in Section 13-5-303 of Rule 13-5, would conflict with Cap-and-Trade limitations on Air District authority to regulate carbon dioxide, as set forth in California Health & Safety Code Section 38594(b), the California Global Warming Solutions Act of 2006.

S. Rosenblum, WSPA

Response: Section 13-5-303 includes an allowance for methane emissions to be offset up to 20 percent by other GHG emission reductions. This option is not specifically limited to carbon dioxide, and is a voluntary option, not a requirement of the Rule. Rule 13-5, therefore, does not directly regulate carbon dioxide, but rather provides additional regulatory flexibility to comply

with its required methane reductions. Section 38594(c)(1) of the California Health and Safety Code provides that the Air District retains authority to adopt a rule for purposes other than to reduce carbon dioxide from sources subject to a market-based compliance mechanism adopted by the state board. Thus, Section 13-5-303 does not violate Section 38594(b) of the California Health & Safety Code.

Intergovernmental Panel on Climate Change (IPCC) guidance

Comment: One commenter suggested that Rule 13-5 is in conflict with or is contradictory to existing State and federal regulations so as to violate statutory guidelines for consistency, and that Rule 13-5 represents an example of a "problematic" or "ineffective" regulation as identified by the IPCC. The commenter further suggests that societal benefits of GHG reductions will be offset by other emissions within Cap-and-Trade and suggests language from the IPCC on sub-national programs be included in the final draft Staff Report for Rule 13-5.

WSPA

Response: As an initial matter, it should be noted that, while all current industrial hydrogen plants within the Air District's jurisdiction are affiliated with refineries and subject to Cap-and-Trade, it is possible that future stand-along hydrogen plants that are subject to Rule 13-5 may not be Cap-and-Trade sources. It should also be noted that Section 38594(c) of the Health & Safety Code explicitly affirms air districts' authority to adopt GHG reduction rules, so long as they do not regulate carbon dioxide from Cap-and-Trade sources. Further, while the IPCC recognizes there are concerns with local/sub-national regulation, it also recognizes that the benefits can outweigh these concerns.

Moreover, Air District staff believes the commenter has mischaracterized Rule 13-5 with respect to the referenced IPCC report, as Rule 13-5 actually complements Cap-and-Trade by demonstrating that early reductions can be achieved that may accelerate progress needed to address climate change. The Staff Report recognizes that the Rule could result in the generation of carbon offset credits that could be sold on the market; this is one of the benefits of Rule 13-5 and the sale of these credits could help to offset the cost of compliance, although this potential cost benefit was not included in the cost analysis. While the operators of the facilities that reduce methane emissions can translate those reduction into credits on the market, these credits would still be subject to discount provisions as the overall cap declines over time as is required under Cap-and-Trade.

Additionally, notwithstanding commenter's characterization of the referenced IPCC report, it also speaks to potential beneficial interactions of local efforts with broader jurisdictional efforts, such as Cap-and-Trade. In the subsection just prior to the one referenced by the commenter; the IPCC report states: "Policies introduced by a local jurisdiction sometimes reinforce the goals of efforts undertaken at a higher jurisdictional level. In particular, a sub-national policy can enhance cost-effectiveness if it addresses market failures that are not confronted by a national climate policy."[i] This is the case here, as Cap-and-Trade does not specifically target methane – a long-lived GHG – reductions that can be achieved from industrial hydrogen plants. The same subsection goes on to state that "Local-level action can also be a good source of information by allowing experimentation… Thus, an appealing feature of local-level actions are their ability to

try out policy options not currently in place at the higher jurisdictional level; the higher jurisdiction may have more confidence in introducing a policy subsequently if it already has a successful track record at the more local level." This is the case with Rule 13-5 because it provides a model for the types of regulations that can reduce GHG emissions within the larger Cap-and-Trade framework. Further, compliance with Rule 13-5 has been demonstrated to be cost effective, as demonstrated by the other five hydrogen plants that have provided the Air District with information indicating they would be in compliance with the emissions limits of Rule 13-5.

The IPCC report also points out that "…local policies can produce beneficial strategic interactions. If national policy is insufficiently stringent, a stringent state / province or even municipal policy may create pressure on the national government to increase its own policy's stringency. Goulder and Stavins (2011) cite the example of California, which repeatedly increased the stringency of its local air pollution standards and was repeatedly followed by the federal government increasing Clean Air Act regulations' stringency." The Air District often leads the State in the control of various air pollutants, and Rule 13-5 is an example of that leadership. Rule 13-5 comports with the State's Climate programs while achieving early reductions of GHGs and other pollutants.

Thus, contrary to commenter's suggestion, Rule 13-5 is not an example of what the IPCC considers a "problematic" or "ineffective" regulation, but rather is the type of local regulation that beneficially interacts with a state-level program like Cap-and-Trade.

Global Warming Potential (GWP)

Comment: Commenters suggested that the Air District should use different values for the GWP of methane when determining carbon dioxide equivalent emissions and reductions, and some pointed to inconsistent use of methane GWP values in the Staff Report for Rule 13-5. Commenters stated that the IPCC's fifth assessment report (AR5) suggests that various metrics and time horizons can be used to compare the contributions to climate change from emissions of different substances and AR5 provides a methane GWP of 34 when considering a 100-year time horizon and a methane GWP of 86 when considering a 20-year time horizon. Commenter noted that AR5 further states that "No single metric can accurately compare all consequences of different emissions and all have limitations and uncertainties". One commenter suggested that the Air District use a value of 86, and another suggested that the Air District use a value of 25 citing federal and State programs.

C. Davidson, WSPA

Response: The Air District appreciates the comment regarding inconsistent use of GWPs and clarifications are now provided in the final Staff Report. Schedule T of Air District Regulation 3: Fees sets the GWP for methane at 34. The Air District believes that this is the most appropriate GWP value to use as it will ensure internal consistency with our other climate protection programs. As noted in the submitted comments, AR5 recommends the use of 34 as the 100-year time horizon GWP for methane. In its fourth assessment report (AR4), the IPCC provided a GWP value of 25 for methane. This value is only used for the 2000-2019 emission

inventory in the Staff Report for Rule 13-5. None of the clarifications made in the Staff Report regarding GWP affect the analysis or conclusions associated with this rulemaking process.

California Environmental Quality Act (CEQA)

Draft EIR Calculations

Comment: Commenters raised several questions related to emission calculations provided in the Draft EIR. One commenter suggested that supplemental fuel may be required for flaring during startup or other times of low heating values of vent streams and asked the Air District to address concerns regarding the low heating value of hydrogen and how this might affect its use in fuel gas recovery systems. A second commenter echoed the former point in relation to "idealized vent streams" and further questioned the source, consistency, and veracity of emission factors used for the calculations.

MRC, WSPA

Response: Air District staff believes that supplemental gas usage due to startup and shutdown events will be negligible in comparison to the overall natural gas usage for pilot and purge gas for several reasons. First, industrial hydrogen plants generally operate in conjunction with a refinery and is a continuous process with infrequent startup and shutdowns; this is true in general of hydrogen production operations. The infrequency of start-up and shutdown was supported by historical operational data provided by one of the refineries. Second, 40 CFR Section 63.670 allows assignment of a heat content that is higher than the actual measured heat content of hydrogen based on the high combustibility and flame stability of hydrogen flames which would minimize the necessity of supplemental gas during flare operations. Third, the Air District has not received any operational data that indicate the necessity of supplemental gas during these operational scenarios.

The emissions associated with purge gas are included in the Draft EIR calculations. The purge gas rate was provided by a flare equipment manufacturer.

In the Draft EIR, routing of excess hydrogen to a fuel gas recovery system is presented as one of the potential approaches that hydrogen plant owners or operators may implement to comply with Rule 13-5 since this is a known method implemented in practice to mitigate the total organic compound emissions from a hydrogen plant. In addition, the environmental impact analysis is based on installation of new flares, which provides the worst-case scenario environmental impact, and is not based on routing of excess hydrogen to a fuel gas recovery system. Lastly, Rule 13-5 does not require the operation of a flare and only requires that the owner and/or operator comply with the emission standards in Rule 13-5. Thus, the emissions calculations in the Draft EIR represent a worst-case scenario and actual emissions associated with implementing Rule 13-5 might be much lower.

As for the particulate matter (PM) emissions calculation, Air District staff has determined that the PM emissions are expected to be lower than a typical refinery flare since the sulfur typically contained in a refinery flare vent gas is not expected to be present in the feed to the hydrogen plant as the feeds to the hydrogen plants are treated to remove sulfur to avoid catalyst poisoning

upstream. Given that sulfur is a precursor to PM, the emission factor for light smoking petroleum flare was used when calculating PM emissions and most likely overestimates those emissions.

Draft EIR Project Objectives

Comment: One commenter believes Rule 13-5 to be in violation of CEQA because it does not meet the objectives identified in the Draft EIR: namely, to reduce emissions of GHGs as well as other organic compounds associated with operation of industrial hydrogen plants, and to assist the Air District in meeting its policy goal of reducing GHG emissions to 40 percent below 1990 levels by 2030. The commenter further states that the Air District has not adequately addressed impacts arising from control measures needed to comply with the Rule or evaluated mitigation of these impacts, and that implementation of the Rule will not comply with Cap-and-Trade and therefore violates CEQA.

WSPA

Response: Air District staff believes the Draft EIR fully evaluates the environmental impacts associated with controls required to meet the emissions standards of Rule 13-5 and includes a thorough discussion of potential mitigation measures to address these impacts. With respect to potential air quality impacts, the Draft EIR acknowledges that NOx emissions are potentially significant, notwithstanding the implementation of feasible mitigation measures. The Board of Directors of the Air District will consider whether these impacts are outweighed by the reductions in VOCs and GHGs that will result from adoption of Rule 13-5. With respect to GHG emissions, as stated on page 3.3-20 of the Draft EIR, "the emission reductions from Proposed Rule 13-5 are expected to greatly exceed the potential increase in GHG emissions, resulting in a beneficial impact on climate change." Thus, Rule 13-5 will achieve the objectives identified in the Draft EIR and will assist in meeting Air District policy goals. Regarding compliance with Cap-and-Trade, please see the response on that subject in the previous section on Comportment with State and federal Programs: IPCC Guidance.

Cost Estimations

Socioeconomic Impact Analysis Calculations

Comment: Commenters questioned the assumed costs for monitoring and control equipment and asserted the Air District erroneously calculated the annualized costs of controls, and improperly differentiated between capital and annual costs in the totals provided for the report.

MRC, WSPA

Response: Air District staff has reviewed the calculations provided by commenters and made appropriate revisions. Monitoring costs have been revised based on the assumption that a facility operator is required to obtain daily samples via manual sampling. The monitoring requirements in Sections 13-5-501, 502, and 504 do not require continuous analyzers, which was assumed for the cost figure cited in the comment, although the installation of a continuous analyzer in lieu of daily manual sampling is an acceptable method of monitoring to comply with Sections 13-5-501, 502, and 504. Calculations have been revised to include a capital recovery factor, a tax factor, an

insurance factor, general and administration costs, and operating and maintenance costs. The revised cost will be included in the Final Staff Report and Socioeconomic Impact Analysis report.

With the revised cost calculation, the total annual compliance cost for all facilities combined ranged from about $15.32 million to $17.65 million. This represents 1.9 to 2.2. percent of the estimated net income of the affected facilities combined. For the Valero and PBF Energy plants, which require major capital expenditures, the upper range costs represent 3.7 and 4.9 percent of net income, respectively. For the Air Liquide plant, which is a smaller facility, the annualized monitoring costs represent 7.6 to 11.3 percent of estimated net income.

The upper end cost estimate range may represent costs exceeding the ten percent threshold of significance for the Air Liquide plant. While the high-end estimate should be considered a worst-case scenario and costs may be substantially lower than this estimated figure, potential impacts associated with costs above the threshold of significance were estimated. Of particular concern under the California Health and Safety Code would be the potential for lost jobs at the plant to compensate for the impact to net income. At $270,000 per year, the upper end impact is about $30,000 above the 10 percent impact threshold. The average salary and benefits for workers in the gas production industry in California is $92,300. The cost impact, therefore, represents less than a third of the cost for one employee at Air Liquide. Thus, the Air District staff concludes that it is unlikely the company would choose to reduce employment to mitigate this impact.

The potential cost mitigation that may result from carbon credits were not included in the cost calculation. Carbon credits allow for business operations that generate carbon emissions to offset those impacts by trading credits with other activities that reduce, remove, or avoid greenhouse gas emissions. Applied to the proposed reduction of 2,504 tons of methane (equivalent to 85,119 tons of carbon dioxide based on a 34 GWP for methane), this would result in a carbon credit value ranging from $1.3 million to $2.1 million. The compliance cost may be lower than the values presented in the Socioeconomic Impact Analysis report since these costs may be offset by the carbon credits generated through the greenhouse gas emissions reductions.

Staff Report Calculations

Comment: The commenter identified arithmetic errors in the hypothetical example calculation provided to demonstrate the alternative methane and other GHG emissions standard option of Section 13-5-303.

S. Rosenblum

Response: The Air District notes the comment and the example calculations are revised to address the errors in the final version of the Staff Report. These errors and their correction have no bearing on any other calculations or conclusions drawn in the Staff Report.

Regulatory Language, General

Description and Applicability

Comment: The commenter suggests changes to rule language to clarify that the emission limits in Rule 13-5 only apply to atmospheric vents "in industrial hydrogen plants" and asks that an exemption from Rule 13-5 be provided for atmospheric vents controlled by flares, oxidizers, or other means of collection.

Valero

Response: The definition of atmospheric vents makes clear that abated vents would not be subject to emission standards or monitoring requirements. Emissions from and monitoring of abated sources of emissions are subject to Air District permit conditions and, as long as the abatement device operates within permitted parameters, such vents would not be subject to the emissions standards or monitoring requirements of the Rule.

Limited Exemption from Monitoring Requirements

Comment: The commenters requested limited exemptions from monitoring requirements for atmospheric vents operating in specific conditions. One commenter asked for an exemption for atmospheric vents that are used infrequently and only for a few days at a time. Another commenter requested an exemption from monitoring when an atmospheric vent is uncontrolled during maintenance of an abatement device and another proposed periodic source testing in place of monitoring during startup, shutdown, and emergencies. Another asked that monitoring not be required if a vent is abated. Finally, one commenter asked for an exemption for atmospheric vents associated with high purity hydrogen streams, such as those involved with production and delivery systems for fuel cell electric vehicle grade hydrogen. This commenter also asked for verification that small-scale hydrogen plants were exempt from monitoring requirements of the Rule so long as recordkeeping requirements are met to verify the hydrogen capacity limits found in Section 13-5-105.

Air Products, Chevron, MRC, Valero

Response: Air District staff does not believe that an exemption for infrequently used atmospheric vents is warranted. Detailed emissions information has not been presented to the Air District to demonstrate that these sources would have only a minimal contribution to emissions of total organic compounds. Similarly, Air District staff does not believe an exemption for atmospheric vents during startup, shutdown, and maintenance of an abatement device, or in emergency situations is warranted without detailed emissions information supporting such exemptions. In the event that the operator of a facility is unable to comply with the Rule requirements due to matters beyond their control, relief may be sought through the variance process before the Air District Hearing Board. Abated vents would not be vented directly to the atmosphere and, therefore, would not be subject to monitoring requirements. If sources can be shown to emit less than the emission limits set forth in Section 13-5-301, then they would be considered in compliance with the Rule. High purity hydrogen streams would not likely exceed the standard of 300 parts per million (ppm). For monitoring of these streams, the

facility may present the engineering means of verifying the purity of these streams as an alternative method which may be approved by the APCO as sufficient. The Final Staff Report has been revised to provide clarification on this issue. Regulatory language has been modified to clarify that small-scale industrial hydrogen plants are exempt from the requirements of Rule 13-5 so long as records are maintained pursuant to Section 13-5-506.3.

Exemption for Short Term Releases from Specific Atmospheric Vents

Comment: The commenter requested the addition of an exemption from the requirements of the Rule for a vent that is utilized during startups and shutdowns that is primarily steam and so infeasible to combust. Cooling down the steam to remove water is feasible but would produce an elevated risk of corrosion.

Valero

Response: Before an exemption could be considered for such a vent, Air District staff would have to understand the nature of these emissions, and also determine that there was not a cost-effective means for addressing any total organic compound emissions from these vents. Such information has not been provided to Air District staff. Thus, the requested exemption is not warranted.

Exemption for Startup, Shutdown, and Maintenance Conditions

Comment: One commenter stated that without an exemption from startups, shutdowns and maintenance, their facility would need to run a flare constantly in anticipation of infrequent emergency and shutdown scenarios. Other commenters asked for an allowance for maintenance periods of control devices which would typically be of short duration.

MRC, Valero, WSPA

Response: The emission limits of Rule 13-5 are fashioned largely on those of Rule 8-2 which was adopted in 1980 and limits emissions of total carbon to 15 pounds per day and 300 ppm without an allowance for startup and shutdowns. Air District staff believe that if hydrogen plant owners and operators subject to Rule 8-2 are capable of meeting its emissions limit at all times, then hydrogen plant owners and operators should similarly be able to meet the emissions limits of Rule 13-5, regardless of the means of control. Affected facility operators are responsible for ensuring compliance with those emissions limits regardless of the method of control employed. This is the case with the control of other air pollutants and should be the case under this Rule. With respect to maintenance of control devices, in the event that the operator of a facility is unable to comply with rule requirements due to matters beyond their control, relief may be sought through the variance process before the Air District Hearing Board.

Exemption from Regulation 12, Rule 12 for Hydrogen Flares

Comment: The commenter requests that the requirements of Regulation 12: Miscellaneous Standards of Performance, Rule 12: Flares at Refineries (Rule 12-12) not apply as a result of flaring to meet the requirements of Rule 13-5.

MRC

Response: The provisions of Rule 12-12 are beyond the scope of this rulemaking effort, and determinations such as those proposed are more appropriately made at a permitting level. In the past, Air District staff have made the determination that a hydrogen flare is exempt from the requirements of Rule 12-12 when there is no potential of refinery fuel gas flaring. Such a determination requires extensive review of facility plans and would be part of the routine evaluation of an operating permit for such a flare.

Regulatory Language, Definitions

Atmospheric Vent

Comment: One commenter found the definition to be overly broad to the extent that it would include all vents regardless of total organic compound content, even those with low methane levels. The commenter believes that atmospheric vents should be defined as only those that vent total organic compounds including methane. Several commenters suggested revisions to the definition to ensure that emissions from abatement devices such as flares or other combustion sources are not subject to the emissions standards of Rule 13-5, or to explicitly exclude vent streams routed to a control device or gas recovery device.

Air Products, MRC, Valero, WSPA

Response: At the onset of this rule development effort, Air District staff had limited understanding of the nature of the emissions from atmospheric vents located at hydrogen plant. The characterization of the emissions from these vents is vital to crafting a well-developed rule. Further, understanding whether material vented from any potential source of emissions that may have an impact on air quality is within the Air District's jurisdiction. In addition, the monitoring requirements for carbon dioxide and deaerator vents allow for the operator to request a decrease in the monitoring frequency after eight quarterly samples have been taken.

The definition of atmospheric vents makes clear that abated vents would not be subject to emission standards or monitoring requirements. The text of the Draft Staff Report erroneously stated that abated vents were subject to the emissions standards and monitoring requirements of the Rule; this has been corrected in the Final Staff Report. Abated vents would require an Air District permit and so long as the abatement device operates within permitted parameters, it would not be subject to the emissions standards or monitoring requirements of Rule 13-5.

Industrial Hydrogen Plant

Comment: One commenter requests that the definition be changed to remove delivery systems, compression operations, and tail gas from the definition of "Industrial Hydrogen Plant." Another asks if Rule 13-5 will apply to hydrogen production independent of a refinery.

S. Rosenblum, Valero

Response: The first commenter may be referring to a previous draft of Rule 13-5. As currently proposed, an Industrial Hydrogen Plant is defined as a comprehensive hydrogen operation that includes all operations that produce hydrogen via steam-methane reformation and the delivery

and distribution system to downstream consumers (including compression operations). It does not include tail gas and the "boundary" ends at that downstream consumer unit. Air District staff believes monitoring and controlling any atmospheric vents contained within this boundary is reasonable. Rule 13-5 applies to any hydrogen plant utilizing the methane-steam reformation process and that has a daily hydrogen production rate of 20 tons or more, regardless of whether it is located at a refinery.

Organic Compound and Total Organic Compounds

Comment: The commenter believes that the definitions are ambiguous with reference to carbon monoxide, carbon dioxide, and carbonic or metallic carbides or carbonates.

WSPA

Response: Air District staff does not believe these definitions are ambiguous. The definition of "Organic Compound" found in Regulation 1: General Requirements is: "Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate." The compounds referenced in the comment are explicitly excluded from the definition of "Organic Compound." The definition of "Total Organic Compound" in Rule 13-5 adds methane to the other compounds included in the definition of "Organic Compound" and is reflective of the definition of "Total Organic Compound" found in Regulation 8, Organic Compounds, Rule 18: Equipment Leaks, Section 8-18-219.

Regulatory Language, Standards

Emission Limits

Comment: The commenter asks for confirmation that after indicating its intent to utilize the ACP provisions of Section 13-5-303, a facility operator may still opt to comply with the provisions of Section 13-5-301 so long as all deadlines in that section are met.

MRC

Response: This is correct. The language of Section 13-5-401 has been revised to clarify that those provisions that detail permitting and operating control devices do not apply to those owner/operators that will comply with 13-5-303, rather than those owner/operators who submit an ACP. In addition, Section 13-5-303.4 addresses this comment: "No later than two years following the adoption date of this Rule, the APCO shall approve or deny the Alternative Compliance Plan to meet this alternative standard. In the event that the plan is denied, the owner and/or operator of an industrial hydrogen plant may not utilize this optional standard and must comply with Sections 13-5-301 and 401." This does not preclude an owner/operator with an approved ACP from complying with Sections 13-5-301 and 401. The timelines for both compliance options are aligned to allow this possibility.

Comingling and Dilution Prohibition

Comment: The commenter suggests that in order to allow some streams to be comingled for purposes of control, the language of Section 13-5-302 should be changed to, "Any atmospheric vent that is in service prior to the adoption of this Rule cannot comply with the concentration standard set forth in Section 13-5-301 solely through dilution and/or comingling."

WSPA

Response: The emission limits of Rule 13-5 apply to atmospheric vents that emit gases directly to the atmosphere and not those routed to a control device. Any streams that are comingled prior to abatement would not be subject to the emissions standards in Section 13-5-301 and therefore would not result in a violation of Section 13-5-302. Monitoring of and emissions from abated sources would be subject to permit conditions and the abatement device would be in compliance with this section of the Rule as long as it operates within permitted parameters. The Staff Report has been revised to clarify this section of Rule 13-5.

Alternative Emissions Standard

Comment: One commenter asserted that Rule 13-5 must be written so that emissions limits eventually fall to zero in order for it to be effective. Another commenter objected to the ACP provisions stating that a 90 percent reduction in the emissions inventory for some facilities would not bring it below the 15 pounds per day level and further objected to any substitution of longer lived GHGs for methane.

J. Holtzman, S. Rosenblum

Response: In addressing GHGs, like other pollutants, including toxics and undifferentiated particulate matter, Air District staff believes it is reasonable to achieve interim levels of cost-effective emissions reductions. As indicated in the Staff Report's incremental cost-effectiveness analysis, reducing over 90 percent of the methane emissions from hydrogen plants is much more cost-effective than reducing these emissions by the next increment of 10 percent. The alternative compliance option is based on the overall control efficacy of the most likely method of compliance with Section 13-5-301, which is combustion via a flare. The overall efficiency of a dedicated hydrogen flare from a carbon dioxide equivalent (CO_2e) reduction basis is estimated to be approximately 90 percent; the components of this efficiency estimate include 1) a flare hydrocarbon (including methane) destruction efficiency of 98 percent; 2) accounting for the generation of carbon dioxide emissions from the combustion of the hydrocarbon, including the additional fuel needed for pilots and purge gas, and 3) the two percent of hydrocarbons remaining after combustion. Thus, the ACP option would achieve generally equivalent GHG emissions reductions as compliance with the standard in Section 13-5-201 as shown in the Staff Report. The basis for the emissions values used in the calculation is provided in Appendix B of the Draft EIR.

The above value (90.4 percent) is the overall net emissions reduction due to compliance with Section 13-5-301: Emission Limits for Industrial Hydrogen Plants using a flare and is basis of the 90 percent control efficiency requirement of the alternative compliance option contained in

Section 13-5-303: Alternative Methane and Other Greenhouse Gas Emissions Standard Option of the Rule.

A detailed calculation demonstrating the equivalency will also be included in the Final Staff Report. The level of control must be reflective of the current industry standard, which is flaring, although higher levels of control may be achieved through the operation of a pressure swing adsorption system, which is far more costly. As stated in the earlier response to comments about the ACP, substitution of longer-lived GHGs for methane is limited to one fifth of the total and must be discounted by the GWP for the compound.

Regulatory Language, Administrative Requirements

Control Device Requirements

Comment: Two commenters suggested that the intermediate deadline from issuance of an Authority to Construct (A/C) to beginning construction of an emissions control device was unnecessary and asked that it be removed from Rule 13-5. Two other commenters identified the "by the next turnaround" language in the emissions control device provisions of the Rule as unreasonable given that the owner of a facility may have such a turnaround planned for shortly after the relevant trigger in the Rule, be it rule adoption, or issuance of an A/C.

Air Products, MRC, Valero, WSPA

Response: The Air District agrees with these comments and has removed this intermediate construction deadline; however, the operation of the control equipment must begin within three years of issuance of and A/C. Air District staff reviewed the "turnaround" language and provided additional clarity in revisions to the final Staff Report. The regulatory language of Rule 13-5 has been revised to address both of these concerns.

Reporting Requirements

Comment: Commenters asked when the reporting requirements apply and suggested that they not be applied to atmospheric vents routed to control devices. Commenters also suggested alternative reporting timelines to be consistent with either Title V self-reporting guidelines or the timeline for a reportable flaring event as described in Rule 12-12.

MRC, Valero, WSPA

Response: The reporting requirements in Section 13-5-402 would only be triggered by a breakdown of the control device abating an atmospheric vent. As such the regulatory language has been revised to make the notification and reporting requirements consistent with the breakdown provisions of Sections 1-431 and 1-432 of Air District Regulation 1: General Provisions and Definitions.

Regulatory Language, Monitoring and Records

General Monitoring Requirements

Comment: Commenters suggested that monitoring requirements be aligned with the effective dates of the emission standards and identified the "by the next turnaround" language in the monitoring provisions of Rule 13-5 as unreasonable given that the owner of a facility may have such a turnaround planned for shortly after the relevant trigger in the Rule, be it rule adoption, or issuance of an A/C.

Air Products, MRC, WSPA

Response: The Air District believes that monitoring of atmospheric vents should not be delayed until the facility comes into compliance with the emissions limits of the Rule. As mentioned in the response to comments regarding the atmospheric vent definition, requiring facilities to monitor to better understanding these emissions sources is important, necessary and within the jurisdiction of the Air District. However, the Air District recognizes that sufficient time is necessary to install monitoring equipment. Air District staff reviewed the "turnaround" language and provided additional clarity in revisions to the Final Staff Report. The regulatory language of Rule 13-5 has been revised to address these concerns, so that monitoring devices must be in place by the next scheduled turnaround; however, no earlier than two years from adoption of the Rule and no later than five years after adoption of the Rule.

Regulatory Language, Manual of Procedures

Alternative Monitoring Methodology

Comment: Some commenters suggested that the Air District must perform monitoring of emissions through the use of aerial monitoring methods or other methods such as the MIRA Pico System rather than rely on self-reporting. Other commenters requested clarity regarding alternative monitoring methods, in particular the monitoring requirements for facilities using pressure swing adsorption systems or vents associated with high purity hydrogen streams.

C. Davidson, CPC, J. Holtzman, WSPA

Response: The purpose of Rule 13-5 is to limit emissions of methane and other organic compound emissions from atmospheric vents located at industrial hydrogen plants. The sources of these emissions are identified and not fugitive in nature. Source testing and parametric monitoring of these vents are the most accurate means of determining emissions from these sources. The Air District already uses remote monitoring methods to improve the accuracy of its methane emissions inventory and the MIRA Pico System may prove useful in that application, or for the purpose of determining fugitive leaks as in the example provided by the commenter. Sections 13-5-601 and 602 refer to vetted source test methods of the United States Environmental Protection Agency (US EPA) and the South Coast Air Quality Management District for the measurement of emissions, but allowance for alternative methodologies is subject to Air District approval. The operator of a facility subject to Rule 13-5 could potentially submit an alternative monitoring methodology using the MIRA Pico System for Air District approval.

As the US EPA's delegated agency for the region, the Air District is tasked with oversight of source testing conducted within the geographical boundaries of its authority. Although Air District staff and management greatly appreciate and value the unique in-house source testing capabilities that the Agency possesses, and Air District staff routinely conducts source testing throughout the Bay Area to improve emission inventories, establish emission factors, audit facility compliance, perform special projects and collect needed emissions data for policy development, the Clean Air Act firmly establishes that the burden of maintaining and showing compliance with emission standards rests on the owners and operators of regulated facilities.

This burden to maintain and confirm compliance extends to all source testing and monitoring activities and requires facilities to directly bear the costs to perform field sampling and report the results in accordance with regulatory requirements and standards. The specific test requirements and standards are codified in Air District, State and federal regulations, permit conditions, the Air District Manual of Procedures, and guidance documents.

Owners and operators are required to notify the Air District of all scheduled source tests, submit test plans for review when necessary, and submit final reports, documenting the results and test conditions during the testing performed, for review and approval by highly trained and qualified Air District technical staff. These test reports are reviewed in detail to ensure that facility source tests conform to all reference methods and Air District requirements, and confirm that the reported results are accurate, representative, and defensible. In cases where the testing is determined to be deficient, the source test results submitted are disapproved, resulting in mandatory retesting and/or a recommendation for a notice of violation when determined appropriate. Test results documenting failures to comply with emission, or associated limitations are referred to the Compliance & Enforcement Division for further evaluation of potential violations.

Source tests are performed by highly qualified professional staff, who are typically specialty consultants hired by the facilities, utilizing approved and promulgated reference test methods as codified in the Code of Federal Regulations, the California Health and Safety Code, and Air District documents.

Section 13-5-505 of the Rule contains the requirements for monitoring the purity of the hydrogen emitted from pressure swing adsorption vents, and the rule language has been revised to clarify that it applies to pressure swing adsorption vents. Under this section, the owner / operator "shall demonstrate hydrogen gas percent purity via the use of a hydrogen gas analyzer or an alternative method approved by the APCO." There is no requirement for continuous monitoring and there is also an opportunity for the operator to have the Air District approve an alternative to the use of a hydrogen gas analyzer. This alternative could feasibly include the methodology by which the operator routinely determines the purity of the hydrogen.

Statutory Findings

Necessity Finding

Comment: The commenter states that the Air District has not justified the necessity of methane emissions reductions at facilities within Cap-and-Trade or the costs associated with those emissions reductions and monitoring of numerous de minimis vents. According to the commenter, the magnitude of the emissions reductions does not justify the Rule as they are small relative to the Air District inventory and meet the definition of de minimis for GHG reporting as part of Cap-and-Trade.

WSPA

Response: California Health & Safety Code Section 40727(a) requires that air district adoption of a rule must be supported by certain findings, among them a finding of "necessity" for the rule. "Necessity" is defined in Section 40727(b) to mean that "a need exists for the regulation, or for its amendment or repeal, as demonstrated by the record of the rulemaking authority." The meaning of "necessity" in Section 40727(a) is further illuminated by Health & Safety Code Section 40001(c) which provides that "prior to adopting any rule or regulation to reduce criteria pollutants, a district shall determine that there is a problem that the proposed rule or regulation will alleviate and that the rule or regulation will promote attainment or maintenance of state or federal ambient air quality standards."

The Staff Report includes lengthy discussion about the importance of reducing methane emissions in the Bay Area. The Air District has made clear its policy goal of reducing Bay Area GHG emissions, and industrial hydrogen plants are a major source of methane emissions in the Bay Area. The statutory requirement to show necessity does not require a showing that a proposed rule will, by itself, eliminate all of the emissions in a category it seeks to control. Nor do these provisions require a comparison of a proposed rule with other rules that may be possible to adopt. Rather, the Air District must demonstrate that, based on the rulemaking record, Rule 13-5 will make progress towards achieving the Air District's methane reduction goals.

Comments relating to Cap-and-Trade are addressed in responses to comments in the Comportment with State and Federal Programs: Cap-and-Trade section of this document.

Authority Finding

Comment: The commenter questions the Air District's authority to adopt a rule to control methane sources that are deemed de minimis GHG sources and will be offset from other sources within Cap-and-Trade.

WSPA

Response: The Air District has the authority to adopt this Rule under Sections 38594, 40000, 40001, 40702, and 40725 through 40728.5 of the California Health and Safety Code. Comments relating to Cap-and-Trade are addressed in responses to comments in the Comportment with State and Federal Programs: Cap-and-Trade section of this document.

Clarity Finding

Comment: The commenter believes that key details in rule applicability and implementation should be in the Rule, while acknowledging that more recent changes to rule language have addressed some of their previous comments.

WSPA

Response: As discussed in the Staff Report, Section 40727(b)(3) of the California Health and Safety Code states that "'Clarity' means that the regulation is written or displayed so that its meaning can be easily understood by the persons directly affected by it."

Rule 13-5 is clear, in that the Rule specifically delineates the affected industry, compliance options, and administrative requirements for the industry subject to this Rule, so that its meaning can be easily understood by the persons directly affected by it. The Air District appreciates the body of comments received as these have contributed to clarification of the regulatory language proposed in the final version to be considered by the Board of Directors.

Consistency Finding

Comment: The commenter states that the Rule 13-5 will be in conflict with Cap-and-Trade and believes that reporting requirements are not consistent with other Air District rules.

WSPA

Response: Rule 13-5 is consistent with other Air District rules, and not in conflict with State or federal law. As explained in previous responses, Rule 13-5 is not in conflict with Cap-and-Trade. Recent revisions to rule language align reporting requirements to other Air District rules. The Air District appreciates the body of comments received as these have contributed to clarification of the regulatory language proposed in the final version to be considered by the Board of Directors.

Non-duplication Finding

Comment: The commenter believes that emissions for industrial hydrogen plants are already adequately regulated under Cap-and-Trade.

WSPA

Response: As detailed in the regulatory analysis found in the Staff Report, Rule 13-5 is non-duplicative of other statutes, rules, or regulations. As explained in previous responses, Rule 13-5 is not in conflict with Cap-and-Trade.

Comment Period Ending April 15, 2022

List of Commenters

The following table lists the individuals and organizations from whom Air District staff received written comments prior to the April 15, 2022, comment deadline.

Commenter	Contact Information
Davidson, Charles (C. Davidson)	Charles Davidson Private Individual Letter, April 13, 2022
Rosenblum, Stephen (S. Rosenblum)	Dr. Stephen Rosenblum, Ph.D., Chemistry Private Individual Email, March 28, 2022
Valero Refining Company (Valero)	Taryn Wier Manager, Environmental Engineering Letter, April 14, 2022
Western States Petroleum Association (WSPA)	Kevin Buchan Senior Manager, Bay Area Region Regulatory Affairs Letter, April 15, 2022

General Comments

Appreciation for Regulatory Language Revisions posted March 25, 2022

Comment: The commenter appreciates the schedule amendment for implementation of controls reflecting the authority to construct, and further states that this maintains the overall schedule requirement and allows facilities to focus on a single deadline.

WSPA

Response: The Air District acknowledges the comment in appreciation of recent revisions to the regulatory language of Rule 13-5.

Fugitive Methane Emissions

Comment: The commenter asks what in-situ methods are being considered to measure fugitive methane emissions from industrial hydrogen plants, and further asks for identification of suspected point-sources of fugitive emissions which the Air District, CARB, and US EPA have failed to detect in past tests.

C. Davidson

Response: The primary purpose of Rule 13-5 is to control emissions from known atmospheric vents and it is not intended to address fugitive leaks. Air District Compliance and Enforcement staff typically use a Gazoscan methane leak detector manufactured by Gazomat for detection of

methane leaks. Identification of sources of methane emissions previously undetected is beyond the scope of this current rule making effort.

Existing Conditions Baseline

Comment: The commenter questioned the use of data from 2019 as representative of "existing conditions" of Bay Area air pollution in Table 3.2-2 of the Draft EIR and suggests that data from 2020 would be more appropriate as it is now 2022.

WSPA

Response: A similar comment was received earlier. Comments relating to "existing conditions" are addressed in the General Comments: Existing Conditions Baseline response in the Comment Period Ending March 10, 2022 section earlier in this document.

IPCC Guidance

Comment: The commenter suggested that Rule 13-5 is in conflict with or is contradictory to existing State and federal regulations so as to violate statutory guidelines for consistency, and that Rule 13-5 represents an example of a "problematic" or "ineffective" regulation as identified by the IPCC. The commenter further suggests that societal benefits of GHG reductions will be offset by other emissions within Cap-and-Trade and suggests language from the IPCC on sub-national programs be included in the final draft Staff Report for Rule 13-5.

WSPA

Response: A similar comment was received earlier. Comments relating to the IPCC guidance are addressed in the Comportment with State and Federal Programs: IPCC Guidance response in the Comment Period Ending March 10, 2022 section earlier in this document.

GWP

Comment: The commenter states that the IPCC's fifth assessment report (AR5) suggests that various metrics and time horizons can be used to compare the contributions to climate change from emissions of different substances and AR5 provides a methane GWP of 34 when considering a 100-year time horizon and a methane GWP of 86 when considering a 20-year time horizon, noting that AR5 further states that "No single metric can accurately compare all consequences of different emissions and all have limitations and uncertainties". Commenter suggests that the Air District use a value of 25 citing federal and State programs.

WSPA

Response: A similar comment was received earlier. Comments relating to the Air District assigned GWP values are addressed in the Comportment with State and Federal Programs: GWP response in the Comment Period Ending March 10, 2022 section earlier in this document.

Draft EIR Calculations

Comment: The commenter raised several questions related to emission calculations provided in the Draft EIR, suggesting that supplemental fuel may be required for flaring during startup or other times of low heating values of vent streams and questioning the source, consistency, and veracity of emission factors used for the calculations.

WSPA

Response: The Air District notes that these comments were also submitted previously during the comment period for the Draft EIR. Comments relating to the Draft EIR Calculations are addressed in the CEQA: Draft EIR Calculations response in the Comment Period Ending March 10, 2022 section earlier in this document.

Draft EIR Project Objectives

Comment: The commenter believes Rule 13-5 to be in violation of CEQA because it does not meet the objectives identified in the Draft EIR: namely, to reduce emissions of GHGs as well as other organic compounds associated with operation of industrial hydrogen plants, and to assist the Air District in meeting its policy goal of reducing GHG emissions to 40 percent below 1990 levels by 2030. The commenter further states that the Air District has not adequately addressed impacts arising from control measures needed to comply with the Rule or evaluated mitigation of these impacts, and that implementation of the Rule will not comply with Cap-and-Trade and therefore violates CEQA.

WSPA

Response: The Air District notes that these comments were also submitted previously during the comment period for the Draft EIR. Comments relating to the Draft EIR Project Objectives are addressed in the CEQA: Draft EIR Project Objectives response in the Comment Period Ending March 10, 2022 section earlier in this document.

Socioeconomic Impact Analysis Calculations

Comment: The commenter questioned the assumed costs for monitoring and control equipment and asserted the Air District erroneously calculated the annualized costs of controls, and improperly differentiated between capital and annual costs in the totals provided for the report.

WSPA

Response: A similar comment was received earlier. Comments relating to the Socioeconomic Impact Analysis Calculations are addressed in the Cost Estimations: Socioeconomic Analysis Calculations response in the Comment Period Ending March 10, 2022 section earlier in this document.

Hydrogen Venting Minimization Plan

Comment: The commenter suggested that the emissions standards of Rule 13-5 be replaced with a hydrogen venting minimization plan, pointing to refinery emissions reductions achieved through use of flare minimization plans in compliance with Air District Regulation 12: Miscellaneous Standards of Performance, Rule 12: Flares at Refineries. The commenter believes that building the Rule around a hydrogen venting minimization plan would result in less impact to the environment without the need for a flare and refers to previous comments to the Air District both written and verbal to this effect.

Valero

Response: A similar comment was received earlier. Comments relating to potential use of a hydrogen venting minimization plan are addressed in the General Comments: Alternative Compliance Plan response to Comment 2 in the Comment Period Ending March 10, 2022 section earlier in this document.

Alternative Compliance Plan (ACP)

Comment: The commenter suggests that the 20 percent substitution of carbon dioxide equivalent emissions for methane might run afoul of perceived restrictions imposed by AB 398 of gasses subject to cap-and-trade limitations. The commenter further states that there is no scientific basis for assuming that replacing 20 percent of the 100-year equivalent methane emission with carbon dioxide or other long lived GHGs such as N_2O or short-lived pollutants such as black carbon, is a valid trade-off, given that Methane is a short-lived climate pollutant with an atmospheric lifetime of 12 years whereas carbon dioxide has an atmospheric lifetime of hundreds to thousands of years.

S. Rosenblum

Response: Similar comments were received earlier. Comments relating to the 20 percent substitution provisions of the Alternative Compliance Plan are addressed in the General Comments: Alternative Compliance Plan response to Comment 3 in the Comment Period Ending March 10, 2022 section earlier in this document.

Regulatory Language, General

Description and Applicability

Comment: The commenter suggests changes to rule language to clarify that the emission limits in Rule 13-5 only apply to atmospheric vents “in industrial hydrogen plants” and asks text related to the hydrogen delivery system and tail gas be removed from the definition of Industrial hydrogen Plant.

Valero

Response: Similar comments were received earlier. Comments relating to the scope of Rule 13-5 are addressed in the Regulatory Language, General: Description and Applicability and Regulatory Language, Definitions: Industrial Hydrogen Plant responses in the Comment Period Ending March 10, 2022 section earlier in this document.

Exemption for Abated Atmospheric Vents

Comment: The commenter requested an exemption be added to expressly exempt from Rule 13-5 any atmospheric vent that is abated by a flare or thermal oxidizer, and that a limited exemption be added for abated atmospheric vents from the monitoring requirements of Sections 13-5-501 and 502.

Valero

Response: Similar comments were received earlier. Comments relating to the scope of Rule 13-5 emissions standards and monitoring requirements as applied to abated atmospheric vents are addressed in the Regulatory Language, General: Description and Applicability response and Regulatory Language, Definitions: Atmospheric Vents responses in the Comment Period Ending March 10, 2022 section earlier in this document.

Exemption for Short Term Releases from Specific Atmospheric Vents

Comment: The commenter requested the addition of an exemption from the requirements of the Rule for a vent that is utilized during startups and shutdowns that is primarily steam and so infeasible to combust. Cooling down the steam to remove water is feasible but would produce an elevated risk of corrosion.

Valero

Response: Similar comments were received earlier. Comments relating to requested exemptions for these atmospheric vents are addressed in the Regulatory Language, General: Exemption for Short Term Releases from Specific Atmospheric Vents response in the Comment Period Ending March 10, 2022 section earlier in this document.

Exemption for Startup, Shutdown, and Maintenance Conditions

Comment: One commenter stated that without an exemption from startups, shutdowns and maintenance, their facility would need to run a flare constantly in anticipation of infrequent emergency and shutdown scenarios. Another commenter asked for an allowance for maintenance periods of control devices which would typically be of short duration.

Valero, WSPA

Response: Similar comments were received earlier. Comments relating to requested exemptions for these scenarios are addressed in the Regulatory Language, General: Exemption for Startup, Shutdown, and Maintenance Conditions response in the Comment Period Ending March 10, 2022 section earlier in this document.

Regulatory Language, Definitions

Atmospheric Vent

Comment: One commenter requested that definition of "Atmospheric Vent" be amended to replace "during hydrogen plant operations" with "in hydrogen plant units" and remove any reference to abatement devices, arguing that once a vent is abated it is no longer an atmospheric vent. One commenter found the definition to be overly broad to the extent that it would include all vents regardless of total organic compound content, even those with low methane levels. The commenter believes that atmospheric vents should be defined as only those that vent total organic compounds including methane.

Valero, WSPA

Response: The Air District agrees with the statement that once a vent is abated it is no longer an Atmospheric Vent; however, the Air District does not agree that the text of the Rule needs to be changed. There is no reference to abatement devices in the definition of Atmospheric Vents in current draft rule language. Comments relating to the scope of Rule 13-5 emissions standards and monitoring requirements as applied to abated atmospheric vents and those with low methane levels are addressed in the Regulatory Language, General: Description and Applicability and Regulatory Language, Definitions: Atmospheric Vents responses in the Comment Period Ending March 10, 2022 section earlier in this document.

Organic Compound and Total Organic Compounds

Comment: The commenter believes that the definitions are ambiguous with reference to carbon monoxide, carbon dioxide, and carbonic or metallic carbides or carbonates.

WSPA

Response: Similar comments were received earlier. Comments relating to these definitions are addressed in the Regulatory Language, Definitions: Organic Compound and Total Organic Compounds response in the Comment Period Ending March 10, 2022 section earlier in this document.

Regulatory Language, Standards

Comingling and Dilution Prohibition

Comment: The commenter suggests that in order to allow some streams to be comingled for purposes of control, the language of Section 13-5-302 should be changed to, "Any atmospheric vent that is in service prior to the adoption of this Rule cannot comply with the concentration standard set forth in Section 13-5-301 solely through dilution and/or comingling."

WSPA

Response: Similar comments were received earlier. Comments relating to Section 13-5-302 are addressed in the Regulatory Language, Standards: Comingling Dilution Prohibition response in the Comment Period Ending March 10, 2022 section earlier in this document.

Alternative Emissions Standard

Comment 1: One commenter requested that the scope of GHG emissions reductions be expanded beyond the industrial hydrogen plant as part of the Alternative Compliance Plan, to allow for reductions from the associated petroleum refinery and perhaps even beyond through credits.

WSPA

Response 1: Similar comments were received earlier. Comments relating to the scope of emissions reductions in the Alternative Compliance Plan are addressed in the General Comments: Alternative Compliance Plan response to Comment 1 in the Comment Period Ending March 10, 2022 section earlier in this document.

Comment 2: One commenter requested that Alternative Emissions Standard be removed from the rule, arguing that a 90 percent reduction in emissions is not enough and the existence of industrial hydrogen plants operating at near zero methane emissions using pressure swing adsorption methods demonstrate that there is already a cost-effective Best Available Retrofit Control Technology available to limit methane emissions to that level.

S. Rosenblum

Response 2: The existence of a control technology does not mean that it is cost-effective. Further analysis of the individual facility design and the control equipment would need to be performed to verify this claim. The Air District evaluated control costs and these are included in the Staff Report. Further information relating to the Alternative Emissions Standard may be found in the Regulatory Language: Alternative Emissions Standard response in the Comment Period Ending March 10, 2022 section earlier in this document.

Regulatory Language, Administrative Requirements

Control Device Requirements

Comment: The commenter asks for additional time to begin operation of control equipment, suggesting the three-year deadline after issuance of an Air District authority to construct be changed to “within three years of after the next applicable turnaround.” The commenter states that their facility has a unique integrated refinery design that requires refinery wide turnarounds to accomplish critical construction tasks to comply with the emissions standards of Rule 13-5.

Valero

Response: Compliance with either Section 13-5-301 through application of a new control device, or Section 13-5-303 through application of an Alternative Compliance Plan (ACP), will involve submittal of an Air District Permit application within three years, and after the authority to construct is issued, commencement of those controls or implementation of the ACP is required within three years of issuance of the authority to construct. Air District staff believes that six years is sufficient time to plan for a turnaround in order to accomplish construction of equipment to comply with the emissions standards of 13-5.

Reporting Requirements

Comment: Commenters object to the revised language for this section stating that immediate notification upon discovery is not feasible and 30 days is insufficient to thoroughly evaluate the cause of the occurrence. One commenter is unaware of similar Air District reporting provisions associated with exceeding an emission limit that are "immediate upon discovery."

Valero, WSPA

Response: The notification and reporting requirements in Section 13-5-402 would only be triggered by a breakdown of the control device abating an atmospheric vent. As such the regulatory language has been revised to make the notification and reporting requirements consistent with the breakdown provisions of Sections 1-431 and 1-432 of Air District Regulation 1: General Provisions and Definitions.

Regulatory Language, Monitoring and Records

General Monitoring Requirements

Comment: The commenter states that a two-year deadline to install monitors does not appear feasible, nor are the requirements clear as they have previously stated in earlier submitted comments to the Air District.

WSPA

Comment: The due date for installation of monitoring equipment is not two years from adoption of the rule. Rule Language specifies that the section does not go into effect for two years from adoption and equipment installation is not required until the next turnaround but no later than five years. This makes the monitoring requirements due by the next turnaround to occur after two years but no later than five years from adoption of the rule. Further information relating to the General Monitoring Requirements may be found in the Regulatory Language, Monitoring and Records: General Monitoring Requirements response in the Comment Period Ending March 10, 2022 section earlier in this document.

Regulatory Language, Manual of Procedures

Alternative Monitoring Methodology

Comment 1: One commenter asks if the Air District has formally considered assessing the advantages of the MIRA Pico methane monitor over EPA Method 18 and 21, and if the Air District has made a scientific comparison between the MIRA Pico and other methods.

C. Davidson

Response 1: The burden of emission quantification and measurement is the responsibility of the facility, with oversight and approval authority provided by the Air District. The Air District remains technology neutral. It is the responsibility of the facility to propose new technologies or methods and provide information to show equivalence for any proposed alternative method, typically as specified in EPA Method 301. The Air District does not have resources to directly perform scientific evaluation or assessment of new technologies, except in high priority situations, but will accept scientific data or reports provided by others for evaluation of equivalence. In cases where an adopted method exists, the adopted method will always be preferred over any alternative. It is typically the facilities responsibility to request alternative approval for any technology or method. The Air District may suggest particular technologies or methods that it has deemed equivalent, but the facility typically retains the option of whether to consider the suggestion or use the promulgated method.

Emission quantification needs to be performed using promulgated methodologies or approved alternatives wherever feasible. The MIRA Pico could be proposed as an alternative by the facility, but the application would need to be specific to in-vent or in-stack measurement, or feed streams to the vent or stack, to be considered as an option for Section 13-5-301 compliance demonstration. In cases where the alternative emission reduction options are being considered, the emission quantification would still need to be performed using promulgated or approved alternative methods wherever possible to be legally defensible. If a facility is considering the MIRA Pico, they would need to submit a methodology for its use to be considered. That methodology would not necessarily need to be specific to the MIRA Pico.

Comment 2: One commenter requested clarity regarding alternative monitoring methods, in particular the monitoring requirements for facilities using pressure swing adsorption systems or vents associated with high purity hydrogen streams.

WSPA

Response 2: Similar comments were received earlier. Comments relating to alternative monitoring methods, in particular for those facilities with high purity streams are addressed in the Regulatory Language, Manual of Procedures" Alternative Monitoring Methodology response in the Comment Period Ending March 10, 2022 section earlier in this document.

Statutory Findings

Comment: The commenter states that the Air District has not justified the necessity of methane emissions reductions at facilities within Cap-and-Trade or the costs associated with those emissions reductions and monitoring of numerous de minimis vents, and questions the Air District's Authority to adopt Rule 13-5. The commenter believes that the rule is not clear, is duplicative and/or in conflict with Cap-and-Trade, and is not consistent with other Air District Rules.

WSPA

Response: Similar comments were received earlier. Comments relating to Statutory Findings are addressed in the Statutory Findings responses in the Comment Period Ending March 10, 2022 section earlier in this document.

[i] IPCC. " Beneficial interactions," Section 15.7.2.1, Somanathan E., T. Sterner, T. Sugiyama, D. Chimanikire, N. K. Dubash, J. Essandoh-Yeddu, S. Fifita, L. Goulder, A. Jaffe, X. Labandeira, S. Managi, C. Mitchell, J. P. Montero, F. Teng, and T. Zylicz, 2014: National and Sub-national Policies and Institutions. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter15.pdf

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

RESOLUTION No. 2022-

A Resolution of the Board of Directors of the Bay Area Air Quality Management District Adopting Regulation 13, Rule 5 (Climate Pollutants – Industrial Hydrogen Plants) and amending Regulation 8, Rule 2 (Organic Compounds – Miscellaneous Operations); and Certifying a California Environmental Quality Act Environmental Impact Report

RECITALS

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has the authority and the responsibility to adopt, amend and repeal rules and regulations as necessary and appropriate to control air pollution and climate change emissions from stationary sources in the San Francisco Bay Area as provided in Sections 38594, 40000, 40001, 40702 of the California Health & Safety Code;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that a need exists to amend the District's rules and regulations by adopting new Regulation 13, Rule 5 (Climate Pollutants – Industrial Hydrogen Plants), and by amending Regulation 8, Rule 2 (Organic Compounds – Miscellaneous Operations) as set forth in Attachment A hereto ("Proposed Rule" and “Proposed Amendments”);

WHEREAS, the need to adopt the Air District’s first Climate Pollutant rule and regulation has arisen because of the grave threats posed by climate change and to comply with the Air District’s policy goal of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, and to assist in implementing the comprehensive Basin-Wide Methane Strategy in the Air District’s 2017 Clean Air Plan;

WHEREAS, the Air District also needs to adopt Regulation 13, Rule 5 to assist in achieving the target adopted by the State of California in Senate Bill 1383 of reducing methane emissions 40 percent below 2013 levels by 2030;

WHEREAS, the Air District needs to amend Regulation 8, Rule 2 to harmonize it with Regulation 13, Rule 5 by exempting from Regulation 8, Rule 2 sources that are subject to the more stringent standard of Regulation 13, Rule 5;

WHEREAS, the Air District also needs to amend Regulation 8, Rule 2 to allow for alternative test methods to ensure that facilities that process non-petroleum products utilize the appropriate test methods for the materials that are being processed, consistent with other recently-amended Air District rules;

WHEREAS, Air District staff held a public workshop in January 27, 2020 to present and discuss draft regulatory language for Regulation 13, Rule 5, along with a workshop report;

WHERAS, based on comments received and additional research, Air District staff revised the draft rule and published a revised draft and Preliminary Staff Report on September 4, 2020;

WHEREAS, the Air District received comments on the September 4, 2020 revised draft rule and subsequently updated the draft rule language to accommodate reasonable concerns related to definitions, testing methods, monitoring, reporting, and compliance timelines;

WHEREAS, the Air District released an updated draft rule on June 30, 2021;

WHEREAS, the Air District held a scoping meeting in a virtual format on July 27, 2021 and accepted comments on the revised rule language through July 30, 2021;

WHEREAS, in response to feedback from the public, the regulated community, and Air District staff, as well as the Board of Directors, Air District staff prepared a revised draft rule and amendments to District Regulation 8, Rule 2, along with a request for public comment, which staff published on the District website on January 24, 2022 and for which comments were accepted until March 10, 2022;

WHEREAS, on or before January 24, 2022, Air District staff published in newspapers, and published and distributed on the Air District's website a notice of a public hearing on or after April 6, 2022, to consider adoption of the Proposed Rule and Proposed Amendments;

WHEREAS, Air District staff released minor updates to the draft rule and associated documents on February 4, 2022;

WHEREAS, in connection with the notice of public hearing, Air District staff invited interested members of the public to submit comments on the Proposed Rule and Proposed Amendments, and have prepared summaries of the comments received and staff's responses in a Response to Comments document, which has been considered by the Board of Directors and is incorporated herein by reference;

WHEREAS, Air District staff presented briefings to various committees of the Board of Directors during this rule development process, including to the Stationary Source & Climate Impacts committee on February 28, 2022;

WHEREAS, in response to feedback from the public, the regulated community, and Air District staff, as well as the Board of Directors, Air District staff prepared a revised Proposed Rule, along with a request for public comment, which staff published on the District website on March 25, 2022 and for which comments were accepted until April 15, 2022;

WHEREAS, on or before March 25, 2022, Air District staff published in newspapers, and published and distributed on the Air District's website a notice of a public hearing on or after May 4, 2022, to consider adoption of the Proposed Rule and Proposed Amendments;

WHEREAS, Air District staff have prepared and presented to the public and to the Board of Directors a detailed Staff Report describing the purpose of and need for the Proposed Rule and Proposed Amendments, which has been considered by the Board of Directors and is incorporated herein by reference;

WHEREAS, Air District staff received important public feedback during the additional public comment process, which is reflected in the final version of the Proposed Rule and Proposed Amendments that staff proposed for adoption by the Board of Directors;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District held a public hearing on May 4, 2022, which was properly noticed in accordance with the provisions of Health & Safety Code Section 40725 and was conducted in accordance with the provisions of Health & Safety Code Section 40726, to consider the Proposed Rule and Proposed Amendments in accordance with all provisions of law;

WHEREAS, at the public hearing, the subject matter of the Proposed Rule and Proposed Amendments was discussed with interested persons in accordance with all provisions of law;

WHEREAS, in accordance with Health & Safety Code Section 40727, and based on substantial evidence presented at the hearing and described in the Staff Report and other documentation, the Board of Directors of the Bay Area Air Quality Management District has found and determined that the Proposed Rule and Proposed Amendments are necessary; that the District has the authority to adopt the Proposed Rule and Proposed Amendments; that the Proposed Rule and Proposed Amendments are clearly written and displayed; that the Proposed Rule and Proposed Amendments are consistent with other legal requirements; that the Proposed Rule and Proposed Amendments are not impermissibly duplicative of existing regulatory requirements; and that the Proposed Rule and Proposed Amendments will implement specific provisions of law as referenced and identified below;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that a need exists to adopt the Proposed Rule and Proposed Amendments to address methane emissions from industrial hydrogen plants;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that the Air District has the authority to adopt the Proposed Rule and Proposed Amendments pursuant to Sections 38594, 40000, 40001, 40702 of the Health & Safety Code, which authorize the Air District to adopt and implement regulations to control air pollution and GHG emissions from stationary sources, and to execute the powers and duties imposed upon the Air District, among other things;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined, based on a review of the text of the Proposed Rule and Proposed Amendments set forth in Attachment A and the rulemaking materials prepared by District staff, that the Proposed Rule and Proposed Amendments are written and displayed so that their meaning can be easily understood by the persons directly affected by the Proposed Rule and Proposed Amendments, and by the public at large;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that the Proposed Rule and Proposed Amendments are in harmony with and not in conflict with or contradictory to existing statutes, court decisions, and state and federal regulations;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has determined that the Proposed Rule and Proposed Amendments do not impose the same requirements as any existing state or federal regulations, except to the extent necessary and proper to execute the powers and duties granted to and imposed upon the Air District as the agency with authority to control air quality and methane emissions in the San Francisco Bay Area;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District has identified and determined that the Proposed Amendments will implement, interpret and/or make specific the provisions of Sections 38594, 40000, 40001, 40702 of the California Health & Safety Code;

WHEREAS, the Board of Directors of the Bay Area Air Quality Management District finds and intends that its determinations stated in the preceding paragraphs constitute the findings the Board is required to make before adopting the Proposed Rule and Proposed Amendments pursuant to Health & Safety Code Section 40727;

WHEREAS, in accordance with the requirements of Health & Safety Code Section 40728 and other requirements of law, the District has maintained a file of the documents and other materials that constitute the record of proceedings on which this rulemaking project is based (including the environmental analysis for the project prepared in accordance with the California Environmental Quality Act), which record documents and other materials are located at the Bay Area Air Quality Management District, 375 Beale Street, Suite 600, San Francisco, 94105, and the custodian for which is Marcy Hiratzka, Clerk of the Boards;

WHEREAS, in accordance with the requirements of Health & Safety Code Section 40728.5, to the extent that such requirements are applicable, and also as a matter of sound public policy notwithstanding whether or not such requirements are applicable, the Board of Directors of the Bay Area Air Quality Management District has actively considered the socioeconomic impacts of the Proposed Rule and has reviewed and considered the analysis thereof in the Staff Report; and has determined that the Proposed Rule will not have significant socioeconomic impacts;

WHEREAS, the Board of Directors finds and determines that the Proposed Rule and Proposed Amendments are collectively a "project" (“Proposed Project”) pursuant to the California Environmental Quality Act ("CEQA") (Public Resources Code § 21000 et seq.);

WHEREAS, the District is the CEQA lead agency for this project pursuant to Section 21067 of CEQA and Sections 15050 and 15051 of the CEQA Guidelines ("Guidelines") (Title 14 of the California Code of Regulations);

WHEREAS, District staff has prepared an Environmental Impact Report (EIR) for the Proposed Project pursuant to the requirements of CEQA, in connection with and based on information and analysis developed by the District's CEQA contractor, Environmental Audit, Inc., of Placentia, California;

WHEREAS, as part of the development of the EIR, District staff prepared and published (with the assistance of Environmental Audit, Inc.) an Initial Study and Notice of Preparation for the EIR, which was published and noticed in accordance with the requirements of CEQA (including CEQA Sections 21082.1, 21091, 21092 and Guidelines Sections 15070 et seq.) on June 30, 2021;

WHEREAS, District staff also convened a CEQA scoping meeting on July 27, 2021, to solicit input from interested members of the public on the Initial Study and on the scope and contents of the EIR and the potential environmental impacts to be evaluated in it;

WHEREAS, District staff then completed a draft EIR ("DEIR"), and published the DEIR and provided notice of such publication to the public and to interested parties and agencies, in accordance with the requirements of CEQA (including CEQA Sections 21082.1, 21091, 21092 and Guidelines Sections 15070 et seq.) on or before January 24, 2022;

WHEREAS, the DEIR was circulated for public review during the period from January 24, 2022 to March 10, 2022;

WHEREAS, the District received comments on the DEIR;

WHEREAS, minor clarifications and revisions to the DEIR have been incorporated in the Final EIR, none of which affect the environmental impacts of the project or otherwise represent "significant new information" requiring recirculation within the meaning of CEQA Guidelines Section 15088.5;

WHEREAS, the Final EIR, a copy of which is attached hereto and incorporated herein by reference, was presented to the Board of Directors and proposed for certification by the Board of Directors at a public meeting of the Board of Directors on May 4, 2022;

WHEREAS, the Final EIR finds that the Proposed Project will have the potential to create a significant adverse impact on air quality that comes from construction and operational emissions from air pollution control equipment that cannot be mitigated to a level that is less than significant, as described in Chapter 3.2 of the Final EIR;

WHEREAS, the Final EIR also finds that the Proposed Project will have the potential to create significant and unavoidable cumulative air quality impacts;

WHEREAS, the Final EIR finds that the Proposed Project will not have the potential to create any other significant adverse environmental impacts;

WHEREAS, the Final EIR discusses potential mitigation measures for air quality impacts as specified in Section 3.2.5 of Chapter 3.2, as explained in Section 1.4 of Chapter l of the Final EIR, but those mitigation measures may not reduce air quality impacts to a less than significant level;

WHEREAS, the Final EIR discusses potential alternatives to the Proposed Project which would achieve the project objectives but avoid or substantially lessen its potentially significant effects, including an alternative that would substantially reduce potential air quality impacts associated with the project, but that alternative is infeasible due to specific economic considerations;

WHEREAS, substantial evidence in the record demonstrates that approval of the Proposed Project involves specific considerations related to the need to reduce GHG emissions and protect the environment that make the alternatives identified in the Final EIR that would avoid or substantially

lessen the significant air quality impacts infeasible, as explained in Section 1.5 of Chapter 1 of the Final EIR;

WHEREAS, substantial evidence in the record demonstrates that the significant and unavoidable impacts to air quality are acceptable as provided in Guidelines Section 15093 because the climate change benefits from the Proposed Rule outweigh the Proposed Rule's significant unavoidable impacts;

WHEREAS, this matter has been duly noticed and heard in compliance with applicable requirements of the Health & Safety Code and the Public Resources Code;

WHEREAS, District staff provided copies of (i) the Proposed Rule, and (ii) the Final EIR, including the comments received on the Draft EIR and staff's responses thereto, to each of the members of the Board of Directors for their review and consideration in advance of the public meeting of the Board of Directors on May 4, 2022;

WHEREAS, District staff recommends that the Board of Directors adopt the Proposed Rule and Proposed Amendments;

WHEREAS, the Board of Directors concurs with the recommendations of District staff regarding the Proposed Rule and Proposed Amendments;

WHEREAS, District staff has recommended that the Board of Directors certify the Final EIR, which was prepared as the CEQA document for the Proposed Project, as being in compliance with all applicable requirements of CEQA, and make a Statement of Overriding Considerations;

WHEREAS, the Board of Directors concurs with recommendations of District staff regarding the Final EIR for the Proposed Project.

RESOLUTION

NOW THEREFORE, BE IT RESOLVED, that the Board of Directors of the Bay Area Air Quality Management District does hereby certify and adopt the Final EIR pursuant to CEQA for the Proposed Project.

BE IT FURTHER RESOLVED that in support of and as part of its certification and adoption of the Final EIR for the Proposed Project, the Board of Directors hereby makes the following findings and certifications:

1. The Final EIR for the Proposed Project has been prepared in accordance with all requirements of CEQA.

2. The Final EIR includes minor clarifications and revisions, none of which affect the environmental impacts of the project or otherwise represent "significant new information" requiring recirculation within the meaning of CEQA Guidelines Section 15088.5

3. The Final EIR for the Proposed Project was duly presented to the Board of Directors for its consideration in accordance with CEQA and other applicable legal requirements.

4. The Board of Directors has reviewed and considered the information in the Final EIR and the evidence in the record described and summarized in the Final EIR, including but not limited to (i) the Final EIR' s conclusion that the Proposed Project will have significant air quality impacts as described in the Final EIR, (ii) the mitigation measures proposed to mitigate the significant air quality impacts outlined in the Final EIR, and (iii) the alternatives considered to avoid or substantially lessen the significant air quality impact that are evaluated in the Final EIR.

5. The Board of Directors specifically approves the mitigation measures outlined in the Final EIR, which are incorporated by reference as if fully set forth herein, to mitigate the Proposed Rule's significant air quality impacts. No additional feasible mitigation measures have been identified that can further mitigate the significant impacts.

6. The analysis of alternatives set forth in Chapter 4 the Final EIR has provided the Board of Directors with a basis for considering ways in which the significant air quality impacts could be avoided or substantially lessened while still achieving all or most of the project's objectives. The alternatives analysis in the Final EIR is sufficient to carry out the purposes of such analysis under CEQA.

7. The Board of Directors finds that specific economic considerations make infeasible the alternative discussed in the Final EIR that would substantially reduce potential air quality impacts associated with the Proposed Project.

8. The Board of Directors finds that there is a pressing need to reduce GHG emissions and to protect public health and the environment, which the Proposed Project addresses. The Board of Directors finds that specific considerations make the alternatives identified in the Final EIR to avoid or significantly lessen the Proposed Rule's significant air quality impacts infeasible. In making this finding, the Board of Directors has considered and agrees with the reasons supporting the finding as set forth in Section 1.5 of Chapter 1 of the Final EIR, which are incorporated by reference as if fully set forth herein and which the Board of Directors adopts as its own.

9. The Final EIR (including responses to comments) is complete, adequate and in full compliance with CEQA as a basis for considering and acting upon the Proposed Rule.

10. The Final EIR reflects the independent judgment and analysis of the Bay Area Air Quality Management District.

11. The Board of Directors has exercised its own independent judgment in reviewing, considering and certifying the Final EIR and in making the findings and certifications set forth in this Resolution, which reflects the independent judgment and analysis of the Board of Directors.

BE IT FURTHER RESOLVED that the Board of Directors of the Bay Area Air Quality Management District does hereby adopt Regulation 13, Rule 5 (Climate Pollutants – Industrial Hydrogen Plants) and the proposed amendments to Regulation 8, Rule 2 (Organic Compounds – Miscellaneous Operations) with instructions to staff to correct any typographical or formatting errors before final publication.

BE IT FURTHER RESOLVED that in support of and as part of its adoption of the Proposed Rule and Proposed Amendments, the Board of Directors hereby makes the following findings and certifications:

1. The Proposed Rule and Proposed Amendments are necessary; the District has the authority to adopt the Proposed Rule and Proposed Amendments; the Proposed Rule and Proposed Amendments are clearly written and displayed; the Proposed Rule and Proposed Amendments are consistent with other legal requirements; the Proposed Rule and Proposed Amendments are not impermissibly duplicative of existing regulatory requirements; and the Proposed Rule and Proposed Amendments will implement specific provisions of law as referenced and identified.

2. The Board of Director's approval of the Proposed Rule and Proposed Amendments is based on and supported by (among other things) the Board's consideration of the Final EIR for the Proposed Project.

3. The Board of Directors has balanced the benefits of the Proposed Project against its unavoidable environmental risks in determining whether to approve the Proposed Project. The Board of Directors finds that the Proposed Project’s benefits in reducing greenhouse gas emissions and protecting public health outweigh the adverse air quality impacts that are expected to result from implementing the Proposed Project. The Board of Directors therefore finds that these significant impacts from the Proposed Rule are acceptable pursuant to Section 15093 of the CEQA Guidelines, 14 Cal. Code Regs. § 15093; and makes this finding as a "Statement of Overriding Considerations" pursuant to Section 15093. The specific reasons supporting this finding and Statement of Overriding Considerations are as follows:

    a. The Board of Directors has considered the potentially significant air quality impacts associated with construction of air pollution control equipment to comply with the Proposed Project, which would be expected to be, in the worst-case, 55.31 pounds per day of nitrogen oxides (in light of Bay Area emissions of approximately 298 tons per day).

    b. The Board of Directors has considered the potentially significant air quality impacts associated with operation of air pollution control equipment to

comply with the Proposed Project, which would be expected to be, in the worst-case, 35.2 tons per year of nitrogen oxides (in light of Bay Area emissions of approximately 298 tons per day).

c. The Board of Directors has considered that, given that the Bay Area is not in attainment with the federal and state ozone standard, and that implementation of Proposed Rule 13-5 could result in significant air quality impacts due to NOx emissions from construction and operation of air pollution control equipment, cumulative air quality impacts are also potentially significant.

d. The Board of Directors has considered that the estimated 77,543 metric tons of carbon dioxide equivalent GHG emission reductions based on a 100-year global warming potential that will come from the Proposed Project will help to achieve the Air District's policy goals of reducing methane, as well as assist in implementing the comprehensive Basin-Wide Methane Strategy in the Air District's 2017 Clean Air Plan and the target adopted by the State of California in Senate Bill 1383 of reducing methane emissions 40 percent below 2013 levels by 2030.

e. In addition to the reasons outlined in subparagraphs a.-d. above, the Board of Directors has reviewed and considered the more detailed summary of reasons why the Proposed Project benefits in reducing GHG emissions and protecting public health outweigh the Proposed Project's adverse air quality impacts set forth in Section 1.4 of Chapter 1 of the Final EIR for the Proposed Project. The Board of Directors agrees with the reasons set forth in the Final EIR and the Staff Report, and it adopts those reasons as its own and incorporates them by reference as if fully set forth herein as specific reasons supporting this finding and Statement of Overriding Considerations.

BE IT FURTHER RESOLVED that the record documents and other materials supporting this Resolution shall be maintained and made available for public review at the headquarters of the Bay Area Air Quality Management District at 375 Beale Street, Suite 600, San Francisco, CA 94105, and that the custodian for these documents and other materials shall be Marcy Hiratzka, Clerk of the Boards.

The foregoing Resolution was duly and regularly introduced, passed and adopted at a regular meeting of the Board of Directors of the Bay Area Air Quality Management District on the Motion of Director _____, seconded by Director _____, on the ____ day of _____, 2022, by the following vote of the Board: