

COMMITTEE MEMBERS

KEN CARLSON – CHAIR
DIONNE ADAMS
LYNDA HOPKINS
OTTO LEE
RAY MUELLER
STEVE YOUNG

JOHN GIOIA – VICE CHAIR
DAVID HAUBERT
TYRONE JUE
RICO MEDINA
GABE QUINTO

**MEETING LOCATION(S) FOR IN-PERSON ATTENDANCE BY
COMMITTEE MEMBERS AND MEMBERS OF THE PUBLIC**

**Bay Area Metro Center
1st Floor Yerba Buena
375 Beale Street
San Francisco, CA 94105**

**Office of Contra Costa County
Supervisor John Gioia
Conference Room
11780 San Pablo Ave., Suite D
El Cerrito, CA 94530**

**Santa Rosa Junior College Campus
Doyle Library, Room 148
1501 Mendocino Ave.
Santa Rosa, CA, 95401**

**Office of Alameda County Supervisor
David Haubert
Scott Haggerty House
4501 Pleasanton Avenue
Pleasanton, CA 94566**

**Office of Santa Clara County
70 W. Hedding St
10th Floor Conference Room
San Jose, CA 95110**

**Pittsburg City Hall
65 Civic Ave., Room, 301A
Pittsburg, CA 94565**

**City of San Bruno
567 El Camino Real, Room 138
San Bruno, CA 94066**

**San Mateo County
Board of Supervisors' Office
5th Floor
500 County Center
Redwood City, CA 94063**

THE FOLLOWING STREAMING OPTIONS WILL ALSO BE PROVIDED

These streaming options are provided for the public's convenience. In the event that streaming connections malfunction for any reason, the Stationary Source Committee may continue with the meeting without remote webcast and/or Zoom access in accordance with the [Air District's Broadcast Technology Disruption Policy](#).

The public may observe this meeting through the webcast by clicking the link available on the Air District's agenda webpage at <https://www.baaqmd.gov/bodagendas>

**Members of the public may participate remotely via Zoom at <https://bayareametro.zoom.us/j/84771884481> or may join Zoom by phone by dialing (669) 900-6833 or (408) 638-0968. The Webinar ID for this meeting is:
847 7188 4481**

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 a matter on the agenda will have two minutes each to address the Committee on that agenda item, unless a different time limit is established by the Chair. No speaker who has already spoken on an item will be entitled to speak to that item again.

The Committee welcomes comments, including criticism, about the policies, procedures, programs, or services of the Air District, or of the acts or omissions of the Committee. Speakers shall not use threatening, profane, or abusive language which disrupts, disturbs, or otherwise impedes the orderly conduct of a Committee meeting. The Air District is committed to maintaining a workplace free of unlawful harassment and is mindful that Air District staff regularly attend Committee meetings. Discriminatory statements or conduct that would potentially violate the Fair Employment and Housing Act – i.e., statements or conduct that is hostile, intimidating, oppressive, or abusive – is *per se* disruptive to a meeting and will not be tolerated.

STATIONARY SOURCE COMMITTEE MEETING AGENDA

WEDNESDAY, OCTOBER 14, 2026

10:00 AM

Chairperson, Ken Carlson

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

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

2. **Pledge of Allegiance**

3. **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 will be given an opportunity to address the Committee. Members of the public will have two minutes each to address the Committee, unless a different time limit is established by the Chair. If public comment lasts more than 30 minutes, this item may be continued to later in the meeting. Any person who has not had an opportunity to speak on matters not on the agenda may provide their comment at that time.

The Committee welcomes comments, including criticism, about the policies, procedures, programs, or services of the Air District, or of the acts or omissions of the Committee. Speakers shall not use threatening, profane, or abusive language which disrupts, disturbs, or otherwise impedes the orderly conduct of a Committee meeting. The Air District is committed to maintaining a workplace free of unlawful harassment and is mindful that Air District staff regularly attend Committee meetings. Discriminatory statements or conduct that would potentially violate the Fair Employment and Housing Act – i.e., statements or conduct that is hostile, intimidating, oppressive, or abusive – is per se disruptive to a meeting and will not be tolerated.

CONSENT CALENDAR (Item 4)

The Consent Calendar consists of routine items that may be approved together as a group by one action of the Committee. Any Committee member or member of the public may request that an item be removed and considered separately.

4. Approval of the Draft Minutes of the Stationary Source Committee Meeting of September 9, 2026

The Committee will consider approving the Draft Minutes of the Stationary Source Committee Meeting of September 9, 2026.

DISCUSSION ITEM(S)

Discussion items are items in which no formal action by the Committee is requested or recommended. These items are intended primarily to provide information and an opportunity for the Committee to discuss the matter. The Committee may nevertheless take any action within the scope of the agenda item.

5. Update on Flaring Minimization Efforts and Development of "Flaring 101"

The Committee will discuss an update of rule development efforts on refinery flaring, including regulatory concepts for potential amendments to Air District rules regarding flaring, a summary of recent stakeholder engagement and public comments, and the development of "Flaring 101," a public resource for information on what is a refinery flare and why flaring occurs. This item will be presented by Katie Gong, Senior Air Quality Engineer in the Regulatory Development Division.

OTHER BUSINESS

6. Committee Member Comments

Any member of the Committee, or its staff, on their own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on their 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)

7. Time and Place of Next Meeting

Wednesday, December 9, 2026, at 10:00 a.m. The meeting will be held in-person at the Bay Area Metro Center and at satellite locations as may be specified on the meeting agenda using a remote teleconferencing link. Members of the Stationary Source Committee and the public may attend at any of those in-person locations, and members of the public may also attend virtually via webcast.

8. Adjournment

The Committee meeting shall be adjourned by the Chair.

CONTACT:

MANAGER, EXECUTIVE OPERATIONS
375 BEALE STREET, SAN FRANCISCO, CA 94105
vjohnson@baaqmd.gov

(415) 749-4941
FAX: (415) 928-8560
Air District 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 less than 72 hours before the meeting 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 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, Kimberly Leefatt, Civil Rights Officer at 415-749-4610 or by email at non-discriminationcoordinator@baaqmd.gov.

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

EXECUTIVE OFFICE:
MONTHLY CALENDAR OF AIR DISTRICT MEETINGS

OCTOBER 2026

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Stationary Source Committee	Wednesday	14	10:00 a.m.	1 st Floor, Yerba Buena Room
Board of Directors Community Equity, Health, and Justice Committee	Wednesday	14	1:00 p.m.	1 st Floor, Yerba Buena Room
Board of Directors Policy, Grants and Technology Committee – CANCELLED	Wednesday	21	10:00 a.m.	1 st Floor Board Room
Board of Directors Finance and Administration Committee - CANCELLED	Wednesday	21	1:00 p.m.	1 st Floor Board Room
Community Advisory Council Retreat	Thursday	29	10:00 a.m.	Sheraton Sonoma Wine Country Petaluma Great Blue Heron Room 745 Baywood Dr. Petaluma, CA 94954

10/7/2026 – 3:53 p.m. RP

G/Board/Executive Office/Moncal

BAY AREA AIR DISTRICT
Memorandum

To: Chairperson Ken Carlson and Members
of the Stationary Source Committee

From: Philip M. Fine
Executive Officer/APCO

Date: October 14, 2026

Re: Approval of the Draft Minutes of the Stationary Source Committee Meeting of
September 9, 2026

RECOMMENDED ACTION

Approve the attached draft minutes of the Stationary Source Committee meeting of
September 9, 2026.

BACKGROUND

None.

DISCUSSION

Attached for your review and approval are the draft minutes of the Stationary Source
Committee meeting of September 9, 2026.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by: Justine Buenaflor
Reviewed by: Vanessa Johnson

ATTACHMENT(S):

1. Draft Minutes of the Stationary Source Committee Meeting of September 9, 2026

Bay Area Air District
375 Beale Steet, Suite 600
San Francisco, CA 94105

Stationary Source Committee Meeting
Wednesday, September 9, 2026

DRAFT MINUTES

*This meeting was webcast, and a video recording is available on the website of the
Bay Area Air District at
www.baaqmd.gov/bodagendas*

CALL TO ORDER

1. **Opening Comments:** Stationary Source Committee (Committee) Chairperson, Ken Carlson, called the meeting to order at 10:01 a.m.

Roll Call:

Present, In-Person (Bay Area Metro Center, 1st Floor Yerba Buena Room, 375 Beale Street, San Francisco, CA 94105): Chairperson Ken Carlson; Vice Chairperson John Gioia; and Director Tyrone Jue.

Present, In-Person Satellite Location: (Office of Contra Costa County Supervisor John Gioia Conference Room 11780 San Pablo Ave., Suite D El Cerrito, CA 94530): Directors Gabe Quinto and Steve Young.

Present, In-Person Satellite Location: (San Mateo County Board of Supervisors' Office, 5th Floor, 500 County Center, Redwood City, CA 94063): Director Ray Mueller.

Present, In-Person Satellite Location: (City of San Bruno, 567 El Camino Real, Room 138, San Bruno, CA 94066): Director Rico E. Medina.

Present, In-Person Satellite Location: (Office of Alameda County Supervisor David Haubert, Scott Haggerty House, 4501 Pleasanton Ave, Pleasanton, CA 94566): Director David Haubert.

Present, In-Person Satellite Location: (Office of Santa Clara County, 70 W. Hedding St, 10thFloor Conference Room, San Jose, CA 95110): Director Otto Lee.

Absent: Directors Dionne Adamas and Lynda Hopkins.

2. **PLEDGE OF ALLEGIANCE**

3. **PUBLIC COMMENTS ON NON-AGENDA MATTERS**

Public comments were given by Fernando Gaytan, Earthjustice; Colleen Fitzgerald, Earthjustice; Sarah Chen Small, Communities for a Better Environment (CBE); Pooja Agarwal; Harrison Beck, San Francisco resident; Mars Keith, Sierra Club; and Erika Siao, CBE.

CONSENT CALENDAR

4. **APPROVAL OF THE DRAFT MINUTES OF THE STATIONARY SOURCE COMMITTEE MEETING OF JULY 8, 2026**

Public Comments

No requests received.

Committee Comments

None.

Committee Action

Vice Chair Gioia made a motion, seconded by Director Jue, to **approve** the Draft Minutes of the Stationary Source Committee meeting of July 8, 2026; and the motion **carried** by the following vote of the Committee:

AYES:	Carlson, Gioia, Haubert, Jue, Lee, Medina, Mueller, Quinto, Young.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Adams, Hopkins.

INFORMATIONAL ITEMS

5. **STATE AND REGIONAL EFFORTS TO ADVANCE THE EQUITABLE TRANSITION TO CLEAN APPLIANCES**

Richard Chien, Planning and Climate Protection Manager, gave the staff presentation *State and Regional Efforts to Advance the Equitable Transition to Clean Appliances*, including: abbreviations; outline; major players in the clean appliance transition; spotlight on California Heat Pump Partnership; spotlight on Bay Area Regional Energy Network (BayREN) - heat pump water heater (HPWH) for hard-to-reach households, contractor readiness, building department support; spotlight on Pacific Gas & Electric (PG&E); spotlight on load serving entities - funding support, permitting support; Senate Bill (SB) 222 – The Heat Pump Access Act; spotlight on Sprint to 9-6 – communications and outreach; spotlight on equitable building decarbonization; and Air District outreach and education.

Jane Elias, Manager of Energy Programs with Metropolitan Transportation Commission/Association of Bay Area Governments, and Nik Kaestner, Senior Building Decarbonization Coordinator with the San Francisco Environment Department, provided additional context after the presentation.

Public Comments

Public comments were given by Gerard Manning; Sarah Seeger; K. Taniguchi, Palo Alto resident; Dr. Alli Black, Palo Alto resident; Sven Thesen; Heather Bromfield, Enterprise Community Partners; Mark Forbes, San Carlos resident; Dr. Mary Willims, San Francisco Bay Area Physicians for Social Responsibility; Julie Lindow, San Francisco Bay Area Physicians for Social Responsibility; Nova Jayaraj, Silicon Valley Youth Climate Action; Eric Liang, Silicon Valley Youth Climate Action; Daphne Saviotto, Rodeo resident; Aleta Dupree; Tonia Randell, Marie Harrison Community Foundation; Nancy Haber, San Francisco resident; Melissa Holmes, Fremont resident; Sam Fishman, San Francisco Bay Area Planning and Urban Research Association; Susan Green, San Francisco resident; Tony Sirna, Evergreen Action; Olga Mandrussow; Angela Evans, Menlo Spark; Melissa Yu, Sierra Club; Kristel Rietesel, Bay Area Clean Air Coalition; Bruce Hodge, Carbon Free Palo Alto; Sara Greenwald, 350 Bay Area; Dr. Stephen Rosenblum, Palo Alto resident; Lucinda Young, Albany resident; Veronica Eady, West Oakland Environmental Indicators Project (WOEIP); Nura Liepsner, GreenFaith; Scott Thomason, Sierra Club; Robert Whitehair, San Mateo resident; Clara Weinstein, WOEIP; Joel Ervice, Regional Asthma Management and Prevention; Brian Schmidt, Menlo Spark; Wendy Chou, Acterra; Linda Brown, Napa resident; Tom Kunhardt; David Shen, Oakland resident; David Moller, Marin Electrification Council; and Rich Richardson, Sierra Club.

Committee Comments

The Committee and staff discussed the nature of the most significant electrification implementation barriers; the current emergency water heater replacement process; 120-volt versus 240-volt water heaters; how this information is being brought together in a one-stop gateway for lower-income households in the Bay Area; how to streamline local jurisdiction permitting for these installations and the suggestion of developing a model for cities and counties to follow; the anticipated implementation timeline of SB 222 (Wiener- 2025), if approved by the Governor; outreach on load management and energy-sharing devices (power-efficient design); how the encouraging of voluntary adoption of electrification at the earliest feasible opportunity may help facilitate a smoother transition and reduce the need for future regulatory mandates; concerns that not all rebates are equitable or available everywhere in the Bay Area, and concerns regarding upfront expenditures, as reimbursement is typically provided after purchase and installation; concerns that some incentive programs provide financing for installation or infrastructure upgrades, but not for the appliance equipment itself; anticipated implementation costs of SB 222 (The Heat Pump Access Act) and where the funding will come from; the estimated cost for the transition to electrification for all homes in the nine-county Bay Area, how much funding has been set aside by the State, utilities, and community choice aggregation organizations to cover the cost of that transition, and whether the Air District is advocating that the State pays for this; the importance of correcting misinformation that is being circulated about Rules 9-4 and 9-6; the estimated number of years it is expected to take for the existing stock of gas water heaters in the Bay Area to transition to zero-NOx models through normal equipment turnover; infrastructure costs to upgrade the grid and grid impacts; concerns that cost estimation methodologies can have

bias and may be anecdotal; the request that a future Board agenda include a study of housing stock across the nine Bay Area counties to better analyze the electrical infrastructure costs and physical space constraints that property owners may face; how to avoid duplicative efforts among various agencies, but use more collaboration instead; the belief that, although additional work is needed to address remaining gaps, the progress made thus far supports continued advancement toward implementation; and how electrification may offer resilience and safety benefits due to the potential for damage to natural gas infrastructure during significant seismic events.

Committee Action

No action taken.

6. PERMITTING RESEARCH & DEVELOPMENT: UNLOCKING INNOVATION

Kelly Crawford, Deputy Executive Officer of Engineering and Compliance, gave the staff presentation *Permitting Research and Development: Unlocking Innovation*, including: abbreviations; outline; Strategic Plan alignment; stages of research and development (R&D) and regulatory implications; current pathways in the Bay Area; typical R&D project versus ideal R&D project; peer agency models (South Coast Air Quality Management District and New Jersey Department of Environmental Protection); R&D permitting landscape; and considerations.

Public Comments

No requests received.

Committee Comments

The Committee and staff discussed whether three months is realistic for R&D; how Bay Area Air District permitted project outcomes may have differed if other approaches for research operations had been used; whether there are relevant industry groups or companies with R&D expertise that could provide input on this topic; and overlap between R&D work and new technology/production that offers environmental benefits.

Committee Action

No action taken.

OTHER BUSINESS

7. COMMITTEE MEMBER COMMENTS

None.

8. TIME AND PLACE OF NEXT MEETING

Wednesday, October 14, 2026, at 10:00 a.m. The meeting will be held in-person at the Bay Area Metro Center and at satellite locations as may be specified on the meeting agenda using a remote teleconferencing link. Members of the Stationary Source Committee and the public may attend at any of those in-person locations, and members of the public may also attend virtually via webcast.

9. ADJOURNMENT

The meeting was adjourned at 1:17 p.m.

Marcy Hiratzka
Clerk of the Boards

BAY AREA AIR DISTRICT
Memorandum

To: Chairperson Ken Carlson and Members
of the Stationary Source Committee

From: Philip M. Fine
Executive Officer/APCO

Date: October 14, 2026

Re: Update on Flaring Minimization Efforts and Development of "Flaring 101"

RECOMMENDED ACTION

None; the Committee will discuss this item, but no action is requested at this time.

BACKGROUND

Air District staff will provide an update on rule development efforts to further minimize flaring at Bay Area refineries. Current Air District regulations addressing flaring at refineries include Regulation 12, Rule 11: Flare Monitoring at Refineries (Rule 12-11) and Regulation 12, Rule 12: Flares at Refineries (Rule 12-12). Rule 12-11 requires monitoring and reporting of vent gas, pilot and purge gas flow, and vent gas composition on a monthly basis. Rule 12-12 requires an Air District approved flare minimization plan updated annually and causal reports for reportable flaring events. Air District staff published a concept paper for the potential amendments to Rules 12-11 and 12-12 and conducted stakeholder engagement.

DISCUSSION

There are several motivating factors behind potential amendments to Rules 12-11 and 12-12. Minimizing flaring is identified as Strategy 1.3 of the Air District's 2024-2029 *Strategic Plan* and the Richmond-North Richmond-San Pablo Community Steering Committee's *Path to Clean Air* calls for the reduction of flaring as Strategy 2 in the fuel refining, support facilities, storage and distribution section. Since the adoption of Rules 12-11 and 12-12, the United States Environmental Protection Agency strengthened requirements for petroleum refineries under New Source Performance Standards and National Emissions Standards for Hazardous Pollutants, also called the Refinery Sector Rule, addressing flaring at petroleum refineries. The South Coast Air Quality Management District (AQMD) has amended its refinery flare Rule 1118 multiple times since the adoption of the Air District's flare rules to minimize flaring and improve monitoring and reporting. Other than minor administrative changes in 2021 to accommodate refineries using non-petroleum-based feedstocks, neither Air District rule has been substantively amended since 2006. Since that time, Air District staff has

identified a number of potential approaches to improve monitoring, reporting, and the overall effectiveness and enforceability of both rules. This presentation will provide background and updates on efforts to respond to these motivating factors.

Increasing public engagement on flaring is included in the *2024-2029 Strategic Plan*, and the *Path to Clean Air* outlines actions to improve communications around flaring. The Air District is working on providing informational and educational materials that will assist those living in communities in close proximity to refineries in understanding the root causes of flaring events and their health impacts (i.e., Flaring 101).

Preliminary rule development efforts began in 2025 with the establishment of the Refinery Technical Working Group composed of Air District staff, refinery representatives, community members, labor, local government staff, and other advocacy group representatives. The group convened in June of 2025 and has had five meetings open for public viewing covering subjects that included “Flaring 101,” an educational resource for the public describing what flaring is and why it happens, and the flaring minimization concepts the Air District is considering.

In April 2026, Air District staff discussed potential regulatory concepts for the two flare rules with the Committee and convened the Refinery Technical Working Group in July 2026 to further discuss the potential regulatory concepts. In August 2026, Air District staff published a concept paper^{[1](#)} for potential amendments to both rules for public review and comment to solicit input in this early stage of the rule development process.

The regulatory concepts for the amendments to Rules 12-11 and 12-12 are intended to achieve four goals:

- Incentivize or require refineries to make investments and operational improvements required to minimize overall flaring, with particular focus on addressing the root causes of preventable flaring.
- To the extent feasible, ensure that flares burn efficiently to minimize harmful pollutants.
- Clearly differentiate between flaring that has a high potential for public health risk and flaring that does not.
- Enhance the availability of flaring information for past and future flaring activity to promote public transparency and accessibility, improve resource efficiency, and strengthen enforceability.

When identifying potential rule amendment concepts, Air District staff reviewed South Coast AQMD Rule 1118 and leveraged several concepts in the Air District’s rulemaking process for the two flare rules. Under South Coast AQMD Rule 1118, if either performance target for sulfur dioxide or oxides of nitrogen is exceeded, refineries are subject to mitigation measures to incentivize refineries to minimize flaring. Air District staff is exploring the development of new limits and will further evaluate the design of the South Coast AQMD Rule 1118 performance targets.

Additional concepts include incorporating federal requirements, improved monitoring, additional notification and reporting requirements that include greater detail and consistency in causal reporting, and improved categorization of flare causes in its reporting requirements.

During the public comment period for the concept paper, Air District staff participated in several outreach events, consisting of two public workshops and three meetings with stakeholders, including the Richmond-North Richmond-San Pablo Community Steering Committee. The presentation will include a summary of comments received during the public comment period for the concept paper.

During the rulemaking process, Air District staff will continue to conduct further stakeholder engagement with the residents of communities most affected by refinery flaring and industry representatives. The anticipated next step in the rulemaking process is to develop a draft proposal, which includes the development of draft rule language and further analysis of the potential impacts of the draft proposal.

[1] Concept Paper for Amendments to Rules 12-11 and 12-12 is published on the Refinery Flare Rule Amendments webpage: <https://www.baaqmd.gov/en/Rules-and-Compliance/Rule-Development/Refinery-Flares>

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by: Katie Gong
Reviewed by: David Joe

ATTACHMENT(S):

1. South Coast Air Quality Management District Refinery Flaring SOx – Actual and Performance Targets (2007-2023)
2. Update on Flaring Minimization Efforts and Development of Flaring 101 Presentation

Stationary Source Committee

October 14, 2026: “South Coast Air Quality Management District Refinery Flaring SO_x – Actual and Performance Targets (2007-2023)”

ATTACHMENT 1

Background

In the 2000s, South Coast Air Quality Management District (AQMD) Rule 1118 and Bay Area Air District (Air District) Rule 12-12 established different strategies to minimize flaring at refineries. Amendments to South Coast AQMD Rule 1118 were adopted to establish an annual mass-based performance target. If the performance target is exceeded, the refinery is required to (1) pay a mitigation fee, and (2) establish a flaring minimization strategy in a Flare Minimization Plan. Air District Rule 12-12 prohibits flaring due to preventable causes unless it is allowed in the Air District-approved Flare Minimization Plan. Air District Rule 12-12 also requires all refineries certify Flare Minimization Plan updates (1) annually, and (2) if there are any proposed changes to a refinery process or equipment.

In August 2026, the Air District published a concept paper for the amendments to Rules 12-11 and 12-12, which includes an annual limit concept, which differs from the South Coast AQMD Rule 1118 annual mass-based emissions performance targets.

If annual oxides of sulfur (SO_x) emissions at a refinery exceed the Rule 1118 annual SO_x performance target, the refinery is required to (1) pay a mitigation fee and (2) prepare a Flare Minimization Plan or update. SO_x emissions may be excluded from the SO_x performance target if flaring is caused by external power and/or external water curtailment beyond the operator’s control (excluding interruptible service agreements), natural disasters, or acts of war or terrorism.

The Air District regulatory concept paper for amendments to Rules 12-11 and 12-12 includes regulatory concepts for new limits and is evaluating mass-based emissions limits and limits based on alternative metrics, such as vent gas volume. Under this concept, exceeding limits would be a violation of an Air District rule, and the concept paper notes that applicability for flaring that is preventable and not preventable needs to be further evaluated. The concept paper includes another concept that if an emissions or vent gas volume limit is exceeded, the refinery would be required to implement mitigation measures: (1) evaluate and implement emissions reduction measures, or (2) pay a mitigation fee that would be used to reduce community health impacts from flaring.

South Coast Air Quality Management Flare Data Discussion

The data in this attachment consists of publicly available refinery flare data reports from the South Coast AQMD website from 2007 through 2023.¹ Air District staff prepared Figures 1 through 7 with the annual SOx flaring emissions and the South Coast AQMD Rule 1118 annual SOx performance target for each of the seven refineries.

Overall, SOx emissions from South Coast refinery flares have been reduced from 2007 through 2023. Some refineries have maintained SOx emissions below the SOx performance target for the 2007 through 2023 period, while others have exceeded the SOx performance target one or more times.

As shown in Figures 1 through 3, AltAir Paramount, Chevron El Segundo, and Marathon Carson reduced flaring and did not exceed the SOx performance target from 2007 through 2023. Figure 4 shows that SOx emissions at the Marathon Wilmington & Carson Sulfur Recovery Plant have largely stayed the same with one exceedance of the performance target over the 2007 through 2023 period. Figures 5 through 7 show that Phillips 66 Carson-Wilmington, Torrance Refining Company, and Valero Wilmington exceeded the performance targets over multiple years during the 2007 through 2023 period.

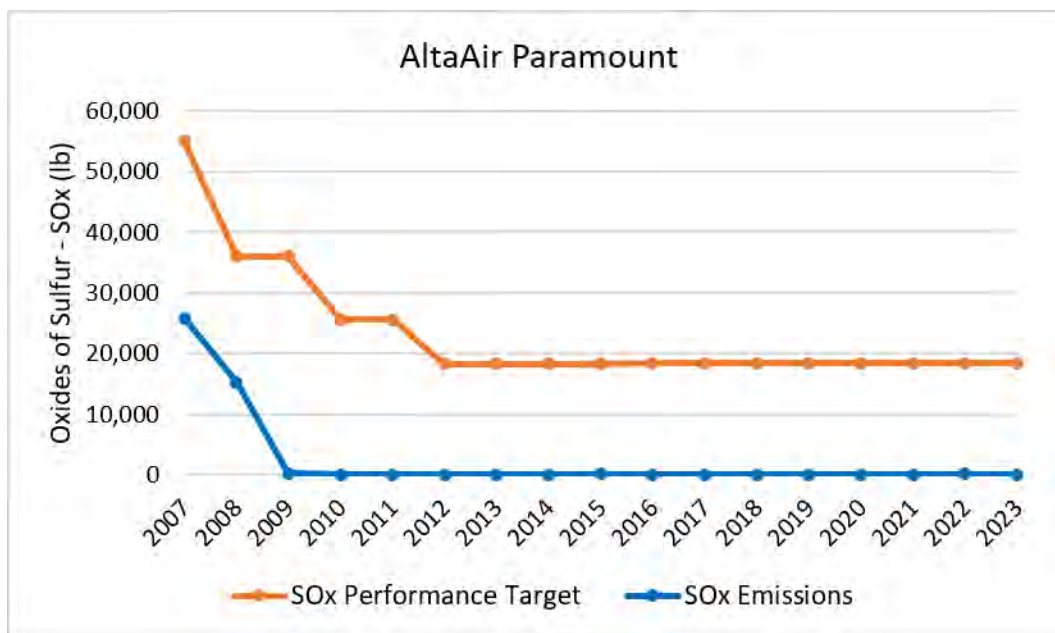


Figure 1: AltaAir Annual SOx Emissions from Flares and Annual SOx Performance Targets (2007-2023)

¹ South Coast AQMD Flare Operator Information, accessed August 27, 2026. To access the flare data, select on each refinery's name on the webpage: <https://www.aqmd.gov/home/rules-compliance/compliance/r1118/flare-operators>

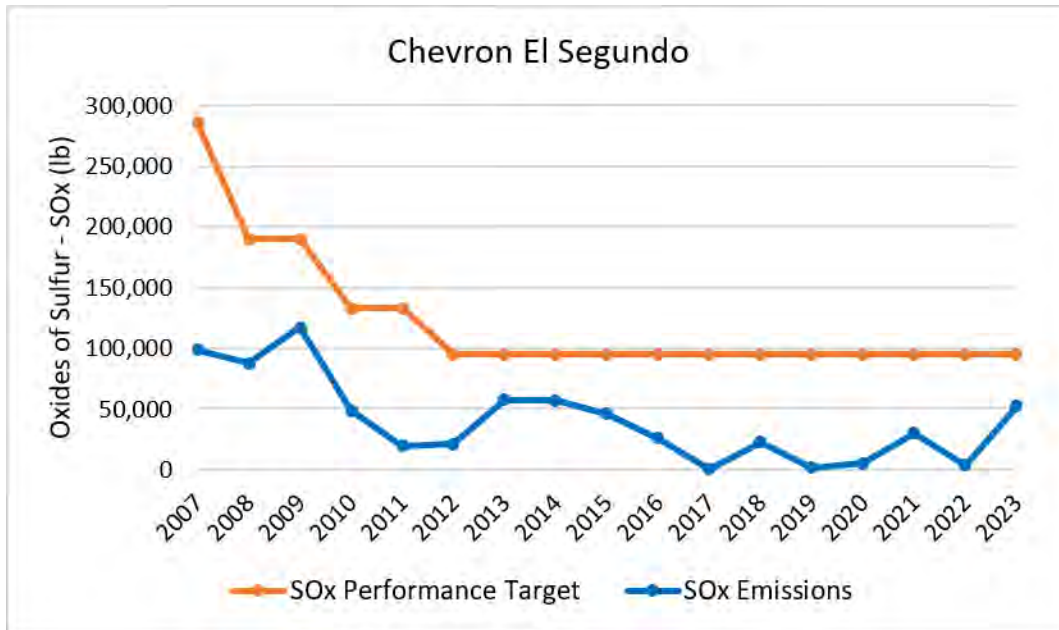


Figure 2: Chevron El Segundo Annual SOx Emissions from Flares and Annual SOx Performance Targets (2007-2023)

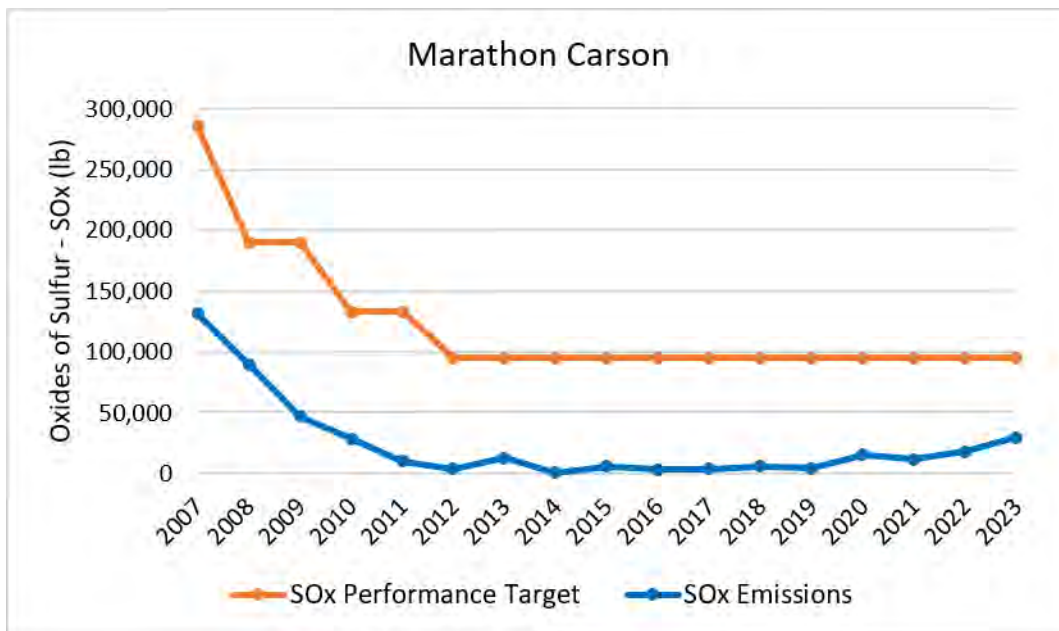


Figure 3: Marathon Carson Annual SOx Emissions from Flares and Annual SOx Performance Targets (2007-2023)

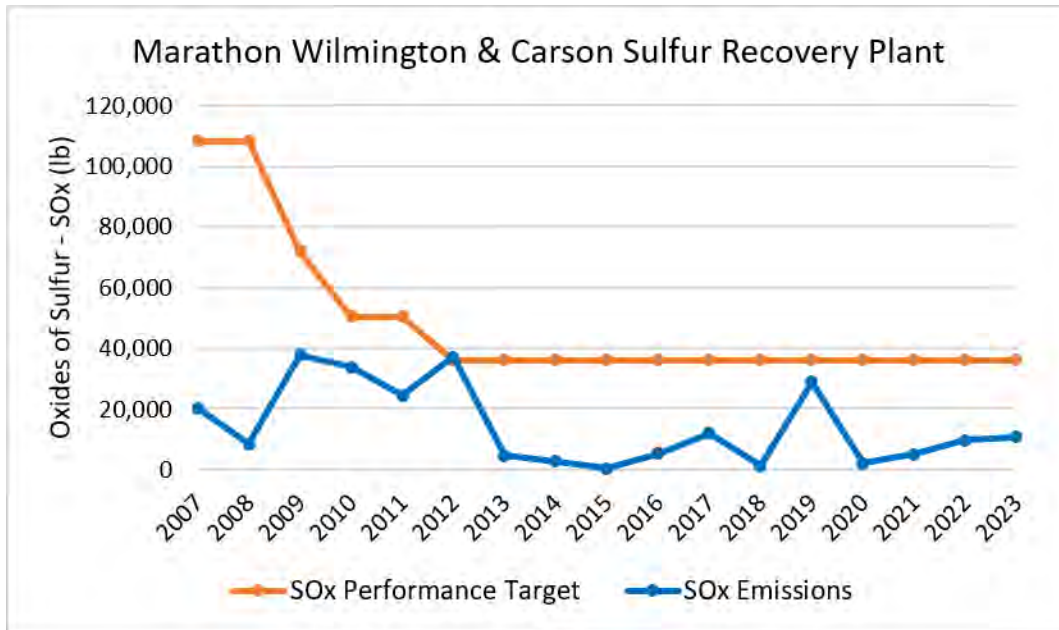


Figure 4: Marathon Wilmington & Carson Sulfur Recovery Plant Annual SOx Emissions from Flares and Annual SOx Performance Targets (2007-2023)

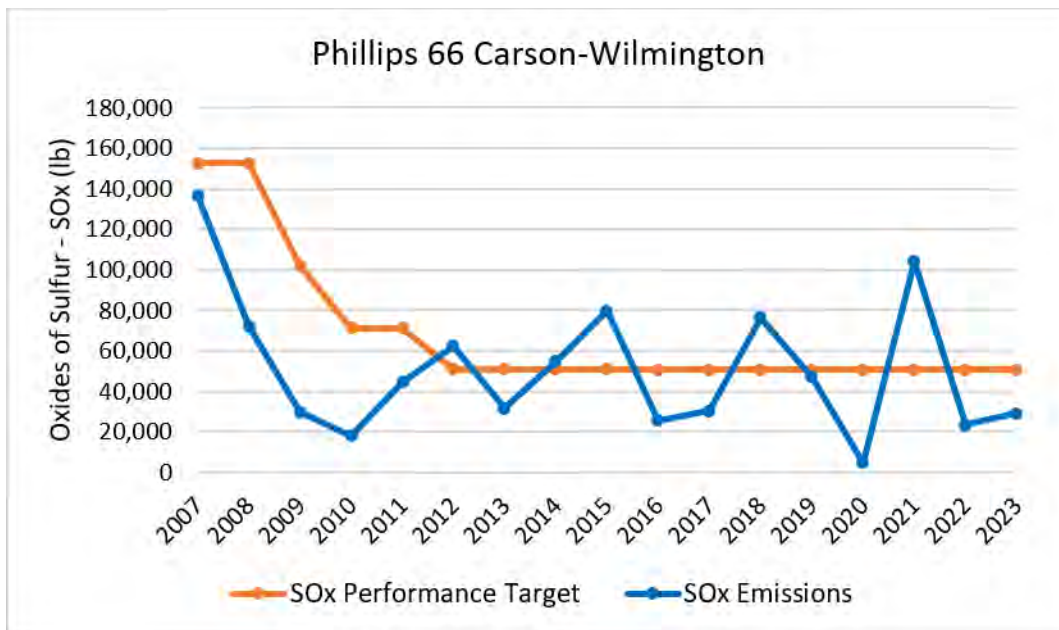


Figure 5: Phillips 66 Carson-Wilmington Annual SOx Emissions from Flares and Annual SOx Performance Targets (2007-2023)

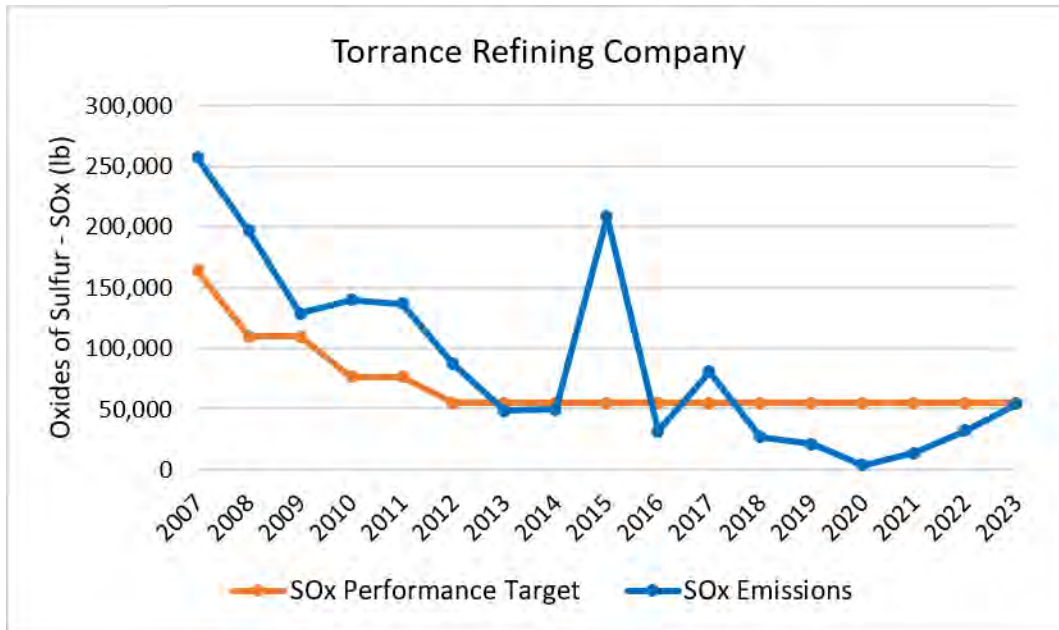


Figure 6: Torrance Refining Company Annual SOx Emissions from Flares and Annual SOx Performance Targets (2007-2023)

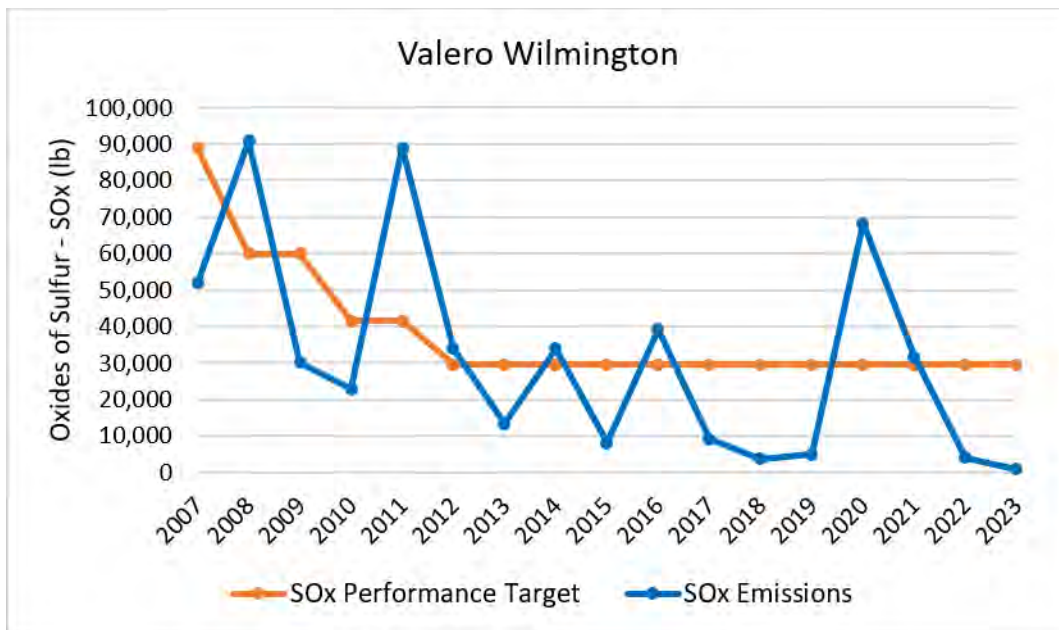


Figure 7: Valero Wilmington Annual SOx Emissions from Flares and Annual SOx Performance Targets (2007-2023)



Update on Flaring Minimization Efforts and Development of Flaring 101

Stationary Source Committee

October 14, 2026

Katie Gong
Senior Air Quality Engineer
Regulatory Development Division

Abbreviations

AB: Assembly Bill

CSC: Community Steering Committee

DAHS: Data acquisition and handling system

FMP: Flare Minimization Plan

MRC: Martinez Refining Company

NMHC: Non-methane hydrocarbon

NOx: Oxides of nitrogen

PM: Particulate matter

PTCA: Path to Clean Air

RSR: Refinery Sector Rule

SO₂: Sulfur dioxide

SOx: Oxides of sulfur

South Coast AQMD: South Coast Air Quality Management District

US EPA: United States Environmental Protection Agency

VOC: Volatile organic compound

Presentation Outline

- Background on Flaring
- Impetus and Status of Rule Development Efforts
- Update on "Flaring 101"
- Update on Rule Development and Regulatory Concepts
- Concept Paper Public Comments
- Rule Development Next Steps

Background on Flaring



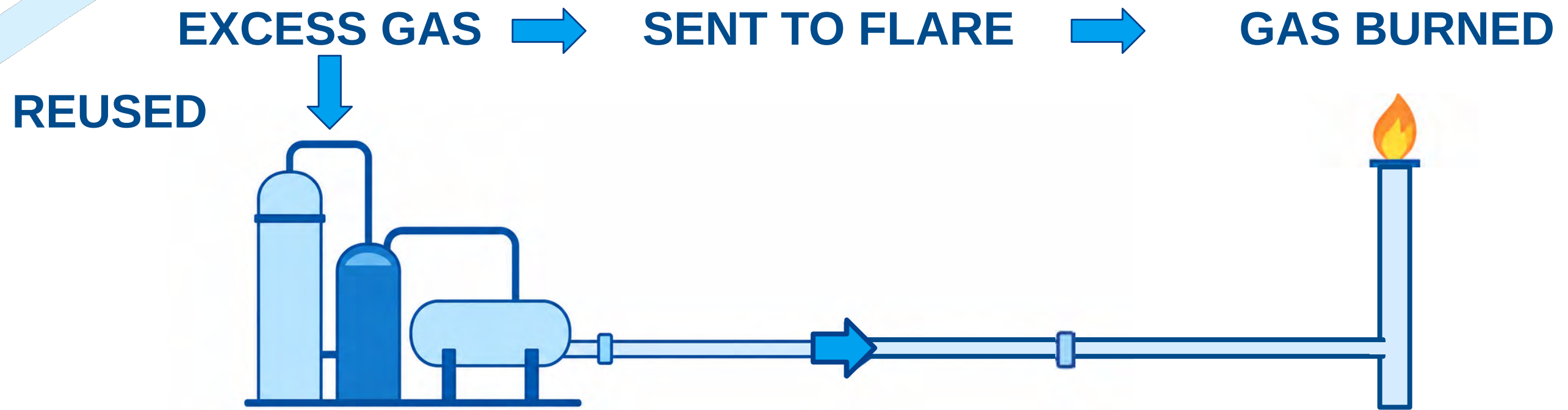
What is a flare?



What is a flare? (cont.)

A flare is a device used at refineries and hydrogen plants.

When excess gas cannot be safely used or stored, it is sent to a flare and burned. Flares burn excess gases instead of releasing them directly into the atmosphere; mitigating impacts on health and the environment.



What comes from a flare?

Flaring can affect nearby communities.

Depending on what is being burned and how the flare is operating, flaring can release dark smoke, sulfur dioxide, nitrogen oxides and other pollutants.



Visible Flame,
Smoke & Light



Heat



Sound



Air Pollutants
(*not always visible*)

Why does flaring happen?

Planned: Due to condition from scheduled operational activities, such as scheduled startup, shutdown, maintenance, and turnarounds.

Unplanned: Due to condition that is not planned, such as due to process upsets, unplanned shutdown, and unforeseen maintenance.

Not preventable: Due to condition beyond reasonable control of the refinery management. Always **unplanned**.

Preventable: Due to condition within reasonable control of the refinery management. Can be **planned** or **unplanned**.



Flare Types

Flare Type	Typical Process Units Served	Gas Routed to Flare	Primary Pollutants	Typical Visual Cues
Non-hydrogen	Refinery process units	Hydrocarbons, including heavier and more complex ones	SO ₂ , PM, VOC	Proper operation: large and bright flame Improper operation: flame with black smoke
Hydrogen	Hydrogen production units	Hydrogen with a small amount of methane	NO _x , VOC	Blue or translucent flame

Impetus and Status of Rule Development Efforts

Impetus of Rule Development Effort

Strategic Plan Strategy 1.3 Minimize Flaring

- Explore ways to minimize flaring
- Increase public engagement on flaring
- Share timely, accessible information
- Increase inspections and air pollution monitoring

AB 617 Path to Clean Air – Richmond-North Richmond- San Pablo - Community Emissions Reduction Plan - Fuel Refining 2.6

Evaluate potential updates to Rules 12-11 and 12-12 incorporating health impact analyses, enhanced enforceability, and more stringent limits

Impetus of Rule Development Effort (cont.)

Air District Commitments in:

- Air District's Strategic Plan
- Richmond-North Richmond-San Pablo Community Emissions Reduction Plan



20 Years of Rules

The Air District has identified ways to strengthen the rules and improve the requirements.

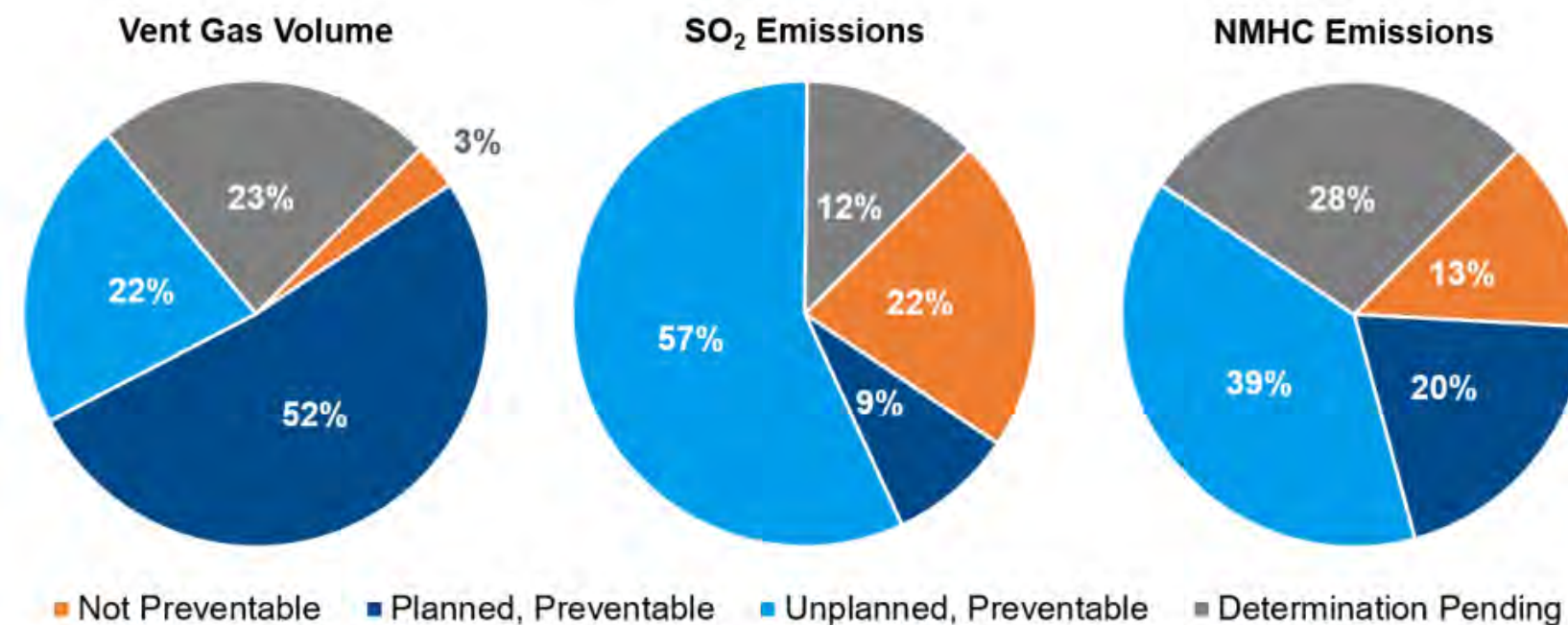


Changing Requirements

Federal requirements and flare rules at other air districts have changed.

Cause Categories of Reportable Flaring Events 2015-2024

- Reportable flaring events account for approx. 90% of vent gas volume and emissions of all flaring from 2015-2024



- Planned/unplanned designation is based on South Coast AQMD Rule 1118 definitions of Planned Flare Event and Unplanned Flare Event.
- Preventable designation is based on Air District determination of each reportable flaring event, which may differ from the published causal report.

Current Air District Refinery Flare Rules

Rule 12-11 Flare Monitoring at Refineries	Rule 12-12 Flares at Refineries
Tracks flaring	Reduces & explains causes of flaring
Requires monitoring and recordkeeping	Requires Flare Minimization Plans
Requires monthly flare data reports	Requires reports explaining causes of flaring events
Provides information about gas flared and emissions	Establishes requirements intended to reduce the frequency, magnitude, and duration of flaring

Other Regulations

United States Environmental Protection Agency

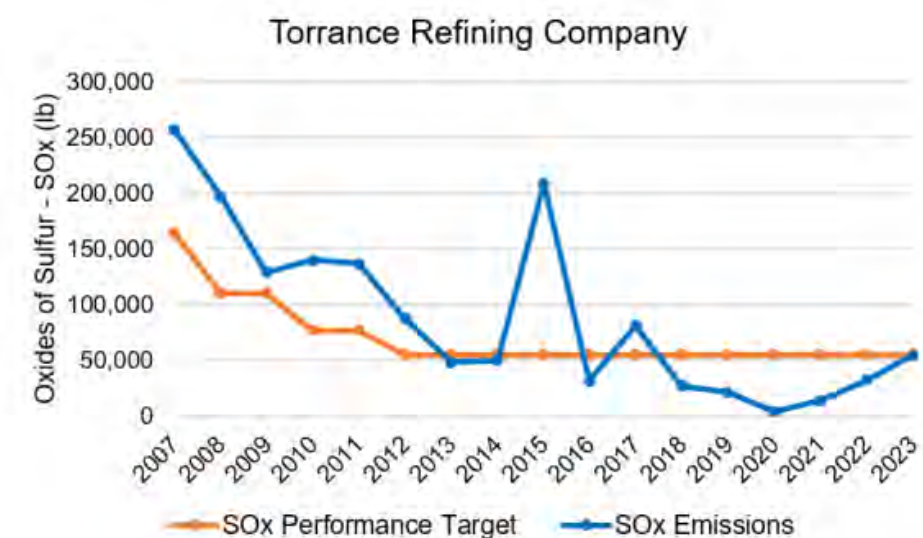
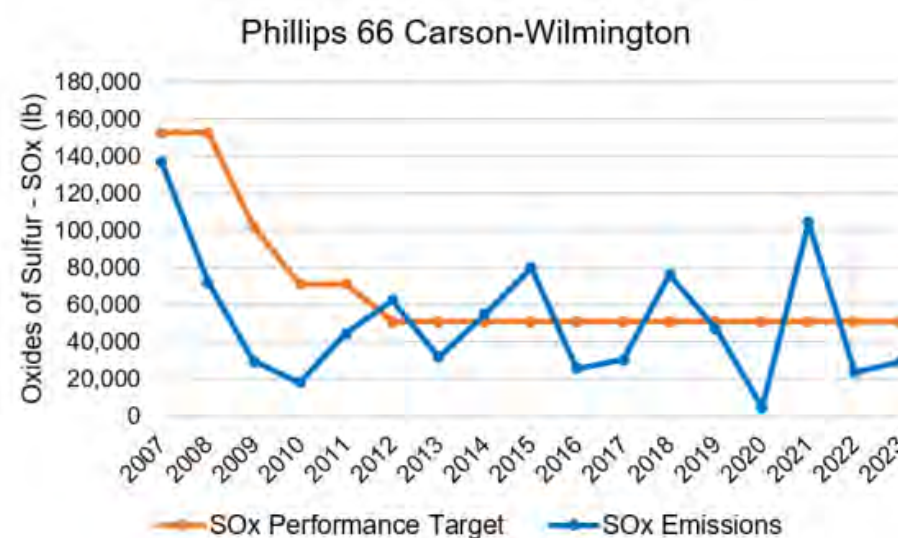
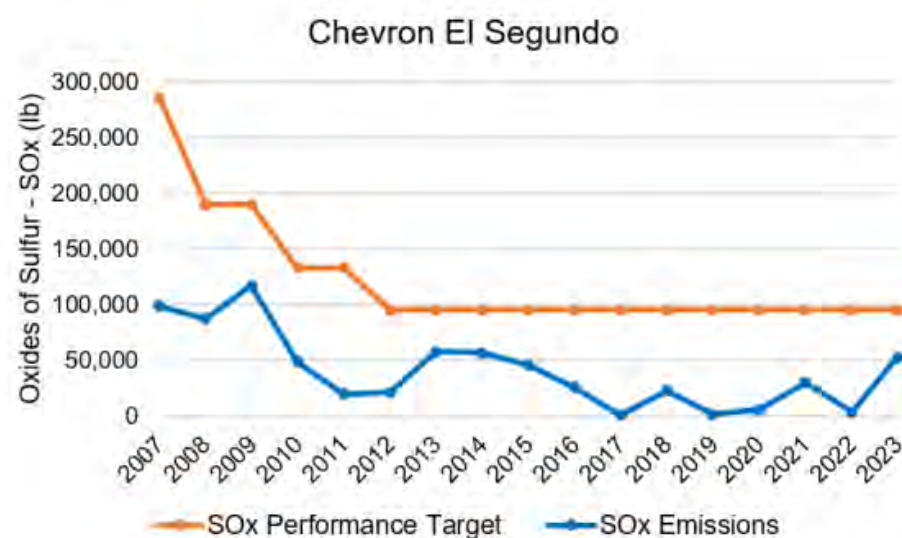
- New Source Performance Standards
- National Emissions Standards for Hazardous Air Pollutants

South Coast Air Quality Management District

- Rule 1118: Control of Emissions from Refinery Flares
- Rule 1118.1: Control of Emissions from Non-Refinery Flares

South Coast Air Quality Management Performance Targets

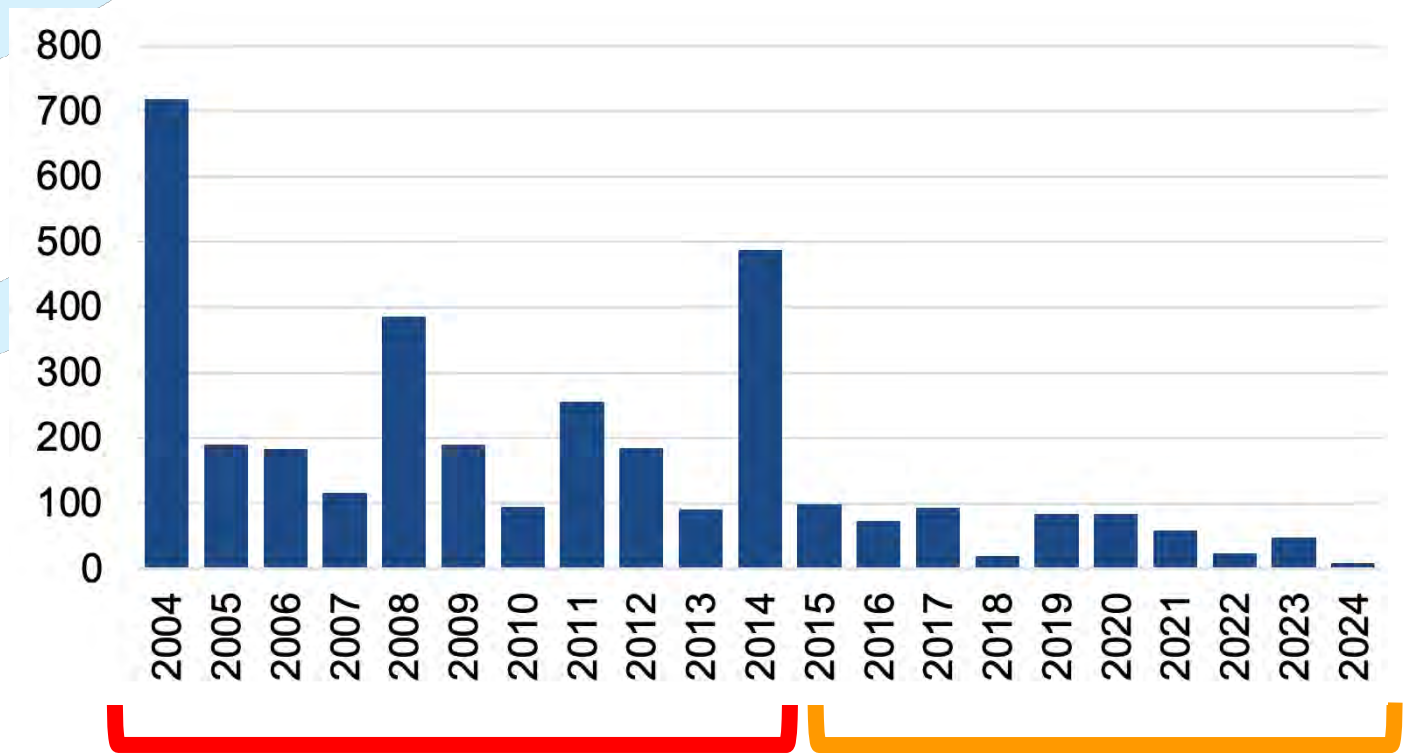
- South Coast AQMD Rule 1118 established mass-based emissions performance targets
- Performance targets incentivize refineries to reduce emissions from flares
- Exceeding target triggers requirements:
 - Payment of a mitigation fee, and
 - Flare Minimization Plan creation or update



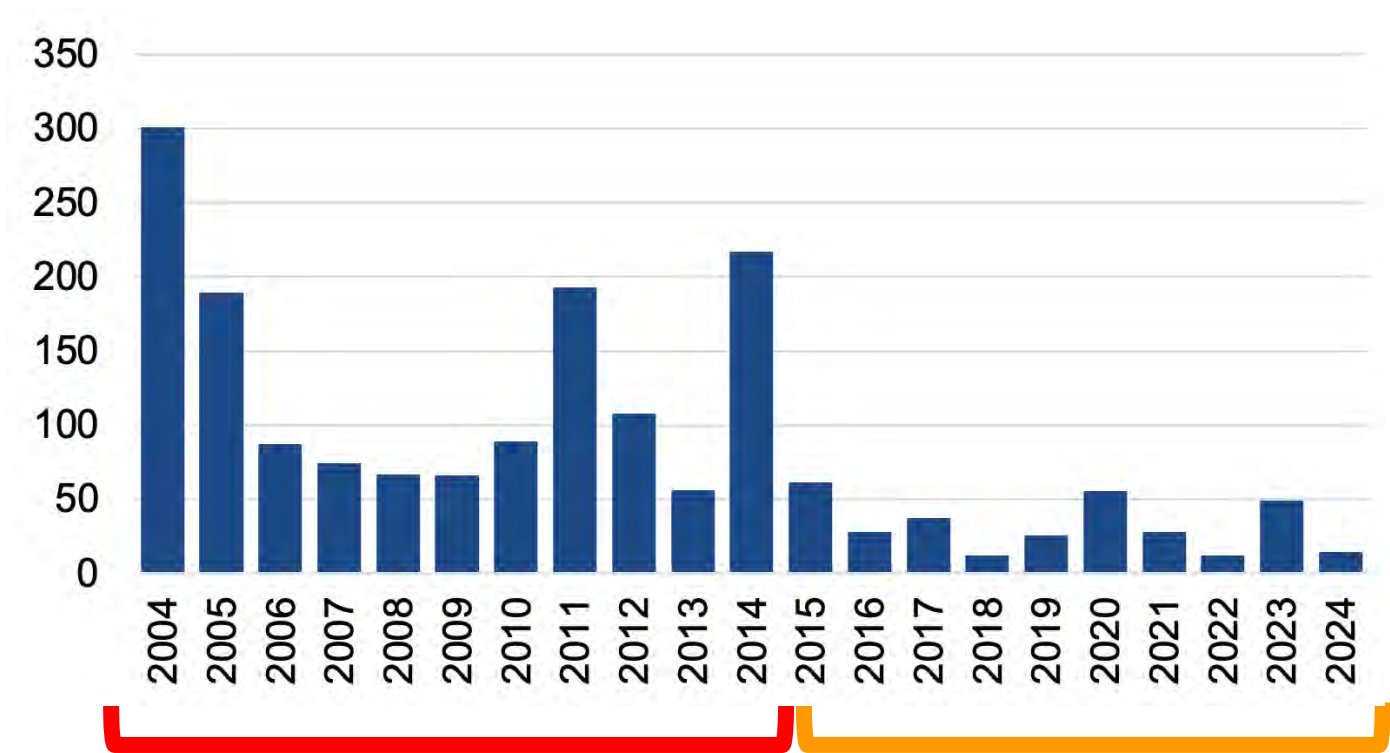
Bay Area Flare Data

Flare emissions are lower than they were prior to 2015, but they remain significant, highlighting the need for continued emission reduction efforts.

Sulfur Dioxide Emissions (tons)



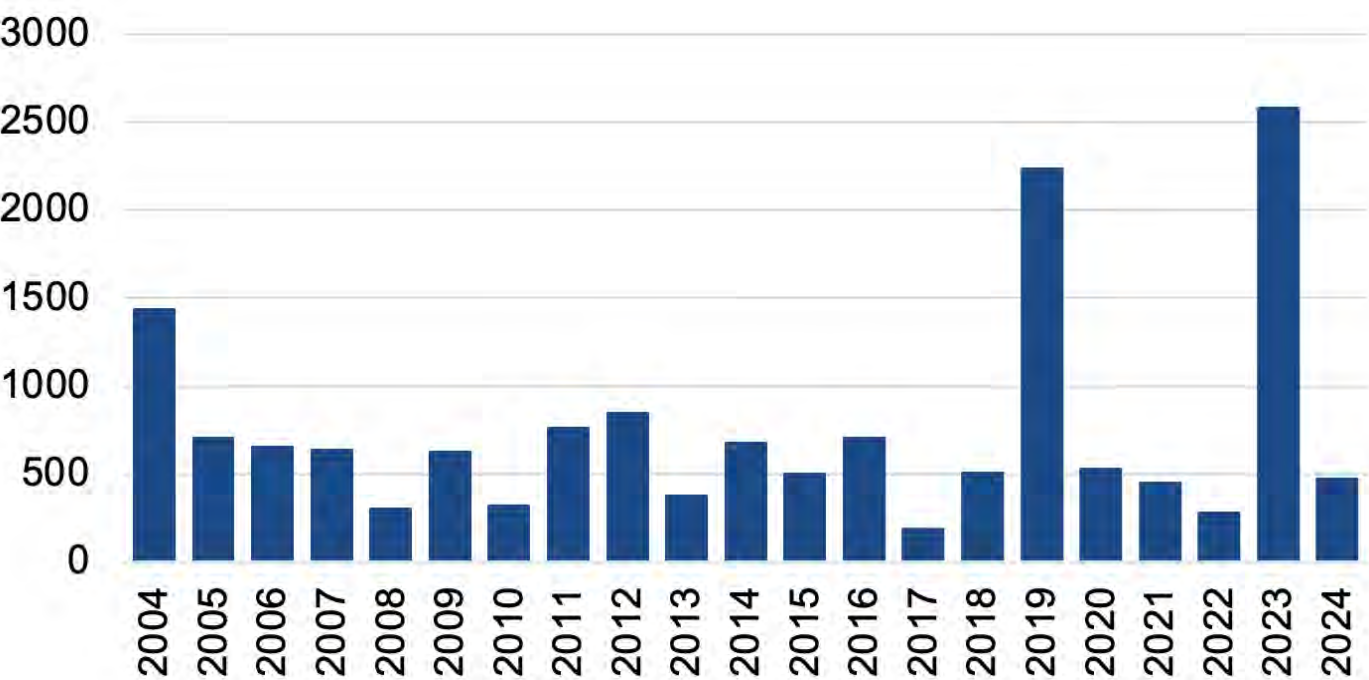
Non-methane Hydrocarbon Emissions (tons)



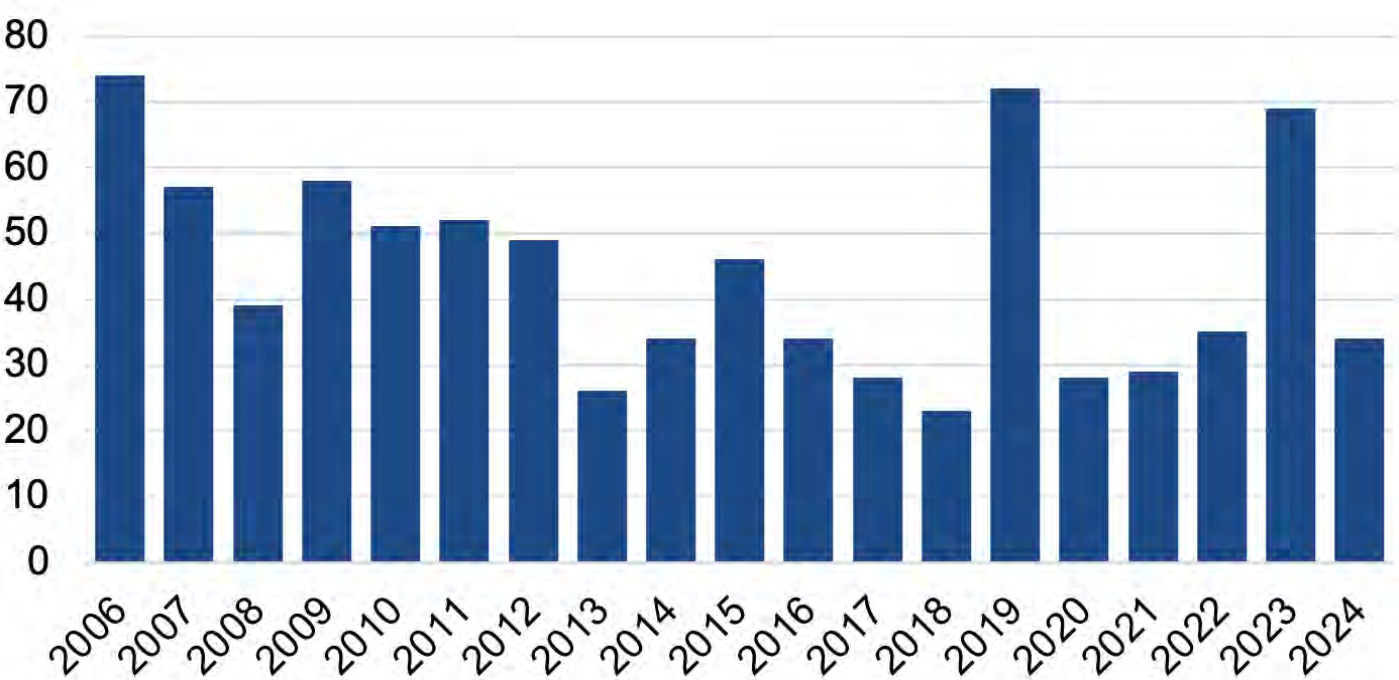
Bay Area Flare Data (cont.)

No clear decrease in vent gas volume or reportable flaring events.

**Vent Gas Volume
(Million Standard Cubic Feet)**



Number of Reportable Flaring Events



What is a reportable flaring event?

Under Rule 12-12, a reportable flaring event is flaring in a day where more than 500,000 standard cubic feet of vent gas is flared or where sulfur dioxide emissions are greater than 500 pounds.

Current Status of Rule Development Efforts

- Refinery Technical Working Group convened
- "Flaring 101"
 - Gathered input from community and labor
 - Developing short-form videos
- Rule Development and Regulatory Concepts
 - Concept paper
 - Stakeholder engagement

Update on Flaring 101

What is “Flaring 101”

“Flaring 101” is being developed to provide informational and educational materials that will assist the residents in communities close to refineries in understanding the root causes of flaring events and their health impacts

Impetus for "Flaring 101" Development

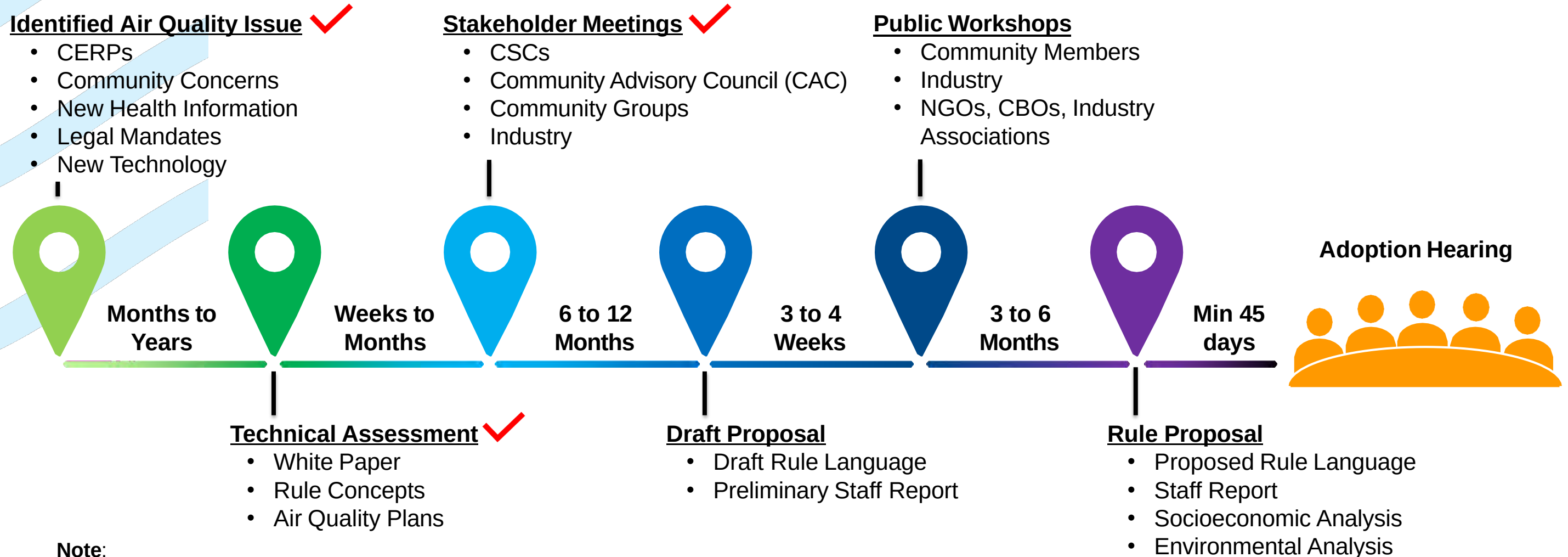
1. Air District Strategic Plan; and
2. AB 617 PTCA – Richmond-North Richmond-San Pablo – Community Emissions Reduction Plan

“Flaring 101” Update

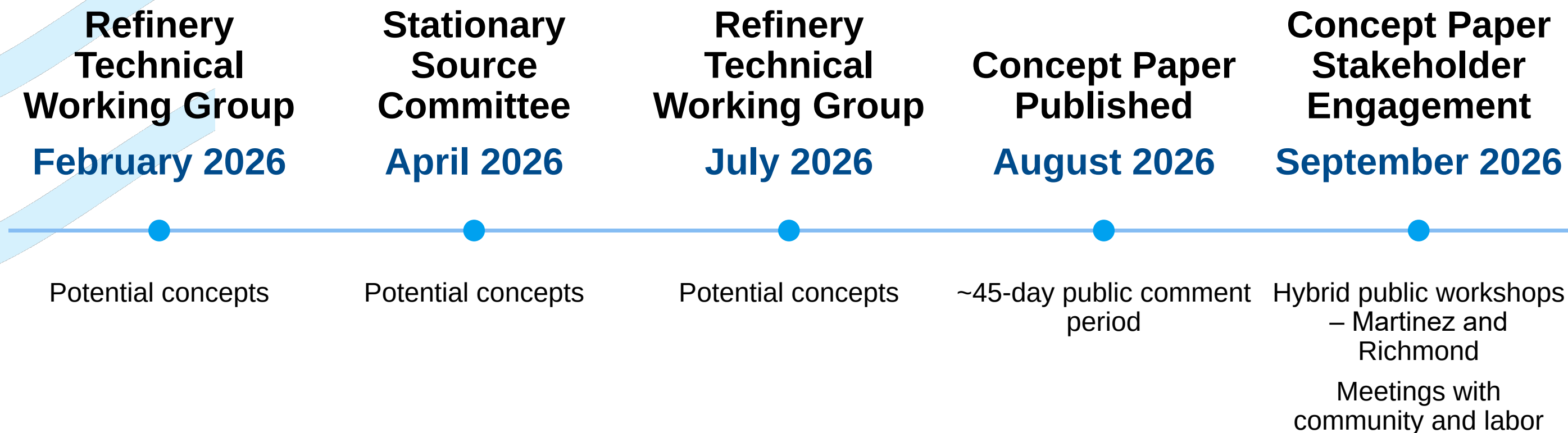
- Met with and received input from:
 - Refinery Technical Working Group in 2025
 - Community and labor groups in 2026
- Community members emphasized the need for simple and accessible language that highlighted community impacts, packaged in digestible, short-form content
- Current Status: Staff is working to produce a series of short-form videos to be published on the Air District website and potentially on social media channels

Update on Rule Development and Regulatory Concepts

Rule Development and Public Engagement



Stakeholder Engagement



Goals of Regulatory Concepts

1. **Minimize overall flaring** through investments and operational improvements.
2. Ensure **good combustion and destruction of most harmful pollutants** when there is flaring.
3. Differentiate flaring that has a **higher potential for public health risk** versus a lower potential.
4. Improve **availability of flaring information** for public accessibility and transparency, resource efficiency, and improved enforceability.

Alignment of Regulatory Concepts with Goals

Concept	Minimize Overall Flaring	Good Combustion	Identify Public Health Risk	Availability of Information
1.1 Efficient Combustion - US EPA RSR		✓	✓	✓
1.2 Establish Flare Limits	✓			
1.3 Require Mitigation Measures	✓	✓		✓
1.4 Require Submittal of Causal Reports	✓	✓	✓	✓
1.5 Require Third-Party Audits for Facilities	✓		✓	✓
2.1 Strengthen Flare Minimization Plan Updates	✓	✓		✓
2.2 Standardize Reporting Requirements			✓	✓
2.3 Expand Definitions	✓		✓	✓
2.4 Strengthen Monitoring and Reporting Requirements	✓	✓	✓	✓

Section #1 - Reduce Flaring Emissions and Frequency

- 1.1 Incorporate Key Flare Combustion Efficiency Requirements from the US EPA Refinery Sector Rule *
- 1.2 Establish New Flare Limits *
- 1.3 Require Mitigation Measures Based on Triggering Criteria *
- 1.4 Require Submittal of Causal Reports Based on Additional Triggering Criteria *
- 1.5 Require Third-Party Audits for Facilities Based on Triggering Criteria *

**South Coast AQMD Rule 1118*

**US EPA Consent Decree*

Combustion Efficiency Visual Cues

Flare flame appearance provides visual cues about combustion efficiency

Non-hydrogen flares



Poor Efficiency



Good Efficiency

Source: <https://kvia.com/news/abc-7-alert-center/2025/07/08/refinery-stacks-spewing-black-smoke-in-south-central-el-paso/>

Concept 1.1 Incorporate Key Flare Combustion Efficiency Requirements from US EPA Refinery Sector Rule

Current Requirements: Refineries are subject to visible emissions limit per Rule 6-1; Petroleum refineries are subject to Refinery Sector Rule

Concept Description

- Key operating requirements: net heating value of the combustion zone standard, flare tip velocity limit, visible emissions limit
- Data in monthly flare data reports and causal reports

Anticipated Benefits:

1. Reduced emissions at refineries that process alternative feedstocks
2. Increased enforceability of the federal regulation by requiring data to be regularly reported

Refineries

Petroleum:

- Chevron Richmond
- Martinez Refining Company
- Valero Benicia

Alternative feedstocks:

- Marathon Martinez
- Phillips 66 Rodeo

Concept 1.2 Establish New Flare Limits

Current Rules: Flaring is prohibited unless it is (1) not preventable or (2) approved in the FMP; otherwise there are no limits on flaring.

Concept Description

- Establish limits on emissions and vent gas volume for hydrogen and non-hydrogen flares that become more stringent over time
- Further evaluation is needed to determine how the limits would apply to flaring that is preventable versus not preventable

Anticipated Benefits:

1. Reduced emissions and decreased frequency of flaring through investments and operational improvements

Measures to Minimize Flaring

Source Control Management	Flaring Monitoring and Control	Corrective Actions
1. Maintenance and reliability 2. Operations and procedures 3. Flare gas recovery systems	1. Monitoring systems 2. Automated technology to optimize flare combustion	1. Implementation of prevention measures after flaring

Concept 1.3 Require Mitigation Measures Based on Triggering Criteria

Current Rules: FMPs include measures to prevent flaring during select anticipated planned and unplanned events

Concept Description

- Emission reduction measures based on triggering criteria
- Choice to pay mitigation fee in lieu of emissions reduction measures
- More stringent measures for repeated exceedances or deviations of standards

Anticipated Benefits:

1. Reduced emissions and decreased frequency of flaring through emission reduction measures
2. Fund projects to minimize community health impacts from flaring

Concept 1.4 Require Submittal of Causal Reports based on Additional Triggering Criteria

Current Rules: Causal reports are required when vent gas volume or sulfur dioxide emissions exceed thresholds (reportable flaring event)

Concept Description

Require causal reports for:

- Exceeding or deviating from key operating parameters from the Refinery Sector Rule
- Exceeding a new non-methane hydrocarbon threshold

Anticipated Benefits:

1. Decreased frequency of flaring due to repeated causes
2. Expanded reporting requirements for accessibility, transparency, and enforceability

Concept 1.5 Require Third-Party Audits for Facilities Based on Triggering Criteria

Current Rules: Refineries conduct their own audits after reportable flaring events and report the causes and prevention measures in causal reports

Concept Description

Retain independent auditors to verify compliance with flare requirements and their FMPs.

Third party audits may be required when:

- Flaring repeatedly comes from the same source or process area within a specified timeframe
- Flaring that is not preventable exceeding an emissions or vent gas threshold
- Air District determines that internal audits are insufficient

Anticipated Benefits:

1. Reduced emissions and decreased frequency of flaring from targeted causes of flaring

Section #2 - Flare Minimization Plans and Reporting and Monitoring Requirements

- 2.1 Strengthen Flare Minimization Plan Updates
- 2.2 Standardize Reporting Requirements*
- 2.3 Expand Definitions and Categories for Reporting Causes of Flaring *
- 2.4 Strengthen Monitoring and Reporting Requirements*

**South Coast AQMD Rule 1118*

Concept 2.1 Strengthen FMP Updates

Current Rules: Refineries submit FMPs that describe their equipment, processes, flaring reductions, and prevention measures. FMPs are updated annually and before equipment is installed or modified

Concept Description

Require additional information in FMPs, including:

- Technology review and updated cost analyses that could reduce flaring
- A summary of mitigation measures that have been implemented

Frequency of updates to FMPs could be impacted

Anticipated Benefits:

1. Increased enforceability of rule requirements
2. Resource savings for the Air District and regulated facilities

Concept 2.2 Standardize Reporting Requirements

Current Rules: Refineries report required flaring information, but the reports are not standardized.

Concept Description

Standardize:

- Templates used to report flaring information
- Categories used to identify the causes of flaring
- Methods used to calculate emissions

Anticipated Benefits:

1. Increased data consistency and accessibility
2. Resource savings for the Air District and regulated facilities

Concept 2.3 Expand Definitions and Categories for Reporting Causes of Flaring

Current Rules: Flaring is classified as preventable and not preventable.

Concept Description

Update and add definitions for reporting the cause of flaring, including:

- Clarifying the definition of “Emergency,” including whether to rename it “Not Preventable” and align it with the federal “Malfunction” definition
- Adding definitions for “Planned” and “Unplanned” flaring

Anticipated Benefits:

1. Improved clarity and consistency in defining the causes of flaring
2. Stronger enforceability with clearer interpretation of requirements

Concept 2.4 Strengthen the Monitoring and Reporting Requirements

Current Rules: Refineries are required to monitor vent gas composition if certain thresholds are exceeded, and video monitoring information is reported monthly.

Concept Description

Strengthen monitoring and reporting by requiring:

- Continuous monitoring for vent gas: total sulfur and hydrocarbon composition; and flow downstream of the water seal
- Data acquisition and handling system (DAHS) to collect and manage monitoring data
- Video monitoring data: real-time Air District access; and online submission of information

Anticipated Benefits:

1. Increased accuracy and integrity of emissions data
2. Stronger compliance assurance and enforcement
3. More information on flaring to supplement the Community Warning System

Concept 2.4 Strengthen the Monitoring and Reporting Requirements (cont.)

Current Rules: Refineries are required to monitor vent gas composition if certain thresholds are exceeded, and video monitoring information is reported monthly.

Concept Description

Strengthen monitoring and reporting by requiring:

- Infrared camera monitoring that may detect certain emissions
- Notification system to alert the community of planned and unplanned flaring
- Review and approval process for causal reports and flare monitoring systems

Anticipated Benefits:

1. Increased accuracy and integrity of emissions data
2. Stronger compliance assurance and enforcement
3. More information on flaring to supplement the Community Warning System



Concept Paper Public Comments



Concept Paper Stakeholder Engagement

Hybrid Public Workshops

- Martinez – 60 attendees
- Richmond – 45 attendees
- Community, industry, labor, consultants/vendors, government

Stakeholder Meetings

- Community
- Labor

Concept Paper Public Comments

- 23 written comments received

14 Community Members	• Martinez • Richmond • Rodeo
4 Community-based Organizations	• Benicia Community Air Monitoring Program • Communities for a Better Environment • Healthy Martinez • Richmond-North Richmond-San Pablo CSC
1 Labor Organization	• United Steelworkers Local 5
5 Industry Stakeholders	• Chevron • MRC • Marathon • Phillips 66 • Western States Petroleum Association

Concept Paper Public Comments (cont.)

- Topics include:
 - General interest in further data analysis and cost/benefit analysis
 - **Community:** General support with additional considerations (mitigation measures, third-party audits, and other pollutants)
 - **Labor:** General support
 - **Industry:** Considerations/exemptions for refineries that process alternative feedstocks and flares that burn certain gases, flare limits, preventable/not preventable determinations, meetings, and additional questions

Rule Development Next Steps

Rule Development Next Steps

- Review and consider comments on regulatory concepts
- Develop draft proposal, including draft rule language and further analysis
- Anticipate stakeholder engagement during development of draft proposal

Rule Amendments Next Steps (cont.)

Identified Air Quality Issue

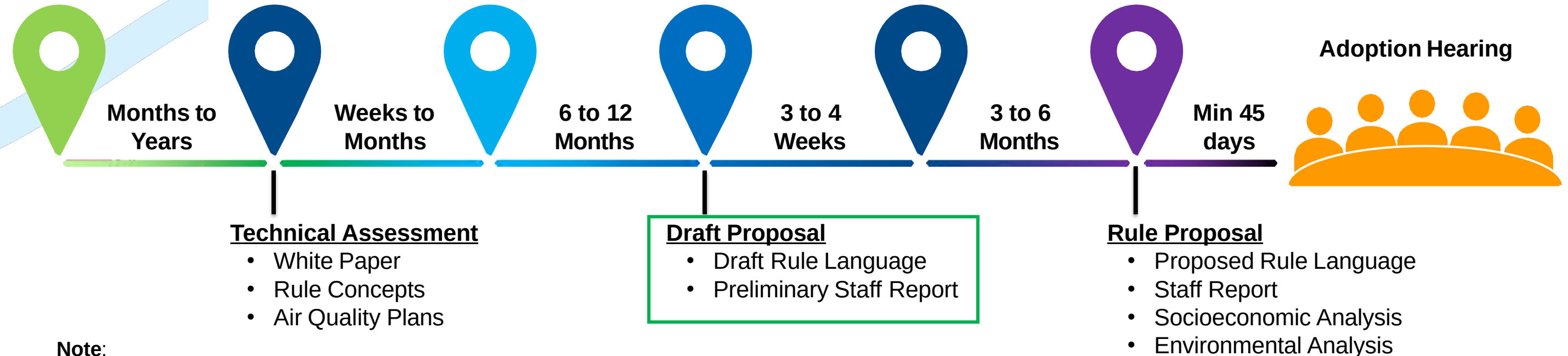
- CERPs
- Community Concerns
- New Health Information
- Legal Mandates
- New Technology

Stakeholder Meetings

- CSCs
- Community Advisory Council (CAC)
- Community Groups
- Industry

Public Workshops

- Community Members
- Industry
- NGOs, CBOs, Industry Associations



Note:

CBO: Community-Based Organization

CSC: Community Steering Committees

CERP: Community Emission Reduction Plans

NGO: Non-Governmental Organization

Questions & Discussion

For more information:

Katie Gong | Senior Air Quality Engineer | kgong@baaqmd.gov