

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

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**Draft Staff Report for:**

**Proposed Amended Rule 1180 – Fenceline and Community Air Monitoring for Petroleum Refineries and Related Facilities; and  
Proposed Rule 1180.1 – Fenceline and Community Air Monitoring for Other Refineries**

December 2023

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## TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
<b>CHAPTER 1 BACKGROUND.....</b>	<b>1</b>
INTRODUCTION .....	1-1
REGULATORY BACKGROUND .....	1-1
PUBLIC PROCESS .....	1-5
<b>CHAPTER 2 FENCELINE AND COMMUNITY AIR MONITORING.....</b>	<b>2-0</b>
APPLICABILITY.....	2-1
TARGET COMPOUND LIST .....	2-11
FENCELINE AIR MONITORING TECHNOLOGIES .....	2-13
POTENTIAL FENCELINE MONITORING CONFIGURATIONS AT NEW FACILITIES ..	2-
30	
COMMUNITY AIR MONITORING .....	2-35
<b>CHAPTER 3 PROPOSED AMENDED RULE 1180 .....</b>	<b>3-0</b>
INTRODUCTION .....	3-1
PROPOSED AMENDED RULE 1180 .....	3-1
<b>CHAPTER 4 PROPOSED RULE 1180.1 .....</b>	<b>4-0</b>
INTRODUCTION .....	4-1
PROPOSED RULE 1180.1 .....	4-2
<b>CHAPTER 5 IMPACT ASSESSMENT .....</b>	<b>5-0</b>
AFFECTED SOURCES .....	5-1
EMISSION IMPACTS .....	5-2
SOCIOECONOMIC IMPACT ASSESSMENT.....	5-2
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) .....	5-2
DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE.....	5-2
INCREMENTAL COST-EFFECTIVENESS.....	5-3
COMPARATIVE ANALYSIS .....	5-4
<b>APPENDIX A RESPONSE TO COMMENTS.....</b>	
PUBLIC WORKSHOP COMMENTS.....	1
COMMENT LETTER #1.....	7
COMMENT LETTER #2: .....	13
COMMENT LETTER #3.....	23
COMMENT LETTER #4.....	27

**Table of Contents**

---

COMMENT LETTER #5..... 31  
COMMENT LETTER #6..... 34  
COMMENT LETTER #7..... 45  
COMMENT LETTER #8..... 47  
COMMENT LETTER #9..... 50

## **LIST OF TABLES**

Table 1-1:Fenceline Air Monitoring Data Display Website Links.....	1-2
Table 1-2: Summary of Working Group Meetings and Public Workshops.....	1-5
Table2-1: Potential Related Facilities that Were Initially Identified .....	2-4
Table 2-2: PAR 1180 Facilities.....	2-8
Table 2-3: PR 1180.1 Facilities .....	2-10
Table 2-4: Existing Rule 1180 vs. OEHHA Priority List of Air Pollutants .....	2-13
Table 2-5: Real-Time Fenceline Air Monitoring Technologies Used by Rule 1180 Facilities.	2-16
Table 2-6: Number of Potential Total VOC Notifications for Selected Facilities.....	2-23
Table 2-7: PM 2.5 and PM 10 24-Hour Standards .....	2-24
Table 2-8: Air Pollutants and Notification Thresholds.....	2-25
Table 2-9: Follow-up Notification Scenarios .....	2-26
Table 2-10: Follow-up Notification Thresholds .....	2-27
Table 2-11: AER Three-Year Average Emissions for PAR 1180 and PR 1180.1 Facilities.....	2-29
Table 2-12: FCCU and ESP in PAR 1180 and PR 1180.1 Facilities.....	2-30
Table 2-14: Number of Community Air Monitoring Stations Each Existing Facility Funds....	2-37
Table 2-15: Proposed Community Monitoring Stations for Each New Facility to Fund .....	2-37
Table 3-1: Web-based Fenceline Data Display Requirements .....	3-6
Table 3-2: PAR 1180 Refinery-Related Community Air Monitoring System Itemized Fees ...	3-16
Table 3-3: PAR 1180 Refinery-Related Community Air Monitoring System Fees .....	3-17
Table 3-4: PAR 1180 Related Community Air Monitoring System Fees for Related Facilities... 3-18	
Table 4-1: Summary of Differences Between PAR 1180 and PR 1180.1 .....	4-1
Table 4-2: PAR 1180 Refinery-Related Community Air Monitoring System Itemized Fees .....	4-3
Table 4-3: PR 1180.1 Community Air Monitoring Fees .....	4-4
Table 5-1: PAR 1180 Affected Sources.....	5-1
Table 5-2: PR 1180.1 Affected Sources .....	5-2
Table 5-3: Comparison of PAR 1180 and PR 1180.1 with .....	5-1
Table 5-4: Comparison of PAR 1180 and PR 1180.1 with SJV APCD Rule 4460 and BAAQMD Regulation 12 Rule 15 .....	5-12

## **LIST OF FIGURES**

Figure 2-1: Current Rule 1180 Facilities .....	2-2
Figure 2-2: Proposed Amended Rule 1180 Facilities with Adjacent Boundaries Map .....	2-3
Figure 2-3: Air Products Wilmington Adjacent to Valero.....	2-7
Figure 2-4: Rancho LPG Holdings Adjacent to Phillips 66 Wilmington. ....	2-7
Figure 2-5: Proposed Amended Rule 1180 Facilities in Wilmington/Carson Area After Evaluation .....	2-9
Figure 2-6: Alternative Feedstock Facility and Asphalt Plants Subject to PR 1180.1 .....	2-10
Figure 2-7: Map of PR 1180.1 Facilities .....	2-11
Figure 2-8: Rule 1180 and OEHHA’s Final Report Timeline .....	2-12
Figure 2-9: MATES V Program Monitoring Stations .....	2-17
Figure 2-10: NATTS Network Including Two South Coast AQMD Stations.....	2-18
Figure 2-11: Naphthalene Measurements in Different MATES Studies (Error bars denote the 95% confidence interval) .....	2-19
Figure 2-12: XRF Technology.....	2-20
Figure 2-13: LTR dba World Oil Refining Facility .....	2-31
Figure 2-14: Related Facilities at Tesoro Refining and Marketing Company LLC .....	2-32
Figure 2-15: Valero Asphalt Plant (Yellow Shading).....	2-33
Figure 2-16: AltAir Paramount Facility.....	2-34
Figure 2-17: Kinder Morgan Liquids Terminals Facility .....	2-35
Figure 2-18: Existing Rule 1180 Community Air Monitoring Stations .....	2-36
Figure 3-1: Plan Review Process Flowchart .....	3-5
Figure 3-2: Overview of Process for Notifications for Fenceline Air Monitoring System Downtime or Malfunction.....	3-9
Figure 3-3: PAR 1180 Independent Audit Schedule .....	3-11
Figure 3-4: Summary of Corrective Action Plan Development, Approval, and Post-Approval Actions .....	3-12
Figure 3-5: Root Cause Analysis Process Flow.....	3-14

## **EXECUTIVE SUMMARY**

Proposed Amended Rule 1180 – Fenceline and Community Air Monitoring for Petroleum Refineries and Related Facilities (PAR 1180) and Proposed Rule 1180.1 – Fenceline and Community Air Monitoring for Other Refineries (PR 1180.1) aim to enhance air quality monitoring and provide public access to information about pollutants in the vicinity of refineries.

Rule 1180 – Refinery Fenceline and Community Air Monitoring (Rule 1180) was adopted in December 2017 to require major petroleum refineries to conduct real-time fenceline air monitoring for specified air pollutants at or near the property boundaries. The rule also includes a fee schedule to fund refinery-related community air monitoring systems. It was adopted to provide valuable information as quickly as possible about the potential presence of air contaminants, including some toxics, resulting from petroleum refinery operations to petroleum refineries, nearby communities, and South Coast AQMD staff. Rule 1180 applies to petroleum refineries permitted to process petroleum, as defined in the Standard Industrial Classification Manual as Industry No. 2911, with an exemption for petroleum refineries with a maximum capacity to process less than 40,000 barrels per day (bpd) of crude oil.

In 2020, Comite Progreso de Lamont and others filed a lawsuit in Fresno County Superior Court (Court) against San Joaquin Valley Air Pollution Control District (SJVAPCD) regarding its fenceline and community air monitoring rules. The Court ordered SJVAPCD to remove compliance exemptions for non-crude oil refining facilities and to remove the 40,000-bpd exemption. South Coast AQMD commenced rule development to amend Rule 1180 in November 2022 to address the 40,000-bpd exemption. On December 19, 2022, East Yard Communities for Environmental Justice filed a lawsuit against South Coast AQMD in Los Angeles Superior Court (Case No. 22STCP04398) claiming the air district has not fulfilled its duty to implement Health and Safety Code Section 42705.6 due to the exemption for refineries with a refining capacity less than 40,000 bpd from the fenceline and community air monitoring requirements. The parties stipulated to a settlement. South Coast AQMD agreed to develop a proposed or proposed amended rule that removes the exemption for petroleum refineries with a capacity of less than 40,000 barrels per day.

Staff proposes to amend Rule 1180 and adopt PR 1180.1 primarily to address the issues identified in the South Coast AQMD and SJVAPCD lawsuits. Seven petroleum refineries are currently subject to Rule 1180 and have been operating fenceline monitoring systems since the second quarter of 2020. PAR 1180 will broaden the applicability to include several facilities with operations related to petroleum refineries. PR 1180.1 will require three facilities, two asphalt refineries and one refinery that processes alternative feedstocks, to install fenceline monitoring systems and includes a fee schedule to cover South Coast AQMD’s cost to design, develop, install, operate, and maintain refinery-related community air monitoring systems. In addition, PAR 1180 and PR 1180.1 will: 1) require additional air pollutants identified in the Office of Environmental Health Hazard Assessment report, “Analysis of Refinery Chemical Emissions and Health Effects,” finalized in March 2019 (OEHHA report); 2) set notification thresholds for more air pollutants; 3) require root cause analysis and corrective actions when air pollutants are detected above notification thresholds; and 4) provide additional specifications on compliance schedule, web-based fenceline data display and notification program, independent audits, and quarterly reports. The public process for PAR 1180 and PR 1180.1 included five Working Group Meetings and a Public Workshop.

## CHAPTER 1: BACKGROUND

INTRODUCTION

REGULATORY HISTORY

PUBLIC PROCESS



## INTRODUCTION

The South Coast AQMD Governing Board adopted Rule 1180 in December 2017 to require real-time fenceline air monitoring for specified compounds at or near the property boundaries and to provide data as quickly as possible to the public. The rule also includes a fee schedule to fund refinery-related community air monitoring systems. Rule 1180 applies to petroleum refineries permitted to process petroleum, as defined in the Standard Industrial Classification Manual as Industry Number 2911, with an exemption for petroleum refineries with a maximum capacity to process less than 40,000 barrels per day of crude oil.

The following section provides a detailed background on state laws, Rule 1180, comparable rules by other air districts, and the lawsuits that triggered the rule development process for PAR 1180 and PR 1180.1.

## REGULATORY BACKGROUND

In October 2017, California State Legislature passed Assembly Bill 1647 (Muratsuchi) (AB 1647) to add California Health and Safety Code Section 42705.6, which established mandates for fenceline air monitoring at petroleum refineries and air monitoring in nearby communities. Prior to or after the passage of AB 1647, several air districts adopted refinery fenceline and community air monitoring rules that align with the requirements of Health and Safety Code Section 42705.6.

### Rule 1180

Rule 1180 was adopted by the South Coast AQMD Governing Board on December 1, 2017, and the rule applies to petroleum refineries that have a maximum capacity to process more than 40,000 bpd of crude oil.

In the South Coast AQMD, there are seven facilities that are currently subject to Rule 1180:

- Tesoro Carson (Tesoro Refining and Marketing Company, LLC), Carson, CA
- Tesoro Wilmington (Tesoro Refining and Marketing Company, LLC), Wilmington, CA
- Torrance (Torrance Refining Company); Torrance, CA
- Chevron (Chevron Products Co); El Segundo, CA
- Phillips 66 Company; Carson, CA
- Phillips 66 Company; Wilmington, CA
- Valero (Ultramar Inc.); Wilmington, CA

Rule 1180 requires that refinery owners and operators submit a written Fenceline Air Monitoring Plan (FAMP) for establishing and operating a fenceline air monitoring system. The “Refinery Fenceline Air Monitoring Plan Guidelines”<sup>1</sup> (Guidelines) provided by the South Coast AQMD specifies criteria for developing an approvable FAMP and for FAMP evaluation. The Guidelines are referenced by facilities for the elements necessary to complete an air monitoring plan and by the Executive Officer for the evaluation of the air monitoring plans.

Rule 1180 also establishes a fee schedule, to be paid by the petroleum refineries, for the cost of designing, developing, installing, operating, and maintaining refinery-related community air

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<sup>1</sup> In this amendment as “Rule 1180 and Rule 1180.1 Air Monitoring Plan Guidelines”

monitoring systems. Staff prepared Rule 1180 Community Air Monitoring Plan<sup>2</sup> (CAMP) that outlines the South Coast AQMD’s strategy and approach for conducting air monitoring in communities adjacent to the above-mentioned refineries, as part of Rule 1180 implementation.

In August 2018, all refineries submitted their draft FAMPs to South Coast AQMD. Staff identified deficiencies during the initial review and worked with each refinery individually to improve its plans. South Coast AQMD staff determined that the revised fenceline coverages are adequate to satisfy the requirements of Rule 1180; therefore, all refineries received partial approvals of the fenceline air monitoring portion of the FAMPs.

South Coast AQMD staff has been working with all refineries on all other elements of the fenceline monitoring plans, namely: back-up monitoring and maintenance, data presentation to the public, public notifications and notification thresholds, and a Quality Assurance Project Plan (QAPP). The revised FAMPs and QAPPs for all refineries can be found on the South Coast website<sup>3</sup>.

To comply with Rule 1180 and the Guidelines, the refineries established their data display webpages to provide real-time and historical air monitoring data, and notification systems that automatically generate and issue a notification when concentrations exceed the defined notification thresholds. All current Rule 1180 refineries have been providing data and notifications since the second quarter of 2020. The public have access to the data display websites and may subscribe for the notifications by using the links in the below.

**Table 1-1:Fenceline Air Monitoring Data Display Website Links**

Facility Name and Location	Fenceline Air Monitoring Data Display Website
Tesoro Carson (Tesoro Refining and Marketing Company, LLC)	<a href="https://marathonlosangelesrefineryfencelinemonitoring.com/">https://marathonlosangelesrefineryfencelinemonitoring.com/</a>
Tesoro Wilmington (Tesoro Refining and Marketing Company, LLC)	
Chevron, El Segundo (Chevron Products Co.)	<a href="https://www.elsegundo1180.com/">https://www.elsegundo1180.com/</a>
Phillips 66 Company Carson	<a href="https://p66losangeles1180.com/">https://p66losangeles1180.com/</a>
Phillips 66 Company Wilmington	
Torrance (Torrance Refining Company)	<a href="https://torc.data.spectrumenvsoln.com/">https://torc.data.spectrumenvsoln.com/</a>
Valero (Ultramar Inc.)	<a href="https://wilmingtonrefinerymonitoring.org/">https://wilmingtonrefinerymonitoring.org/</a>

<sup>2</sup> South Coast AQMD, “Rule 1180 Community Air Plan,” last modified April 2020, [http://www.aqmd.gov/docs/defaultsource/fenceline\\_monitroing/r1180\\_draft\\_community\\_monitoring\\_plan\\_rev\\_2\\_04022020\\_final\\_use\\_updated1.pdf?sfvrsn=8](http://www.aqmd.gov/docs/defaultsource/fenceline_monitroing/r1180_draft_community_monitoring_plan_rev_2_04022020_final_use_updated1.pdf?sfvrsn=8).

<sup>3</sup> South Coast AQMD, “Rule 1180 - Refinery Community and Fenceline Air Monitoring,” <http://www.aqmd.gov/home/rules-compliance/rules/support-documents/rule-1180-refinery-fenceline-monitoring-plans#:~:text=Rule%201180%20requires%20petroleum%20refineries,pollutants%20and%20toxic%20air%20conaminants>.

### *Overall success of the Rule 1180 monitoring*

Staff investigates every time a air pollutant is detected above the notification threshold and evaluates the concentration of the pollutant, the location of the exceedance, and meteorological conditions, e.g., wind speed and direction. In addition, staff conducts an inspection at the refinery. Inspections may include the use of handheld total volatile analyzers, Jerome meters, and a optical gas imaging camera. Rule 1180 notifications may indicate refinery events, with certain instances resulting in the issuance of Notice of Violations with rules including Rule 3002 – Requirements, Rule 463 – Organic Liquid Storage, and Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities.

Data from Rule 1180 fenceline and community monitors have been used to locate sources of odors and resulted in early detection and mitigation of leaks. In October 2021, South Coast AQMD investigated odors from Dominguez Channel. Over 4,700 odor complaints were received from residents in Carson, Gardena, Long Beach, Redondo Beach, Torrance and Wilmington. A variety of technologies and strategies, including Rule 1180 monitors, were used to monitor the air in the impacted areas. Results showed elevated levels of hydrogen sulfide caused strong odors. Although refineries were initially considered as a possible source of the odor, data from the Rule 1180 monitors indicated refineries were not the main source of the elevated levels of hydrogen sulfide measured during the odor event. The Rule 1180 community and fenceline monitors, providing continuous real-time measurements of several air pollutants, were instrumental in distinguishing that refineries were not the primary contributors during the odor event. This underscores the pivotal role of these monitors in accurate source attribution and effective mitigation strategies for odor-related issues.

### **San Joaquin Valley Air Pollution Control District (SJVAPCD) Lawsuit**

In December 2019, SJVAPCD adopted Rule 4460 – Petroleum Refinery Fence-line Air Monitoring and Rule 3200 – Petroleum Refinery Community Air Monitoring Fees which included an exemption for facilities with a refining capacity 40,000-bpd or less, mirroring South Coast AQMD’s Rule 1180 exemption. In 2020, Comite Progreso de Lamont and others filed a lawsuit in Fresno County Superior Court against SJVAPCD’s regulations citing the 40,000-bpd or less exemption. The court ordered SJVAPCD to remove compliance exemptions for non-crude oil refining facilities and to remove the 40,000-bpd exemption. In October 2022, SJVAPCD amended the Rules 4460 and 3200 to: 1) require monitoring for the list of air pollutants recommended by OEHHA, unless a refinery can provide sufficient justification for not monitoring a specified pollutant; 2) remove the exemption for refineries not currently engaged in refining crude oil; and 3) remove the 40,000-bpd exemption.

### **South Coast AQMD Lawsuit**

On December 19, 2022, East Yard Communities for Environmental Justice filed a lawsuit against South Coast AQMD in Los Angeles Superior Court (Case No. 22STCP04398) claiming the air district has not fulfilled its duty to implement Health and Safety Code Section 42705.6 due to the exemption for refineries with a refining capacity less than 40,000 bpd from the fenceline and community air monitoring requirements. East Yard Communities for Environmental Justice claimed that for at least three refineries with refining capacities less than 40,000 bpd, South Coast AQMD failed to:

- Require fenceline monitoring for each refinery,
- Install a community air monitoring system near each refinery,
- Prepare refinery fenceline and community air monitoring guidance documents, and

- Collect fees for community air monitoring systems from each refinery.

In April and May 2023, a settlement was signed and the order for dismissal was entered. South Coast AQMD agreed to propose a rule or propose an amended rule that removes the exemption for petroleum refineries with a capacity of less than 40,000 barrels per day and hold a Governing Board hearing by January 5, 2024, on whether to adopt such proposal. Thus, PAR 1180 will remove the 40,000 bpd-exemption and PR 1180.1 will address the refineries previously exempted by Rule 1180 necessitating fenceline air monitoring, and related community monitoring requirements for those refineries.

### **Bay Area Air Quality Management District (BAAQMD) Fenceline Monitoring Rule**

In April 2016, BAAQMD adopted Regulation 12, Rule 15 – Refining Emissions Tracking. In 2020 and 2021, two of the five petroleum refineries in BAAQMD’s jurisdiction subject to this rule submitted permit applications to modify their facility operation to process alternative feedstocks with the intention of producing “renewable” products. On November 3, 2021, BAAQMD amended Regulation 12, Rule 15 to change the definition of “Petroleum Refinery” to “Refinery” and add alternative feedstock to the definition of “Refinery”. The revised refinery definition is “Refinery: An establishment that is located on one or more contiguous or adjacent properties that processes any petroleum or alternative feedstock, to produce more usable products such as gasoline, diesel fuel, aviation fuel, lubricating oils, asphalt or petrochemical feedstocks, or any other similar product.”

### **Senate Bill 674 (SB 674)**

On February 16, 2023, Senator Lena Gonzalez (Long Beach), introduced SB 674 – The Refinery Air Pollution Transparency and Reduction Act. SB 674 would extend the requirements of AB 1647 (Muratsuchi, Chapter 589, Statutes of 2017) – Petroleum refineries: air monitoring systems by expanding the definition of refineries to include non-crude oil feedstock refineries and related facilities and requiring refineries to improve public notification processes, reporting, data accessibility, and to conduct third-party audits and root cause analyses of any threshold exceedances. Staff had aligned PAR 1180 and PR 1180.1 with SB 674 for most of its proposed requirements and provided comments to Senator Gonzalez’s SB 674 staff to align remaining requirements. On September 14, 2023, SB 674 was moved to the inactive file for this legislative session. It can be moved off the inactive file and continue the legislative process in 2024. For these reasons, PAR 1180 and PR 1180.1 are no longer being developed in parallel with SB 674; however, staff has maintained many of the requirements from SB 674.

### **PAR 1180 and PR 1180.1**

PAR 1180 and PR 1180.1 will address issues identified in the South Coast AQMD and SJVAPCD lawsuit. The rules will also update the air pollutants that require monitoring to reflect additional air pollutants identified in the Office of Environmental Health Hazard Assessment report “Analysis of Refinery Chemical Emissions and Health Effects” finalized in March 2019 (OEHHA report). The applicability provision of PAR 1180 will be expanded to include facilities with operations related to petroleum refineries located on contiguous or adjacent properties. PR 1180.1 will apply to facilities that are not subject to PAR 1180, including two asphalt refineries and one refinery that processes alternative feedstocks. PR 1180.1 will specify community air monitoring fees. In addition, both rules will:

- Set notification thresholds for several of the newly included air pollutants and several air pollutants with historical fenceline monitoring data;

- Require root cause analysis and corrective actions when air pollutants are detected above notification thresholds; and
- Provide additional specifications on compliance schedule, web-based fence line data display and notification program, independent audits, and quarterly reports.

Lastly, PAR 1180 and PR 1180.1 will require facilities to submit a FAMP for establishing and operating the fence line air monitoring system. The Guidelines provide criteria for developing an approvable FAMP. Amendments to the Guidelines are necessary to clarify they apply to both Rule 1180 and PR 1180.1 and reflect the proposed changes in PAR 1180.

## PUBLIC PROCESS

PAR 1180 and PR 1180.1 were developed through a public process that included a series of working group meetings designed to provide the public and stakeholders an opportunity to discuss important details about the proposed rule and provide input to South Coast AQMD staff during the rule development process. The working group meetings were attended by a variety of stakeholders including representatives from industry, environmental groups, community groups, and public agency representatives. Table 1-2 summarizes the main topics discussed during five working group meetings, the public workshop, and the community public workshop.

**Table 1-2: Summary of Working Group Meetings and Public Workshops**

Meeting title	Date	Highlights
<b>Working Group Meeting #1</b>	January 25, 2023	<ul style="list-style-type: none"> <li>• Rule background</li> <li>• Regulatory history</li> <li>• Overview of the applicability provision and target compound list</li> </ul>
<b>Working Group Meeting #2</b>	April 19, 2023	<ul style="list-style-type: none"> <li>• Continued proposed amendments on the applicability provision and target compound list</li> <li>• Community air monitoring</li> <li>• SB 674</li> </ul>
<b>Working Group Meeting #3</b>	May 30, 2023	<ul style="list-style-type: none"> <li>• Response to stakeholder comments</li> <li>• PAH monitoring technology</li> <li>• Quality Assurance/Quality Control (QA/QC) and monitoring system performance</li> <li>• Pollutants without an established threshold</li> <li>• Rule and guideline proposal updates</li> </ul>

Meeting title	Date	Highlights
<b>Working Group Meeting #4</b>	July 11, 2023	<ul style="list-style-type: none"> <li>• Response to stakeholder comments</li> <li>• Establishing notification thresholds               <ul style="list-style-type: none"> <li>○ Information-based notification thresholds</li> <li>○ Health standard-based notification thresholds</li> </ul> </li> <li>• Exclusion criteria for metals</li> <li>• Community monitoring QA/QC</li> <li>• Proposed rule language</li> </ul>
<b>Public Workshop and Community Public Workshop</b>	August 22, 2023 (10:00 a.m. and 6:00 p.m.)	<ul style="list-style-type: none"> <li>• Release preliminary draft rule language</li> <li>• Proposed revision to the Guidelines</li> <li>• Key issues</li> </ul>
<b>Working Group Meeting #5</b>	October 12, 2023 (1:00 p.m. and 6:00 p.m.)	<ul style="list-style-type: none"> <li>• Release revised preliminary draft rule language</li> <li>• Update on SB 674</li> <li>• Revisions to rule language               <ul style="list-style-type: none"> <li>○ Applicability</li> <li>○ Compliance schedules</li> <li>○ Fenceline and community notifications</li> <li>○ Independent audits</li> <li>○ Root cause analysis</li> </ul> </li> </ul>

## CHAPTER 2: FENCELINE AND COMMUNITY AIR MONITORING

APPLICABILITY

TARGET COMPOUND LIST

POTENTIAL FENCELINE MONITORING CONFIGURATIONS AT NEW  
FACILITIES

COMMUNITY AIR MONITORING

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## APPLICABILITY

### Standard Industrial Classification (SIC) code 2911

Rule 1180 applies to petroleum refineries defined in SIC 2911<sup>4</sup> as establishments primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, and lubricants, through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes.

### PAR 1180 and PR 1180.1

In the settlement agreement to the 2022 lawsuit against South Coast AQMD. South Coast AQMD agreed to remove the 40,000-bpd exemption in proposed rulemaking. Thus, all petroleum refineries identified under SIC 2911 will be subject to the proposed fenceline monitoring rules, including two asphalt refineries located within the South Coast AQMD. In addition, staff proposes to include facilities that refine alternative feedstocks, which would be similar to the requirements in comparable BAAQMD and SJVAPCD rules. Currently, this proposal would apply to one alternative feedstock refinery in the South Coast AQMD. Staff also proposes to include facilities with operations related to petroleum refineries (e.g., Hydrogen Production Plants, Sulfur Recovery Plants, and Terminals) located on contiguous or adjacent properties.

PAR 1180 will apply to the existing major petroleum refineries, including facilities with operations related to petroleum refineries located on contiguous or adjacent properties (related facilities). PR 1180.1 will apply to refineries that refine crude oil and/or alternative feedstocks that are not included in PAR 1180. PR 1180.1 is focused on smaller refineries previously exempted by Rule 1180. The existing petroleum refineries will remain subject to PAR 1180 and the same requirements, including the list of air pollutants to be monitored, will apply, even if they transition some or all of their operation to refining alternative feedstocks. PAR 1180 and PR 1180.1 applicability provision will be discussed in next sections with more details.

### PAR 1180 Facilities

Currently seven facilities are subject to Rule 1180 requirements as shown in Figure 2-1. Note the figure only shows the approximate boundaries of the facilities.

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<sup>4</sup> NAICS Association, "SIC Industry: 2911 Petroleum Refining," <https://www.naics.com/sic-industry-description/?code=2911>.





**Figure 2-1: Current Rule 1180 Facilities**

In addition, PAR 1180 will include several related facilities that have operations related to petroleum refineries and are located on properties contiguous or adjacent to a petroleum refinery. These related facilities are two hydrogen production plants, a sulfur recovery plant, and tank terminals.

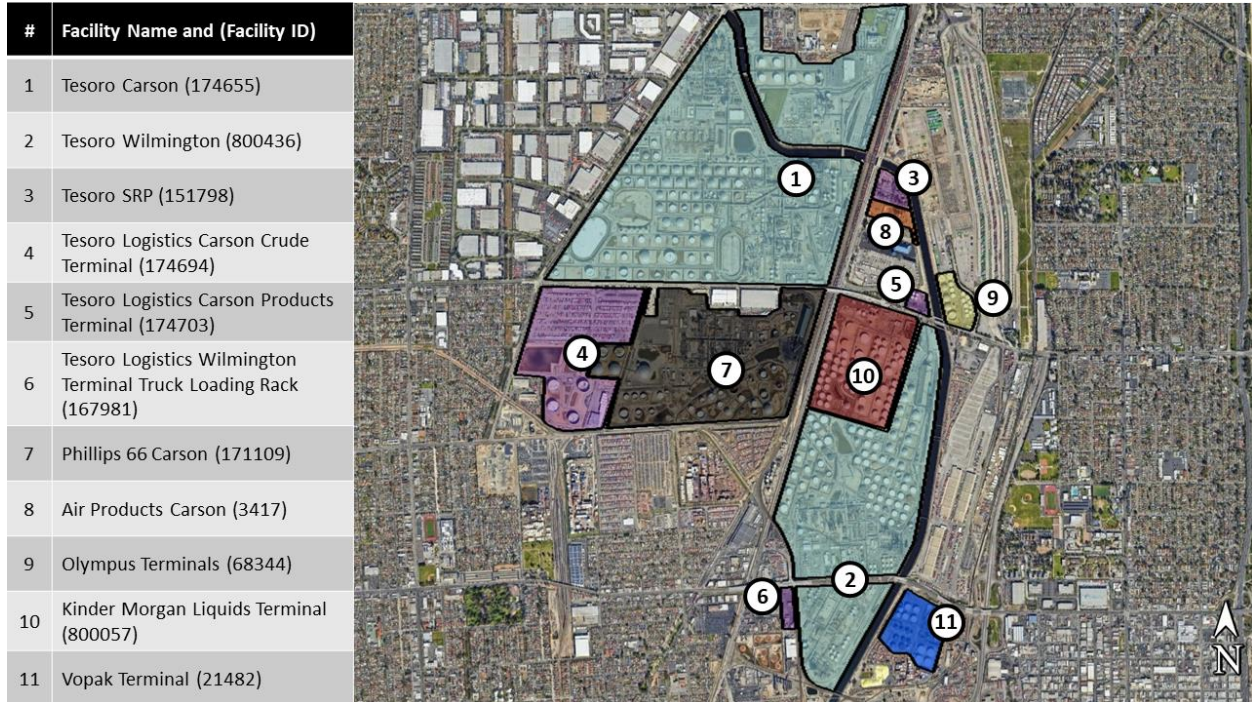
Whether a facility is a related facility, and thus, subject to PAR 1180, depends in part on whether in the 2022 calendar year, they received more than 50 percent of their product input either directly or indirectly from, or provide more than 50 percent of their product output either directly or indirectly to, any of the Petroleum Refineries subject to this rule. Staff established the 2022 calendar year to make this determination, as that is the most current full calendar year of data the facilities could evaluate. Staff requested facilities to submit documentation, included a signed letter on company letterhead, if they claimed the facility's operations do not involve more than 50 percent of their input or output to petroleum refineries subject to PAR 1180. The more than 50 percent criteria were used because the intent of PAR 1180 is to measure air pollutant concentrations at the petroleum refineries fenceline, even if the air pollutant concentrations are occurring at a separate facility. Over time, some petroleum refineries have sold off parts of their operations. These facilities must exceed the 50 percent threshold to be subject to the rule. The intent of including "indirectly" in the definition is to capture instances where the origin of the input source is from a major petroleum refinery, or the main output destination is a major petroleum refinery but there is an intermediate facility that stores or receives the product. For instance, assume facility A receives product input from a terminal that holds products from one of the major petroleum refineries. The product received from the terminal would be included in the calculation of the petroleum refinery product input for facility A.

PAR 1180 will apply to related facilities adjacent or contiguous to petroleum refineries and require monitoring at and for those related facilities. Monitoring at and near these facilities allows regulators and the public to understand the air quality impact of refineries more fully. Contiguous properties mean they are either in physical contact or separated solely by a public roadway, or other public right-of-way. U.S. EPA provides guidance on defining "contiguous" and determining<sup>5</sup>

<sup>5</sup> U.S. EPA, "Applicability of Title V Permitting Requirements to Gasoline Bulk Terminals Owned by Williams Energy Ventures, Inc.," May 19, 1999, <https://www.epa.gov/sites/default/files/2015-07/documents/we1999.pdf>.

what qualifies as a “public right of way,” including adjacent properties separated by a railroad track.<sup>6</sup> The railroad track is deemed comparable to a roadway; hence, it does not disrupt the continuity between the adjacent properties.

The following figure shows the boundaries of the major petroleum refineries in the Wilmington /Carson area and the adjacent facilities with related operations that staff initially considered in the assessment for the applicability. The table below shows the reported 2022 total emissions and storage capacities for those facilities.



**Figure 2-2: Proposed Amended Rule 1180 Facilities with Adjacent Boundaries Map**

<sup>6</sup> U.S. EPA, *Environmental Administrative Decisions: Decisions of the United States Environmental Protection Agency*, 1995.

**Table2-1: Potential Related Facilities that Were Initially Identified  
(Listed by Its Reported 2022 Emissions in Ascending Order)**

Facility ID	Facility Name	2022 Total Emissions (tpd)	Storage Capacity (barrels)
21482	Vopak Terminal	N/A	1,669,000
195925	Olympus Terminal	0.0005	1,289,000
158910	Rancho LPG Holdings	0.0006	305,714
174703	Tesoro Logistics Carson Product Terminal	0.0007	80,857
174694	Tesoro Logistics Carson Crude Terminal	0.0013	2,028,000
167981	Tesoro Logistics, Wilmington Terminal Truck Loading Rack	0.0016	24,200
3417	Air Products Carson	0.007	N/A
101656	Air Products Wilmington	0.009	N/A
800057	Kinder Morgan Liquids Terminals	0.022	4,821,678
151798	Tesoro Sulfur Recovery Plant (SRP)	0.06	N/A

Related facilities are identified in three categories: hydrogen plants, SRPs, and tank terminals. The primary emissions from tank terminals are VOCs, which are significantly lower than the VOC emissions from petroleum refineries. According to the 2022 emissions annual emissions reports, petroleum refineries reported 6,900 – 29,900 lbs (0.01 – 0.41 tons per day) VOC emissions and tank terminals contiguous or adjacent to the petroleum refineries reported 80 – 10,195 lbs (0.0001 – 0.014 tpd) of VOC emissions. Smaller tank terminals with total tank capacity less than 310,000 barrels reported even less emissions than other tank terminals with less than 500 lbs (0.0007 tpd) VOC emissions and less than 1,200 lbs (0.0016 tpd) total emissions in 2022.

PAR 1180 will exempt tank terminals with total tank capacity less than 310,000 barrels. These smaller tank terminals emit only two to seven percent of the VOC emissions of that of a petroleum refinery. In addition to the lower emissions, the smaller tank terminals are located adjacent to the petroleum refineries which already have fenceline monitoring systems in place. Many of the smaller terminals already have monitors on several sides of their fenceline, which may provide adequate coverage to detect any potential air pollutant emissions from the terminals. Furthermore, VOC emissions from tank terminals are controlled by other South Coast AQMD rules such as Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities and Rule 463 – Organic Liquid Storage. These rules contain control measures including best available rim seal systems and covers or sleeves on all roof components that are gasketed, bolted, or equipped with wipers to reduce emissions from openings. Additionally, domes are required on

tanks storing high volatile material and enhanced leak detection technology is utilized to reduce fugitive emissions.

#### *Related Facilities Under Common Ownership with Tesoro*

Tesoro Refining and Marketing Company LLC (Tesoro) has two petroleum refineries, one located in Wilmington and the other in Carson, and four potential related facilities located on contiguous properties including Carson Crude Terminal, Carson Product Terminal, Tesoro Sulfur Recovery Plant (SRP), and Tesoro Logistics Wilmington Terminal. SRP reported the highest total emissions in 2022 among those Tesoro potential related facilities, and will be subject to PAR 1180. Carson Products Terminal, Carson Crude Terminal, and Wilmington Terminal Truck Loading Rack, reported similar total emissions in 2022 (516, 584, and 1,000 lbs). Carson Crude Terminal has the capacity to hold approximately two million barrels of crude and will be expanded with an additional six tanks in the future. Due to its capacity and potential for more air pollutant emissions, Carson Crude Terminal will be subject to PAR 1180. Carson Products Terminal and Wilmington Terminal Truck Loading Rack are much smaller in tank capacity (80,857 barrels and 24,200 barrels respectively) with a lower potential for air emissions; therefore, staff is not proposing to include them in PAR 1180. With the proposed low-emission-based capacity exemption of 310,000 barrels, Carson Products Terminal and Wilmington Terminal Truck Loading Rack will not be subject to PAR 1180.

#### *Other Related Facilities*

**Figure 2-2 shows the following potentially related facilities adjacent to Tesoro Carson Refinery and Tesoro Wilmington Refinery: Air Products at Carson; Olympus Terminals; Vopak Terminal Los Angeles; and Kinder Morgan Liquids Terminal LLC. Figure 2-3 shows Air Products at Wilmington adjacent to Valero Refinery Figure 2-3: Air Products Wilmington Adjacent to Valero**

, and Figure 2-4 shows Rancho LPG Holdings contiguous to Phillips 66 Wilmington.

Both Air Product facilities supply the majority of their produced hydrogen to the local petroleum refineries. In the case of Air Products Wilmington, that hydrogen plant used to be owned by a refinery. The Air Product hydrogen plants will be subject to PAR 1180.

Kinder Morgan Liquids Terminal is a large tank terminal with a total of 63 tanks, whose operations involve both the local petroleum refineries and refineries outside the South Coast AQMD jurisdiction. There is a potential for this facility to have operations related to the local petroleum refineries at a level that exceeds 50 percent. Staff is assessing if Kinder Morgan Liquids Terminal will be subject to PAR 1180.

Olympus Terminal and Vopak Terminal have both provided information documenting that their operations do not relate to the petroleum refineries at a level that exceeds 50 percent. In the case of Vopak Terminal, as of 2023, their operations have shifted entirely away from products manufactured at the local petroleum refiners to products shipped from overseas. Staff is not proposing to include those terminals in PAR 1180 as their operations are not largely related to the Rule 1180 petroleum refineries.

Rancho Holdings stores liquid petroleum gas (LPG). The gas is obtained from multiple facilities, including the local petroleum refineries. The facility is a small facility with less than ten employees. They have two large tanks with capacities of 150,000 barrels each and four smaller

tanks with a capacity of 60,000 gallons (5,714 barrels) each. The capacity of the tanks at this facility are smaller than tank capacities at the petroleum refineries. For example, each tank at the Carson Crude Terminal holds over 400,000 barrels of crude oil. Staff is not proposing to include Rancho Holdings in PAR 1180; that facility will be exempted under the low-emission-based capacity exemption of 310,000 barrels.



**Figure 2-3: Air Products Wilmington Adjacent to Valero**

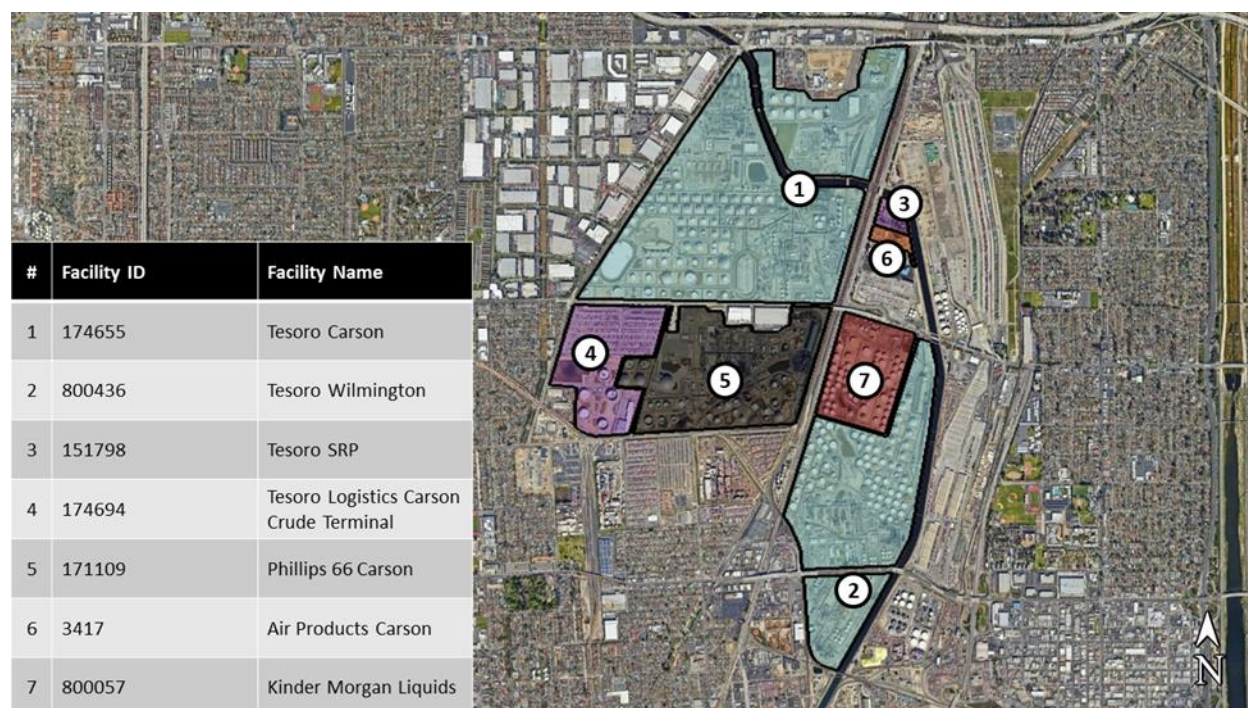


**Figure 2-4: Rancho LPG Holdings Adjacent to Phillips 66 Wilmington.**

Based on staff's assessment, PAR 1180 will apply to the facilities listed in Table 2-2. The facilities subject to PAR 1180 in the Wilmington and Carson area are shown in Figure 2-5.

Table 2-2: PAR 1180 Facilities

Facility ID	Facility Name	Location	Type of Facility
<b>Major Petroleum Refineries</b>			
174655	Tesoro Carson (Tesoro Refining & Marketing Co, LLC)	Carson	Petroleum Refinery
800436	Tesoro Wilmington (Tesoro Refining & Marketing Co, LLC)	Wilmington	Petroleum Refinery
171109	Phillips 66 Carson (Phillips 66 Company/Los Angeles Refinery)	Carson	Petroleum Refinery
171107	Phillips 66 Wilmington (Phillips 66 Company/LA Refinery Wilmington Pl)	Wilmington	Petroleum Refinery
800030	Chevron, (Chevron Products Co.)	El Segundo	Petroleum Refinery
181667	Torrance (Torrance Refining Company LLC)	Torrance	Petroleum Refinery
800026	Valero (Ultramar Inc.)	Wilmington	Petroleum Refinery
<b>Related Facilities</b>			
174694	Tesoro Logistics, Carson Crude Terminal	Carson	Tank Terminal
800057	Kinder Morgan Liquids Terminal LLC	Carson	Tank Terminal
3417	Air Products Carson (Air Products and Chemicals)	Carson	Hydrogen Plant
101656	Air Products Wilmington (Air Products and Chemicals)	Wilmington	Hydrogen Plant
151798	Tesoro SRP (Tesoro Refining & Marketing Co, LLC)	Carson	Sulfur Recovery Plant



**Figure 2-5: Proposed Amended Rule 1180 Facilities in Wilmington/Carson Area After Evaluation**

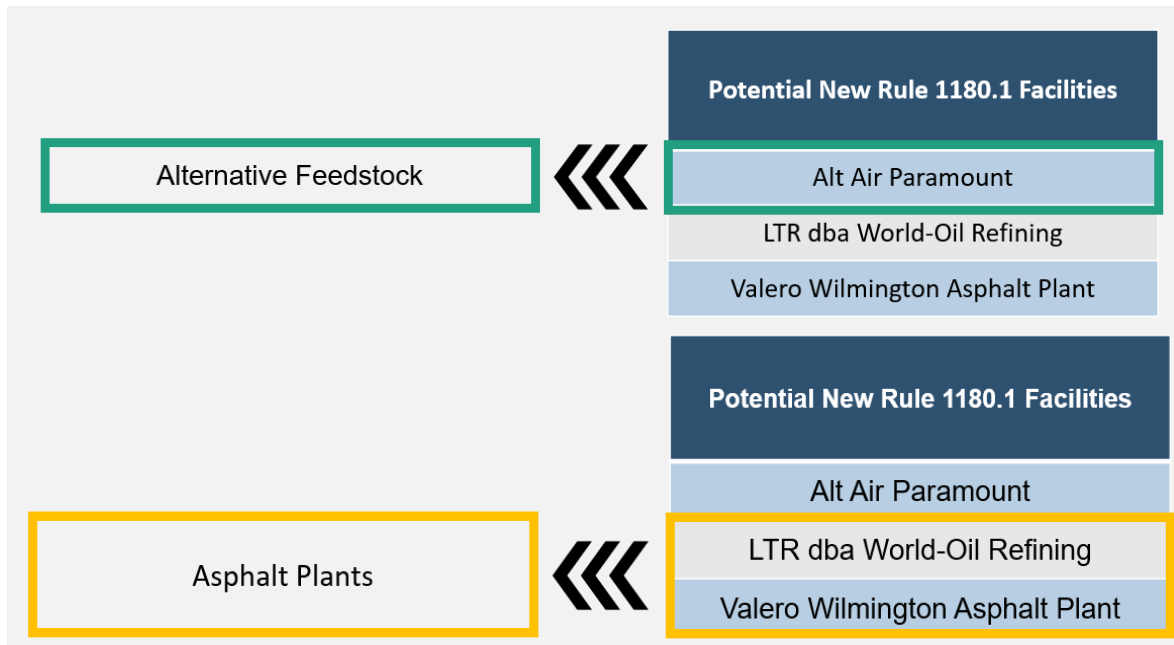
### PR 1180.1 Facilities

PR 1180.1 was developed to require fenceline monitoring at refineries that are not subject to PAR 1180. PR 1180.1 would apply to smaller refineries that were previously exempt from Rule 1180 (i.e., refineries with a refining capacity of 40,000 bpd or less) and refineries that process non-crude oil, alternative feedstocks.

In the South Coast AQMD, AltAir Paramount is currently the only facility processing alternative feedstocks that will be subject to PR 1180.1. Any new refinery permitted to process alternative feedstocks, regardless of its throughput capacity, would be subject to PR 1180.1, existing PAR 1180 facilities would continue to comply with Rule 1180 even if they transition to alternative feedstocks at a partial or full capacity.

Two smaller petroleum refineries that produce asphalt from crude oil in the South Coast AQMD and are classified under SIC 2911 will be subject to PR 1180.1. These two facilities are currently exempted from Rule 1180 as their maximum process capacities are less than 40,000 bpd.





**Figure 2-6: Alternative Feedstock Facility and Asphalt Plants Subject to PR 1180.1**

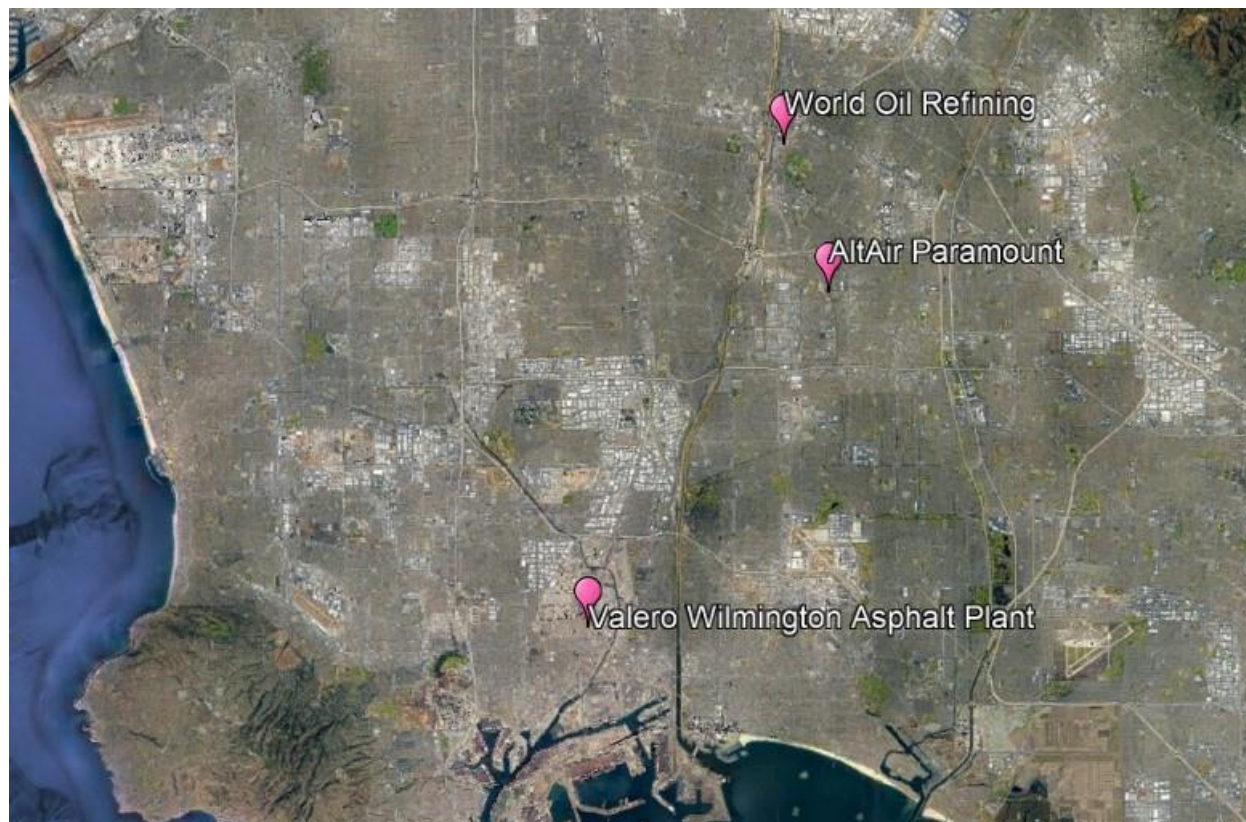
Staff initially (in WGM#1) believed that World Oil Recycling (DeMenno-Kerdoon) (Facility ID 800037) would be subject to PR 1180.1. Staff later (in WGM#2) determined World Oil Recycling would not be subject to PR 1180.1 because: 1) the facility is not identified under SIC 2911; 2) establishments primarily re-refining used lubricating oils are classified under SIC 2992; and 3) AB 1647 fenceline monitoring requirements do not apply to SIC 2992 establishments.

Table 2-3 summarizes the facilities that would be subject to PR 1180.1 at the time of the rule adoption.

**Table 2-3: PR 1180.1 Facilities**

Facility ID	Facility Name	Location	Type
800393	Valero Wilmington Asphalt Plant	Wilmington	Asphalt Plant
800080	LTR dba World Oil Refining	South Gate	Asphalt Plant
187165	AltAir Paramount LLC	Paramount	Alternative Feedstock

The following map shows the locations of the PR 1180.1 facilities.



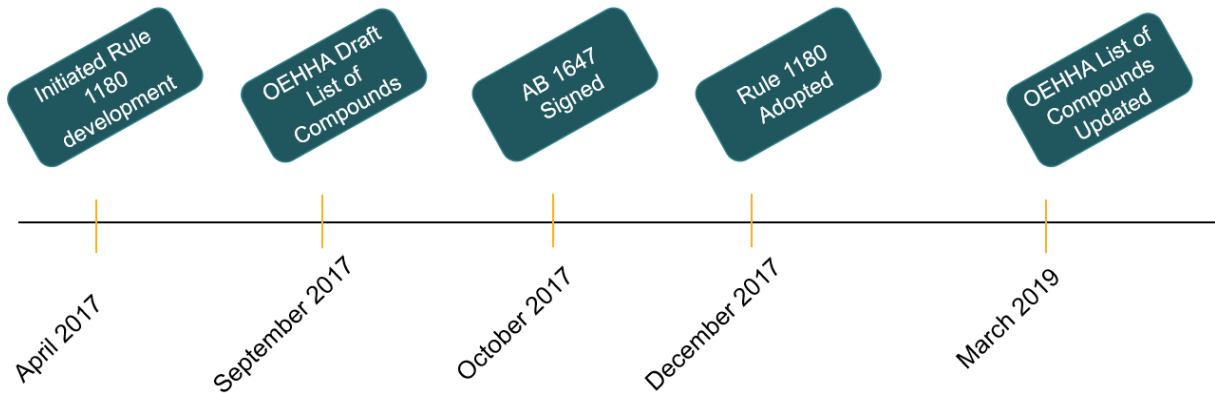
**Figure 2-7: Map of PR 1180.1 Facilities**

### TARGET COMPOUND LIST

Rule 1180 target compound list was based on the Office of Environmental Health Hazard Assessment (OEHHA) report “Analysis of Refinery Chemical Emissions and Health Effects.” At the Rule 1180 adoption on December 1, 2017, only the September 2017 draft OEHHA report was available. Based on the September 2017 draft report, current Rule 1180 requires 18 pollutants to be addressed by a refinery fenceline air monitoring plan. In March 2019, OEHHA finalized the report and updated the compound list<sup>7</sup>. Figure below presents the timeline of PR 1180 development and OEHHA Final Report (Analysis of Refinery Chemical Emissions and Health Effects).

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<sup>7</sup> OEHHA, “Analysis of Refinery Emissions and Health Effects,” March 2019, <https://oehha.ca.gov/media/downloads/faqs/refinerychemicalsreport032019.pdf>.



**Figure 2-8: Rule 1180 and OEHHA’s Final Report Timeline**

In the OEHHA Final Report, 188 chemicals are identified as emitted from California refineries and 18 air pollutants are listed as the top candidates for air monitoring based on their toxicity level, average levels of emissions from refineries statewide, and involvement in multiple refinery processes and incidences (hereafter the updated list will be called “OEHHA priority list”). Out of the 18 air pollutants identified in the OEHHA priority list, eight air pollutants are not addressed in Rule 1180: Particulate Matter (PM), Naphthalene, Polycyclic Aromatic Hydrocarbons (PAHs), diethanolamine, sulfuric acid, nickel, manganese, and cadmium. The table below provides a comparison for the chemicals included in Rule 1180 versus the OEHHA priority list, air pollutants highlighted in red are not currently required to be monitored by Rule 1180:

Table 2-4: Existing Rule 1180 vs. OEHHA Priority List of Air Pollutants

	2019 OEHHA list of Air Pollutants Included in Rule 1180?
Acetaldehyde	Y
Acrolein	Y
Ammonia	Y
Benzene	Y
Black Carbon	Y
1,3-butadiene	Y
<b>Cadmium</b>	N
Carbonyl Sulfide	Y
<b>Diethanolamine</b>	N
Ethylbenzene	Y
Formaldehyde	Y
Hydrogen Cyanide	Y
Hydrogen Fluoride	Y
Hydrogen Sulfide	Y
<b>Manganese</b>	N
<b>Naphthalene</b>	N
<b>Nickel</b>	N
Nitrogen Oxide	Y
<b>Polycyclic aromatic hydrocarbons (PAH)</b>	N
<b>Particulate Matter</b>	N (Only BC is currently measured)
Styrene	Y
Sulfur Dioxide	Y
<b>Sulfuric Acid</b>	N
Toluene	Y
Total VOCs (Non-Methane Hydrocarbons)	Y
Xylenes	Y

Staff is proposing to update the existing air pollutants list for PAR 1180 and PR 1180.1 based on the OEHHA 2019 report. However, PAR 1180 and PR 1180.1 will not require the monitoring of certain air pollutants if it is not feasible based on existing technology. There are technical challenges for real-time, continuous monitoring for some air pollutants, such as PAHs, which will be discussed in the Fenceline Air Monitoring Technologies section. In addition, staff is proposing criteria for the potential exclusion of an air pollutant from monitoring requirements; for example, when the chemical is not emitted from the process and/or cannot be measured during normal operation or equipment breakdowns.

## FENCELINE AIR MONITORING TECHNOLOGIES

### Use of Point and Open Path Monitors

A petroleum refinery fenceline air monitoring system is a combination of equipment that measures and records air pollutant concentrations at or near the property boundary of a petroleum refinery. Conventional air monitoring approaches rely on point monitors that are limited to providing information about concentrations at single point, thereby, increasing the chances of missing emissions hotspots or plumes. Given the potential challenges of spatial data that is provided by

point monitors it is necessary to employ additional technologies that contribute to a more comprehensive understanding of emissions from sizable facilities such as petroleum refineries.

Open-path technology is a well-established method to measure path-integrated trace gas absorptions and concentrations in the open atmosphere making it ideal for long-term fenceline air monitoring of air pollutant concentrations from refineries or other facilities that extend across a large area. Open-path technology is a type of Optical Remote Sensing (ORS) that measures air concentrations along an open-path, significantly improving spatial coverage. ORS instruments use a light signal to continuously detect and measure concentrations of air pollutants along the distance covered by the light signal in real-time. As a result, open-path technologies can provide greater spatial resolution compared to conventional air monitoring techniques; for example, narrow pollutant plumes can be detected by an open-path fenceline air monitoring system, which might otherwise be missed by point monitors. The light source emits light towards a detector either at the opposite end of the light path (bi-static configuration) or co-located with the light source (mono-static configuration) if the light is reflected by a reflector, providing path-averaged concentrations of multiple pollutants, simultaneously. Although the open-path ORS techniques have been used for over 20 years and are well-established, they are constantly improving and gaining use for monitoring sizable facilities that are not conducive to traditional point source testing methods. Improvements often include changes to technologies that improve detection limits, or the type of air pollutants detected.

Another advantage of open-path measurements is the capability of monitoring pollutant concentrations from point source and fugitive emissions at or near the property boundary of a petroleum refinery operation. Fugitive emissions can occur from gaseous or vapor leaks in pressurized process equipment (e.g., valves, pipe connections, mechanical seals, or related equipment) and from other accidental releases. Fugitive emissions can also emanate from storage tanks used to store crude oil, intermediates generated during the refining processes, and product streams. These emissions are best identified using open-path systems given the numerous potential sources, their distribution over large areas and the challenges with immediate detection and repair of the equipment that is the source of emissions.

The U.S. EPA has published a comprehensive assessment of various open-path ORS technologies, outlining the advantages and limitations of each measurement method<sup>8</sup>. South Coast AQMD also conducted a comprehensive technology demonstration study to evaluate several ORS technologies for various applications, including fenceline air monitoring<sup>9</sup>. Based on the advantages that open-path technologies provide over conventional air monitoring techniques, staff recommends the use of open-path technology for implementing a fenceline air monitoring system required by PAR 1180 and PR 1180.1. For open path monitoring systems, if the fenceline does not provide a clear path that is at least 500 meters long, it may pose an infeasible condition for optimal open path measurements. In this case, the facility may request approval to install point sensors instead of open path monitoring systems.

In accordance with the Guidelines, a refinery owner or operator has the option to use other air monitoring techniques and/or technologies depending on the pollutant(s) that are monitored.

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<sup>8</sup> U.S. EPA, "EPA Handbook: Optical Remote Sensing for Measurement and Monitoring of Emissions Flux," December 2011, available at <https://www3.epa.gov/ttnemc01/guidlnd/gd-052.pdf>.

<sup>9</sup> South Coast AQMD, "SCAQMD Optical Remote Sensing Program," 2015, available at <http://www.aqmd.gov/ors-study>.

Alternative or emerging monitoring technologies may be acceptable only to cover areas along the perimeter of a refinery that are not suited for other monitors such as open-path technologies or traditional point monitors. The refinery operator or owner must demonstrate the proposed alternative air monitoring technology(ies) will meet the requirements of PAR 1180 and PR 1180.1 and provide adequate sensitivity and adequate temporal and spatial coverage for the air pollutants being monitored.

### **Technologies Currently Used for Rule 1180 Monitoring**

Rule 1180 refineries utilize open-path instruments and point monitors for real-time fenceline air monitoring. Open-path instruments transmit light energy across a long open path and the absorption of light relates to the average concentration of gases of interest along the path according to the Beer-Lambert absorption law. Measurement methods include Fourier-transform infrared spectroscopy (FTIR) and Ultra-Violet Differential Optical Adsorption Spectrometer (UV-DOAS). Point monitors are used to measure black carbon and hydrogen sulfide; black carbon is detected by an aethalometer that measures the attenuation of a beam of light transmitted through a filter, while the filter is continuously collecting an aerosol sample; and for hydrogen sulfide, cavity ring-down spectroscopy (CRDS), UV fluorescence, or reaction-based detectors may be used. Table 2-5 shows the existing technologies used by refineries to comply with Rule 1180.

**Table 2-5: Real-Time Fenceline Air Monitoring Technologies Used by Rule 1180 Facilities**

Existing Rule 1180 Air pollutants	Monitoring Technology
<b>Acetaldehyde</b>	Open-path FTIR
<b>Acrolein</b>	Open-path FTIR
<b>Ammonia</b>	Open-path FTIR
<b>Benzene</b>	Open-path FTIR, Open-path UV
<b>Black Carbon</b>	Aethalometer
<b>1,3-butadiene</b>	Open-path FTIR
<b>Carbonyl Sulfide</b>	Open-path FTIR
<b>Ethylbenzene</b>	Open-path FTIR, Open-path UV
<b>Formaldehyde</b>	Open-path FTIR
<b>Hydrogen Cyanide</b>	Open-path FTIR
<b>Hydrogen Fluoride</b>	Open-path FTIR
<b>Hydrogen Sulfide</b>	CRDS, UV Fluorescence, or reaction-based detector
<b>Nitrogen Oxide</b>	Open-path FTIR
<b>Styrene</b>	Open-path FTIR
<b>Sulfur Dioxide</b>	Open-path FTIR, Open-path UV
<b>Toluene</b>	Open-path FTIR, Open-path UV
<b>Total VOCs</b>	Open-path FTIR
<b>Xylenes</b>	Open-path FTIR, Open-path UV

### PAH monitoring

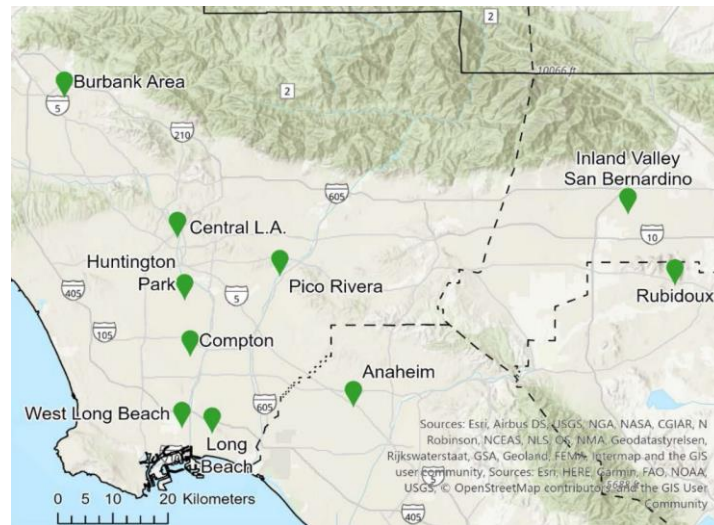
PAHs consist of up to 24 hydrocarbons; mainly formed from incomplete combustion of fossil fuels. Based on the OEHHA 2019 report on refinery chemical emissions and health effects, PAH emissions from refineries are relatively small and the emissions result from routine and non-routine refinery operations. PAHs are not in the top ten routine and non-routine chemical pollutants emitted by California refineries. Based on staff's research, naphthalene is the only PAH that can be reliably measured using real-time monitoring technologies at this time, namely open-path UV-DOAS.

South Coast AQMD monitors PAH for the Multiple Air Toxics Exposure Study (MATES) and National Air Toxics Trends Stations (NATTS) programs; however, those measurements rely on time-integrated samples collected on a certain schedule (e.g., once every six days), and cannot be conducted using real-time monitoring technologies. PAHs are measured according to EPA Compendium Method TO-13A. Ambient air is drawn through a Poly-Urethane Foam (PUF) sampler over a 24-hour sampling period. Considerable sampler preparation is required prior to

sampling, then PAHs are extracted from the PUF sampler and samples are analyzed by gas chromatography–mass spectrometry (GC/MS) in the laboratory. Sample results are usually obtained within 2-3 weeks after sample collection.

### *MATES*

South Coast AQMD has conducted five MATES campaigns. The last MATES campaign (MATES V) in 2018 and 2019 took measurements at ten fixed monitoring sites, and PAHs were measured at the Central LA and Rubidoux stations. Prior MATES studies also measured PAHs at other stations. For example, MATES IV measured PAH at the Long Beach station, which is closer to refinery operations. MATES are designed to provide update to our inventory of toxic air contaminants for modeling localized risks. The studies use advanced monitoring technologies, and technologies providing near real-time data. Staff engages with the local communities, particularly those near refineries.

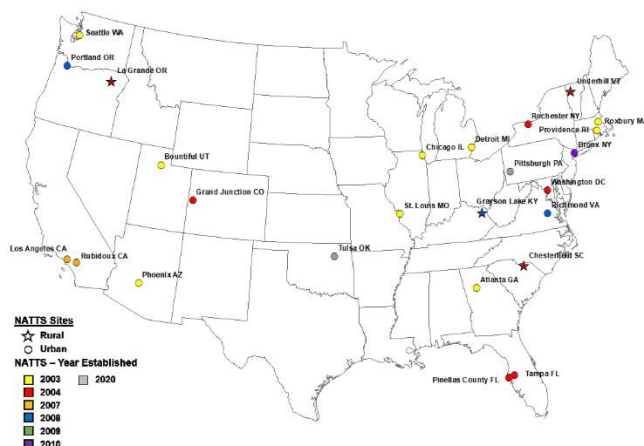


**Figure 2-9: MATES V Program Monitoring Stations**

### *NATTS program*

The goal of the federal NATTS program is to develop long-term air toxics monitoring data of consistent quality. NATTS network was initiated in 2003 and the current network configuration has 26 sites across the United States. There are typically over 100 pollutants monitored at each NATTS station, although only 19 of those are required by the NATTS program. South Coast AQMD monitors PAHs at two monitoring locations, Central Los Angeles, and Rubidoux, using the data for both NATTS and MATES programs.

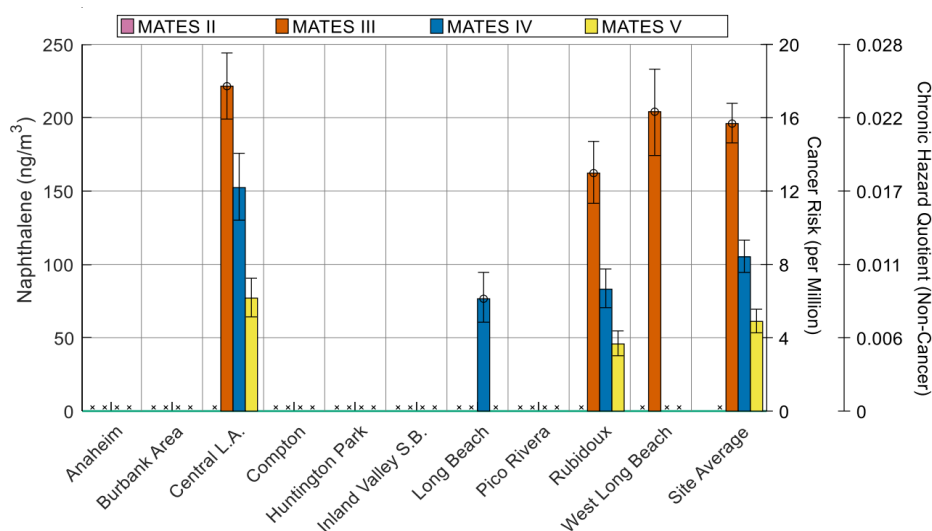




**Figure 2-10: NATTS Network Including Two South Coast AQMD Stations**

Figure 2-11 shows measurements of naphthalene, which is a PAH. Complete measurements can be found in the MATES V Final Report.<sup>10</sup> OEHHA data and South Coast AQMD data shows naphthalene is the most emitted PAH. As shown in the graph, the PAH concentrations have declined compared to previous MATES studies (as shown in the graph, measurements were taken only at Central L.A, Long Beach, Rubidoux, and West Long Beach during different MATES studies). During the MATES IV campaign, the Long Beach station, which is closest to refineries, was added to measure PAHs and measured PAH concentrations were similar to the other two stations.

<sup>10</sup> South Coast AQMD, “Multiple Air Toxics Exposure Study in the South Coast AQMD,” August 2021, <http://www.aqmd.gov/docs/default-source/planning/mates-v/mates-v-final-report-9-24-21.pdf>.



**Figure 2-11: Naphthalene Measurements in Different MATES Studies (Error bars denote the 95% confidence interval)**

In summary, there is no real-time air monitoring technology currently available to measure the sum of the concentrations of PAHs. PAHs measurements by MATES and NATTS programs take considerable amount of time for sample preparation and lab testing. The measurements indicate that naphthalene is the most emitted PAH and the PAHs concentrations have declined over the years. Naphthalene is the only PAH that can be monitored in real-time and current open-path systems installed at the refinery fenceline can reliably detect and report naphthalene in real-time.

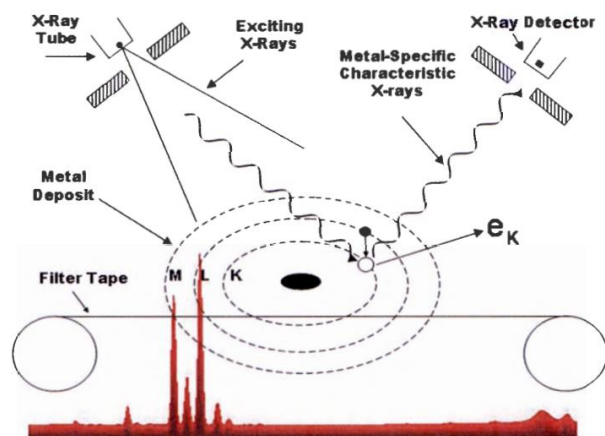
Staff will continue to monitor and assess the development of real-time air monitoring technologies for PAHs and report the results of the assessment to the Stationary Source Committee every five calendar years. If at any point staff determines real-time air monitoring is feasible, the facilities would be required to revise their FAMPs and QAPPs and start monitoring for PAHs according to the timeline specified by PAR 1180 and PR 1180.1. Staff will report to the Stationary Source Committee when PAHs real-time monitoring is deemed feasible and provide guidance on the installation, operation, and maintenance of the real-time monitoring system before the Executive Officer notifies the facility in writing to revise the FAMP to include real-time fenceline monitoring. The Stationary Source Committee will provide an opportunity for the public, the regulated facilities, and other experts in air monitoring technologies to provide comments on the proposed technology.

### **Metal Monitoring**

#### *X-Ray Fluorescence (XRF) technology for metal monitoring*

Cadmium, manganese, and nickel are identified in the OEHHA 2019 report as candidates for air monitoring. Their toxicity-weighted emissions scores are among the highest of emissions from refineries. Exposure and bioaccumulation of metals have been shown to lead to numerous health problems. Those metals are associated with many refinery process units. However, a Fluid Catalytic Cracking Unit (FCCU) is the only unit capable of emitting high concentrations of metals as part of spent catalyst. A speciated metals analyzer is commonly utilized for real-time monitoring of multiple metals in air samples, including cadmium, manganese, and nickel.

XRF technology can be used to detect particulate metals. As shown in the figure below, in the XRF chamber, the X-ray tube emits high energy X-rays that bombard the filter tape deposit. The metal atoms in the tape deposit are excited by the incoming radiation and emit X-rays with energies characteristic of the elements present in the sample. These sample X-rays are detected, and the resulting pulses are processed by a digital pulse processing unit. The digital pulse processor relays the counts/channel/second to a software package located on the computer. Each spectrum, plotted as intensity versus energy, is interpreted by the software's least-squares fitting package to determine the metals contributing to the spectral peak intensities of the sample deposit. This spectral deconvolution process uses multiple reference spectra stored in an electronic reference spectra library to fit the unknown spectrum.



**Figure 2-12: XRF Technology**

A facility expressed concern regarding potential radiation exposure to workers from XRF technology proposed for metal detection. XRF detectors for fenceline monitoring would be placed in a shelter on the refinery property for the safety of the community and workers. Safety procedures are set by federal and state regulations, manufacturer recommendations, and workplace policies to protect workers. XRF detectors are used in a wide variety of industries to measure the elemental composition of materials including for metals and are safely utilized in many South Coast AQMD community air monitoring stations.

### **Sulfuric Acid and Diethanolamine Monitoring**

Sulfuric acid is a colorless, oily liquid that exists in the air in water vapor and particulates. It is corrosive to metals and organic materials and emits toxic sulfur trioxide-containing fumes or vapors when heated. In refineries, sulfuric acid is used as a catalyst during alkylation and in various treatment processes. This chemical has also been detected in large amounts in refinery air emissions and reported in multiple fire and non-fire incidents. However, sulfuric acid has a very high boiling point, around 356 degrees Celsius ( $^{\circ}\text{C}$ ); therefore, it is not very volatile. If sulfuric acid is released into the atmosphere, it would quickly fall to the ground as a liquid. Due to the nature of the compound, it would not remain in the vapor state long enough to be transported to the fenceline. For this reason, refineries will not be required to measure sulfuric acid at the fenceline.<sup>11</sup>

<sup>11</sup> PubChem, "Sulfuric Acid," <https://pubchem.ncbi.nlm.nih.gov/compound/1118>.

Diethanolamine is a hydrocarbon found in air in water vapor and particulate phases. In refineries, diethanolamine has been detected at multiple refinery process units. Diethanolamine can be measured in air by drawing the air sample through sampling tubes for analysis with ion chromatography. However, diethanolamine has the tendency to absorb water and to supercool, which is a process of lowering the temperature of a liquid below its freezing point without it becoming a solid. As a result, diethanolamine has a short-lived gaseous phase. Due to the nature of the compound, it would not remain in the vapor state long enough to be transported to the fenceline. Furthermore, currently there is no real-time air monitoring technology for diethanolamine. For these reasons, refineries will not be required to measure diethanolamine at the fenceline.<sup>12</sup>

### **Total VOC (Non-Methane Hydrocarbons) Monitoring**

The Rule 1180 and Rule 1180.1 Guidance Document has been updated with the following clarification as to how the facilities must monitor and report the Total VOC:

Various hydrocarbon species absorb strongly around the 3000 cm<sup>-1</sup> infrared spectral region. The absorption features of these hydrocarbons are similar, with the absorption strength scaling to the mass of the alkane species. As a result, Total VOCs can be readily quantified by open path FTIR technology by conducting spectral retrieval in the above-mentioned spectral region (the exact retrieval spectral window may vary slightly by vendor and retrieval approach).

### **Acrolein Monitoring**

Current real-time monitoring technology for acrolein is open path FTIR. The typical method detection limit for acrolein by this technology is 2-10 ppb, which is higher than its notification threshold of 1.1 ppb. Petroleum refineries are not required to provide notifications for acrolein if the measurements are below the method detection limit provided they meet all other requirements in the approved and partially approved FAMP. Unless a newer real-time technology with lower method detection level for acrolein could be identified through a public process, this implementation will continue to be allowed. If measured acrolein concentrations are above both the method detection limit and the notification threshold, notifications must be sent to the public.

### **Establishing Information-Based Notification Thresholds**

The notification thresholds for air pollutants to be addressed by FAMPs are in Table 1 of PAR 1180 and PR 1180.1. For most of the air pollutants, Health Standard-Based notification thresholds are established based on acute RELs by OEHHA, NAAQS, or CAAQS. However, Health Standard-Based notification thresholds have not been established for six air pollutants as they do not have an acute REL, NAAQS, or CAAQS. These six are total VOCs, ethylbenzene, black carbon, naphthalene, PAHs, and cadmium. Staff is proposing to establish an information-based notification threshold for pollutants without a Health Standard-Based notification threshold using historical data if data is available. The purpose of establishing information-based notification thresholds is to notify communities when higher than typical pollutant concentrations are present and consequently, alert facilities to investigate and ensure normal operation.

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<sup>12</sup> PubChem, "Diethanolamine," <https://pubchem.ncbi.nlm.nih.gov/compound/diethanolamine#section=Vapor-Pressure>.

Monitoring for total VOCs, ethylbenzene, and black carbon has been required by Rule 1180 since the second quarter of 2020. Staff analyzed the historical data in the refineries' quarterly reports to establish Information-Based notification thresholds.

### *Ethylbenzene*

Facilities reported the quarterly concentration mean and maximum concentration for ethylbenzene for each path in parts per billion (ppb) in their respective quarterly reports. The majority of quarterly concentration means and maxima from the first quarter of 2022 through the first quarter of 2023 were below the method detection limit (MDL). MDLs in the quarterly reports range of 0.3 ppb to 17 ppb. Since concentrations were mostly found to be below MDL for ethylbenzene, staff proposes not to establish an information-based notification threshold for ethylbenzene. It is likely that ethylbenzene would be co-emitted with other pollutants. Benzene, toluene, ethylbenzene, and xylene (BTEX) pollutants are usually emitted together since these air pollutants all occur naturally in crude oil. Benzene, toluene, and xylene have health-based notification thresholds and would serve as indicators of potential ethylbenzene emission. For these reasons, staff is not proposing to include an information-based notification threshold for ethylbenzene.

### *Black Carbon*

Facilities reported quarterly average of black carbon hourly concentrations and quarterly maximum of black carbon hourly concentrations. Staff initially considered using that data to establish an information-based notification threshold for black carbon. Considering black carbon is included as part of the PM<sub>2.5</sub> measurements, for which health standard-based notification thresholds are established, staff will not include an information-based notification threshold for black carbon.

Black carbon is not listed as a candidate for air monitoring in OEHHA 2019 final report, "Analysis of Refinery Chemical Emissions and Health Effects," which is the basis for required air pollutants listed in Table 1. The major petroleum refineries who already have black carbon monitoring systems installed are required to continue to monitor for black carbon.

### *Total Volatile Organic Compounds (VOCs)*

The quarterly maximum of total VOC hourly concentrations provided in the quarterly reports for the first quarter of 2022 through the first quarter of 2023 of three refineries were used to establish the total VOC notification threshold. These data are the most recent and available data measured with the FTIR system at the time of amending the rule. Staff based the determination on data collected by three of the refineries, whose quarterly reports offered the most detailed data summary. These three refineries had 1-hour time series graphs used for the evaluation. The 90<sup>th</sup> percentile of the maximum quarterly VOC concentrations was calculated, resulting in a 730 ppb notification threshold. Table 2-6 shows the number of notifications each facility would receive based on the corresponding threshold, using the 1-hour time-series graphs provided in the quarterly report. Thresholds above and below the proposed 730 ppb threshold were included to evaluate whether thresholds above or below the 90<sup>th</sup> percentile would be more suitable. These thresholds above and below the proposed 730 ppb threshold were determined using the time series graphs. Both 300 ppb and 400 ppb are approximately the 20<sup>th</sup> percentile and 1,300 ppb and 9,000 ppb were the two highest maxima found. Based on these data, staff believes that concentrations above the 90<sup>th</sup> percentile would indicate above normal concentrations to trigger facilities to assess their operation.

**Table 2-6: Number of Potential Total VOC Notifications for Selected Facilities**

Facility	Proposed Threshold (Hourly Concentration in ppb)	Number of Notifications per Quarter				
		2022				2023
		Q1	Q2	Q3	Q4	Q1
<b>Phillips 66 Carson</b>	<b>300</b>	16	>20	>20	0	2
	<b>400</b>	6	>20	>20	0	1
	<b>730</b>	0	>20	>20	0	0
	<b>1,300</b>	0	12	13	0	0
	<b>9,000</b>	0	2	3	0	0
<b>Phillips 66 Wilmington</b>	<b>300</b>	2	0	0	0	1
	<b>400</b>	2	0	0	0	0
	<b>730</b>	0	0	0	0	0
	<b>1,300</b>	0	0	0	0	0
	<b>9,000</b>	0	0	0	0	0
<b>Valero</b>	<b>300</b>	1	0	0	0	0
	<b>400</b>	1	0	0	0	0
	<b>730</b>	1	0	0	0	0
	<b>1,300</b>	0	0	0	0	0
	<b>9,000</b>	0	0	0	0	0

**Manganese and Particulate Matter (PM) Notification Thresholds**

There are no one-hour RELs, CAAQS, or NAAQS standards available for manganese and particulate matter (PM); however, current standards include an 8-hour REL for manganese, and a 24-hour NAAQS and CAAQS for PM. Staff proposes to establish a notification threshold for manganese and PM based on the 8-hour and 24-hour standards respectively and allowing facilities to use the averages with a rolling period consistent with the corresponding standard for notifications. The notification will be required within 15 minutes of the monitors detecting the pollutant above the threshold using the rolling average.

National Ambient Air Quality Standards for PM was revised in 2012 and retained in the most recent review in 2020. Table 2-7 shows federal and state 24-hour standard for PM<sub>2.5</sub> and PM<sub>10</sub>.

Staff proposes to set 24-hour rolling average thresholds for PM<sub>2.5</sub> and PM<sub>10</sub> as 35 µg/m<sup>3</sup> and 50 µg/m<sup>3</sup> respectively and require a notification to the public when measured PM<sub>2.5</sub> and PM<sub>10</sub> concentration level of 24-hour rolling average exceeds the threshold.

**Table 2-7: PM 2.5 and PM 10 24-Hour Standards**

	PM <sub>2.5</sub>	PM <sub>10</sub>
National Ambient Air Quality Standard (24-hour) (µg/m <sup>3</sup> )	35	150
California Ambient Air Quality Standard (24-hour) (µg/m <sup>3</sup> )	N/A	50

Manganese has an 8-hour OEHHA REL at 0.17 µg/m<sup>3</sup>. The last 8-hour OEHHA REL revision was in 2008. Staff proposes to set an 8-hour rolling average threshold for manganese as 0.17 µg/m<sup>3</sup> and require a notification sent to the public when measured manganese concentration level of 8-hour rolling average exceeds the threshold.

Table 2-8 shows the proposed notification thresholds required of each air pollutant:

**Table 2-8: Air Pollutants and Notification Thresholds**

Air Pollutants	Health Standard-Based Notification Threshold	Information-Based Notification Threshold
<b>Criteria Air Pollutants</b>		
<b>Sulfur Dioxide</b>	75 ppb	N/A
<b>Nitrogen Oxides</b>	100 ppb	N/A
<b>Particulate Matter</b>		
<b>PM10</b>	50 µg/m <sup>3</sup>	N/A
<b>PM2.5</b>	35 µg/m <sup>3</sup>	N/A
<b>Volatile Organic Compounds</b>		
<b>Total VOCs (Non-Methane Hydrocarbons)</b>	N/A	730 ppb
<b>Formaldehyde</b>	44 ppb	N/A
<b>Acetaldehyde</b>	260 ppb	N/A
<b>Acrolein</b>	1.1 ppb	N/A
<b>1,3 Butadiene</b>	297 ppb	N/A
<b>Naphthalene</b>	N/A	N/A
<b>Polycyclic aromatic hydrocarbons (PAHs)</b>	N/A	N/A
<b>Styrene</b>	5,000 ppb	N/A
<b>Benzene</b>	8 ppb	N/A
<b>Toluene</b>	1,300 ppb	N/A
<b>Ethylbenzene</b>	N/A	N/A
<b>Xylenes</b>	5,000 ppb	N/A
<b>Metals</b>		
<b>Cadmium</b>	N/A	N/A
<b>Manganese</b>	0.17 µg/m <sup>3</sup> (8-hour avg.)	N/A
<b>Nickel</b>	0.2 µg/m <sup>3</sup>	N/A
<b>Other Air pollutants</b>		
<b>Hydrogen Sulfide</b>	30 ppb	N/A
<b>Carbonyl Sulfide</b>	270 ppb	N/A
<b>Ammonia</b>	4,507 ppb	N/A
<b>Black Carbon</b>	N/A	N/A
<b>Hydrogen Cyanide</b>	309 ppb	N/A
<b>Hydrogen Fluoride+</b>	289 ppb	N/A

+ If the facility uses hydrogen fluoride.



## Follow-up Notifications

Staff is proposing to require follow-up notifications in both rules if the initially measured concentration, which was above the notification threshold, increases over time to the specified level. According to the rule language, the owner or operator of a facility shall automatically generate and send a follow-up notification as soon as technically feasible, but no later than 15 minutes after each instance where the measured concentration of the air pollutant exceeds the follow-up notification thresholds (the same averaging time applies to follow-up notifications):

$$\text{Follow-up Notification Threshold} = \text{Applicable Notification Threshold} \times 2^X$$

(Where X = 1, 2, 3, 4, and 8)

For example, with a notification threshold of 100 ppb, the follow-up notification thresholds will be 200 ppb, 400 ppb, 800 ppb, 1600 ppb, and 25,600 ppb respectively. This approach allows for a maximum of five additional notifications to the originally generated notification to alert the public if the measured air pollutant concentration substantially increases. The follow-up notification threshold is capped at 256 times of the applicable notification threshold. Staff expects corrective actions would have been taken before the monitored concentration would reach this level.

The table below, shows four scenarios for an air pollutant with a notification threshold of 100 ppb. Each scenario is considered as one event as described in subdivision (k) in PAR 1180.

**Table 2-9: Follow-up Notification Scenarios**

Notification Threshold = 100 ppb	
Follow up notification thresholds: 200 ppb, 400 ppb, 800 ppb, 1,600 ppb, and 25,600 ppb	
<b>Scenario #1:</b>	
<i>Measured Concentration #1 = 120</i>	
<i>Measured Concentration #2 = 350</i>	
<i>Measured Concentration #3 = 620</i>	
<i>Measured Concentration #4 = 1200</i>	
Result: Facility will send a notification (#1) with three follow up notifications (#2, #3, and #4)	
<b>Scenario #2:</b>	
<i>Measured Concentration #1 = 350</i>	
<i>Measured Concentration #2 = 1200</i>	
Result: Facility will send a notification (#1) with one follow up notification (#2)	
<b>Scenario #3:</b>	
<i>Measured Concentration #1 = 1200</i>	
Result: Facility will send one notification (#1) with no follow up notification	
<b>Scenario #4:</b>	
<i>Measured Concentration #1 = 120</i>	
<i>Measured Concentration #2 = 70</i>	
<i>Measured Concentration #3 = 230</i>	
<i>Measured Concentration #4 = 160</i>	
<i>Measured Concentration #5 = 580</i>	
Result: Facility will send a notification (#1) with two follow up notifications (#3 and #5)	

In scenario #1, the initial notification is triggered by the exceedance of the applicable notification threshold as indicated in Table 1. After the initial notification, no additional notification is required

if the concentration stays above the notification threshold but below the first follow-up notification threshold. If the concentration drops below the any of the notification thresholds and then increases back above the threshold, only the first occurrence when the threshold is exceeded will trigger a notification. Each time the measured concentration exceeds the corresponding follow-up notification threshold, a subsequent notification, with a maximum of five follow-ups, will be sent to the public. In cases similar to scenarios #2 and #3, where the measured concentration is already above the applicable follow-up notification threshold, one notification will be sent to the public (Scenario #3) unless the concentration further increases, surpassing another follow-up notification threshold (Scenario #2).

Scenario #4 illustrates a case where concentration levels fluctuate between the notification threshold and follow-up notification thresholds. In this scenario, a notification will be sent each time the measured concentration exceeds any applicable notification or follow-up notification thresholds. As indicated in the table, the first notification will be sent for exceeding the applicable notification threshold. The second and third notifications will be sent each time the concentration exceeds the applicable follow-up notification threshold, which is 230 ppb and 580 ppb in this case. Should the concentration level remain below the notification threshold for more than 30 minutes (measured concentration #2), that would trigger a follow-up notification that the exceedance event has ended. Measured concentration #3 would be considered the start of a new exceedance event and a notification will be sent once the concentration level exceeds 100 ppb notification threshold.

The following table includes the follow-up notification thresholds for air pollutants.

**Table 2-10: Follow-up Notification Thresholds**

Air Pollutants	Initial Notification	2 <sup>nd</sup> Notification (X=1)	3 <sup>rd</sup> Notification (X=2)	4 <sup>th</sup> Notification (X=3)	5 <sup>th</sup> Notification (X=4)	6 <sup>th</sup> Notification (X=8)
<b>Criteria Air Pollutants</b>						
<b>Sulfur Dioxide</b>	75 ppb	150 ppb	300 ppb	600 ppb	1,200 ppb	19,200 ppb
<b>Nitrogen Oxides</b>	100 ppb	200 ppb	400 ppb	800 ppb	1,600 ppb	25,600 ppb
<b>Particulate Matter</b>						
<b>PM10</b>	35 µg/m <sup>3</sup>	70 µg/m <sup>3</sup>	140 µg/m <sup>3</sup>	280 µg/m <sup>3</sup>	560 µg/m <sup>3</sup>	8,960 µg/m <sup>3</sup>
<b>PM2.5</b>	50 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>	200 µg/m <sup>3</sup>	400 µg/m <sup>3</sup>	800 µg/m <sup>3</sup>	12,800 µg/m <sup>3</sup>
<b>Volatile Organic Compounds</b>						
<b>Total VOCs</b>	730 ppb	1,460 ppb	2,920 ppb	5,840 ppb	11,680 ppb	186,880 ppb
<b>Formaldehyde</b>	44 ppb	88 ppb	176 ppb	352 ppb	704 ppb	11,264 ppb
<b>Acetaldehyde</b>	260 ppb	520 ppb	1,040 ppb	2,080 ppb	4,160 ppb	66,560 ppb
<b>Acrolein</b>	1.1 ppb	2.2 ppb	4.4 ppb	8.8	17.6 ppb	281.6 ppb
<b>1,3 Butadiene</b>	297 ppb	594	1,188	2,376	4,752 ppb	76,032 ppb
<b>Naphthalene</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>PAHs</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>Styrene</b>	5,000 ppb	10,000 ppb	20,000 ppb	40,000 ppb	80,000 ppb	128,000 ppb
<b>Benzene</b>	8 ppb	16	32	64	128 ppb	2,048 ppb
<b>Toluene</b>	1,300 ppb	2,600	5,200	10,400	20,800 ppb	332,800 ppb
<b>Ethylbenzene</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>Xylenes</b>	5,000 ppb	10,000	20,000	40,000	80,000 ppb	128,000 ppb

Metals						
<b>Cadmium</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>Manganese</b>	0.17 µg/m <sup>3</sup>	0.34 µg/m <sup>3</sup>	0.68 µg/m <sup>3</sup>	1.36 µg/m <sup>3</sup>	2.72 µg/m <sup>3</sup>	43.52 µg/m <sup>3</sup>
<b>Nickel</b>	0.2 µg/m <sup>3</sup>	0.4 µg/m <sup>3</sup>	0.8 µg/m <sup>3</sup>	1.6 µg/m <sup>3</sup>	3.2 µg/m <sup>3</sup>	51.2 µg/m <sup>3</sup>
Other Compounds						
<b>Hydrogen Sulfide</b>	30 ppb	60 ppb	120 ppb	240 ppb	480 ppb	7,680 ppb
<b>Carbonyl Sulfide</b>	270 ppb	540 ppb	1,080 ppb	2,160 ppb	4,320 ppb	69,120 ppb
<b>Ammonia</b>	4,507 ppb	9,014 ppb	18,028 ppb	36,056 ppb	72,112 ppb	1,153,792 ppb
<b>Black Carbon</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>Hydrogen Cyanide</b>	309 ppb	618 ppb	1,236 ppb	2,472 ppb	4,944 ppb	79,104 ppb
<b>Hydrogen Fluoride+</b>	289 ppb	578 ppb	1,156 ppb	2,312 ppb	4,624 ppb	73,984 ppb

### Exclusion criteria

A facility is required to demonstrate one or more of the following criteria to exclude a compound from the required monitoring:

- The pollutant is not emitted and never has been emitted through the facility's activities and processes;
- Real-time air monitors capable of reliably measuring the pollutant are not available; or
- Other technical justifications.

The facility must submit a FAMP and QAPP to obtain approval for excluding a compound.

#### *Exclusion criteria - technical feasibility*

Air pollutants may be considered for exclusion if there is no feasible real-time monitoring technology capable of real-time or near-real time measurements. Staff will discuss the feasibility of real-time detection technologies for air pollutants in the relevant section of the staff report. Staff will monitor the progress of real-time and near-real-time air monitoring technologies and conduct a technology assessment every five calendar years for any air pollutant listed in Table 1 in PAR 1180 and PR 1180.1 that had been deemed infeasible to detect in any previously approved, or partially approved, fenceline air monitoring plan and report the results of the assessment to the Stationary Source Committee.

#### *Exclusion criteria – air pollutant not part of the process*

Compounds that are not used and have never been used at a facility can be excluded based on facility's activities and processes. For example, an asphalt plant that does not use, and has never used, hydrofluoric acid could request to exclude it from their FAMP. For a facility with operations related to the petroleum refinery, monitoring may not be required for compound(s) not generated at that site.

In the case of PAR 1180 where related facilities are required to have fenceline monitoring, a petroleum refinery will be responsible for submitting the FAMP and conducting fenceline monitoring if they share the same ownership. In that case, the refineries would amend their existing FAMP and QAPP instead of submitting new plans for each related facility and South Coast AQMD would evaluate the plan and facilities holistically when considering what would qualify as

adequate coverage. For example, a refinery could request to exclude NO<sub>x</sub> monitoring of its neighboring tank terminal if the terminal only stores VOC containing materials, has no combustion sources or nitric acid process, and the refinery already has adequate coverage with its existing NO<sub>x</sub> monitors. Each facility will have to justify excluding compounds when they submit their FAMP which are subject to Executive Officer approval.

#### *Exclusion criteria for metals*

Currently, Rule 1180 does not require monitoring for the following metal pollutants that were newly included in the 2019 OEHHA report: cadmium, manganese, and nickel. Staff assessed the reported metal emissions at PAR 1180 and PR 1180.1 facilities to determine if there is a potential for metal emissions and therefore a need to install fenceline metal monitoring technology. Table 2-11 shows the 3-year (2019-2021) average of annual emissions for each metal reported by facilities subject to PAR 1180 and PR 1180.1. PAR 1180 facilities emitted significantly higher concentrations of cadmium, manganese, and nickel. Higher throughput and use of refinery gas for combustion contributed to higher metal emissions based on facilities' Annual Emission Report (AER).

**Table 2-11: AER Three-Year Average Emissions for PAR 1180 and PR 1180.1 Facilities**

	PAR 1180 Facilities (lbs/year)	PR 1180.1 Facilities (lbs/year)
Cadmium	1 – 44	0.01 – 0.04
Manganese	24 – 719	0.00 – 6.39
Nickel	4 – 205	0.02 – 0.41

The FCCU is the unit with the largest potential for metal emissions as part of spent catalyst. The Electrostatic Precipitator (ESP) is a control equipment to remove PM from the FCCU flue gas. A FCCU/ESP breakdown could result in high PM and metal emissions. In November 2022, there was an incident at PBF Martinez refinery in the San Francisco Bay Area. Initial assessments estimated 20 tons of spent FCCU catalyst released into the neighborhood due to the ESP failure. In February 2015, an explosion occurred in the ExxonMobil Torrance refinery's (now operating as the Torrance Refining Company) ESP, which scattered catalyst dust up to a mile away into the nearby community. The table below shows that FCCUs and ESPs are operated by most of PAR 1180 facilities but not by any PR 1180.1 facility.

**Table 2-1213: FCCU and ESP in PAR 1180 and PR 1180.1 Facilities**

PAR 1180	FCCU	ESP
Tesoro Carson	Yes	Yes
Tesoro Wilmington	No	No
P66 – Carson	No	No
P66 – Wilmington	Yes	Yes
Chevron	Yes	Yes
Torrance	Yes	Yes
Valero	Yes	Yes
Related Facilities (As shown in Table 2-2)	No	No
PR 1180.1		
AltAir Paramount	No	No
LTR dba World Oil Refining	No	No
Valero Asphalt Plant	No	No

Since PR 1180.1 facilities do not operate an ESP or FCCU, metals (cadmium, manganese, and nickel) are excluded from Table 1 of PR 1180.1. For the same reason, PAR 1180 related facilities are not required to monitor metals. For PAR 1180 petroleum refineries that operate a FCCU and ESP, staff is considering requiring at least one fenceline metal monitor for each FCCU and ESP. The location and number of the metal monitoring technology installations will be determined upon approval of the FAMP.

### Technology Assessment

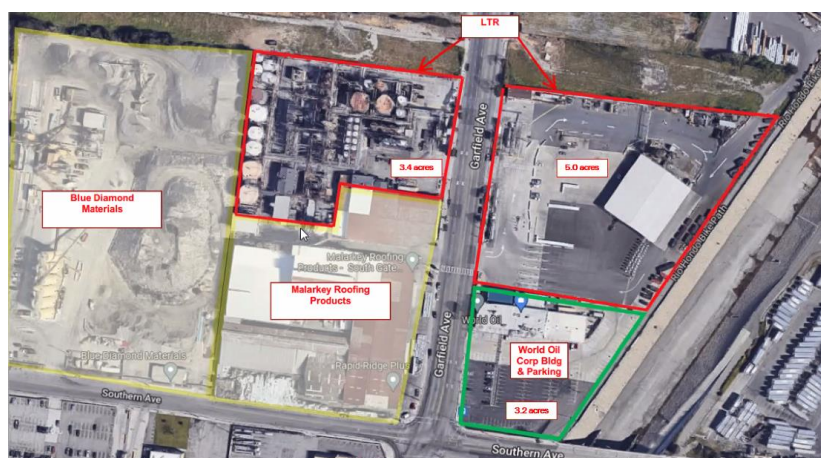
Revisions and updates to the rules and guidelines are expected as new instrumentation, methodologies, and monitoring strategies are developed. Staff will include in the Resolution for the Public Hearing a commitment to conduct a technology assessment every five years. The technology assessment may include, but is not limited to, the assessment of real-time monitoring technologies, real-time monitoring protocols, quality assurance and quality control protocols, additional compounds to be monitored, and fenceline air monitoring and community air monitoring fees. Staff will perform the technology assessment through a public process by January 1, 2029, and every five years thereafter, and report the results of the assessment to the South Coast AQMD Stationary Source Committee.

### POTENTIAL FENCELINE MONITORING CONFIGURATIONS AT NEW FACILITIES

#### *World Oil Refining*

On April 12, 2023, staff conducted a site visit of the LTR dba World Oil Refining facility (Facility ID 800080). LTR dba World Oil Refining is a small refinery situated on a compact site for refinery

operations with a refining capacity of 8,500 bpd of crude oil.<sup>13</sup> Staff identified the potential to have an open path coverage for some of the facility's perimeter and will work with the facility to identify the most complete fenceline coverage as appropriate. Point sensor monitoring for certain pollutants, such as hydrogen sulfide will be considered.



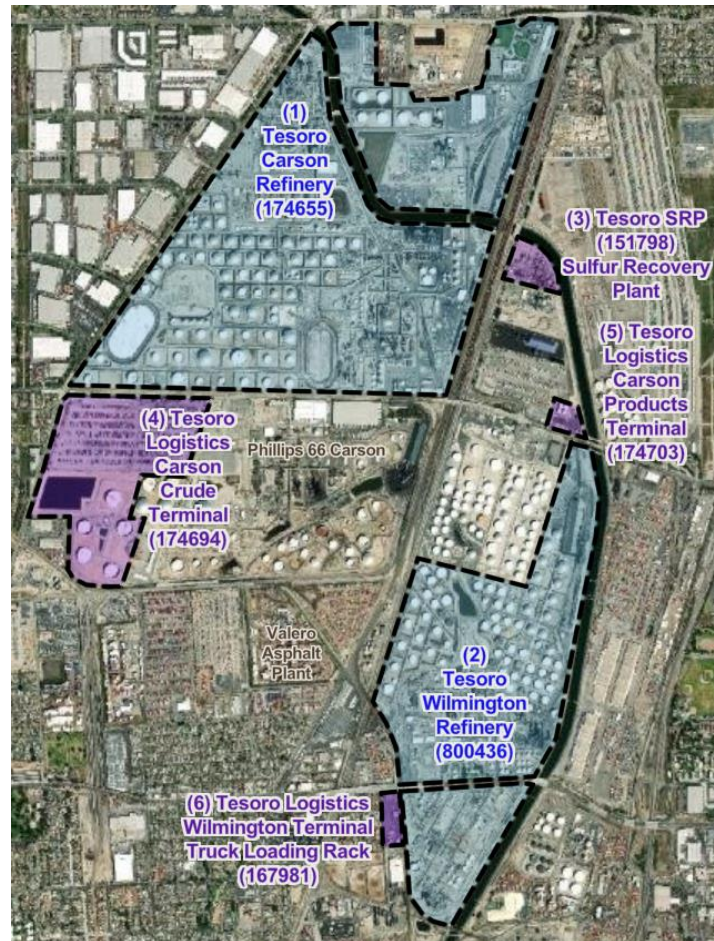
**Figure 2-13: LTR dba World Oil Refining Facility**

#### *Tesoro Refining and Marketing Company LLC*

On April 20, 2023, staff conducted a site visit of four facilities contiguous or adjacent to Tesoro Carson and Tesoro Wilmington. They are Tesoro Sulfur Recovery Plant (SRP) (Facility ID 151798), Tesoro Logistics Carson Crude Terminal (Facility ID 174694), Tesoro Logistics Carson Product Terminal (Facility ID 174703), and Tesoro Logistics Wilmington Terminal Truck Loading Rack (Facility ID 167981) as shown in Figure 2-14. As discussed previously, due to the small storage capacity of the Carson Product Terminal and the Wilmington Terminal Truck Loading Rack, staff is not proposing to include those two facilities in PAR 1180.

Existing Rule 1180 fenceline monitoring at the perimeter of Tesoro Carson, Tesoro Wilmington, and Philips 66 Carson could address the coverage for the shared fenceline with those contiguous facilities if a shared fenceline is agreed upon by the owners or operators of the existing fenceline air monitoring systems and approved by the South Coast AQMD. Tesoro may be able to demonstrate there is adequate coverage along certain sides of their related operations based on existing monitors. For other contiguous facilities, preliminary analysis identified that open path coverage is potentially feasible. For example, there is potential to have an open path monitor that covers the west and south perimeter of Tesoro Logistics Carson Crude Terminal, and an open path coverage for the north and east perimeter of Tesoro SRP. Point monitors for hydrogen sulfide would also be needed for north and east perimeter Tesoro SRP due to the high emissions by its annual emission reports. Facilities are responsible for proposing specific monitoring sites and fenceline coverage in their FAMP.

<sup>13</sup> California Energy Commission, "California Oil Refinery History," last modified May 22, 2023, <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries/california-oil>.



**Figure 2-14: Related Facilities at Tesoro Refining and Marketing Company LLC**

#### *Valero Asphalt Plant*

On May 12, 2023, staff conducted a site visit of the Valero Asphalt Plant (Facility ID 800393), which will be subject to PR 1180.1. The eastern perimeter of facility parallels Tesoro Wilmington refinery's fenceline with an open path monitoring coverage, separated by a roadway, as shown in Figure 2-15. The facility may be able to demonstrate there is adequate coverage on the east side of the property based on existing monitors. For the west and south side perimeter, preliminary analysis identified feasible options for open path and point monitors.



**Figure 2-15: Valero Asphalt Plant (Yellow Shading)**

*AltAir Paramount*

On August 24, 2023, staff conducted a site visit at AltAir Paramount (Facility ID 187165), which will be subject to PR 1180.1. For this facility, fenceline coverage via open path technologies is highly feasible, as there are few to no obstructions around the perimeter. On the southern end, a railway owned by AltAir Paramount and other facilities may need to be evaluated to find the most suitable location to install fenceline air monitoring equipment. Staff will work with the facility to identify the most feasible fenceline air monitoring systems through the FAMP submittal and approval process.





**Figure 2-16: AltAir Paramount Facility**

#### *Kinder Morgan Liquids Terminals*

Staff conducted a site visit at Kinder Morgan Liquids Terminals (Facility ID 800057) on October 11, 2023, which is subject to PAR 1180. Kinder Morgan Liquids Terminals is adjacent to the Tesoro Wilmington Refinery (Figure 2-17) and shares a fenceline on the southern and eastern sides of the facility. The west side of the facility has a street and railway, which are both a public right-of-way, which would make Kinder Morgan Liquids Terminals an adjacent facility to Phillips 66. While the western border shares a boundary with Phillips 66 Carson, the distance between fencelines may be too far to share fenceline monitors with Phillips 66 Carson and would require further evaluation. Both the western border and northern border are great candidates for open path technologies.



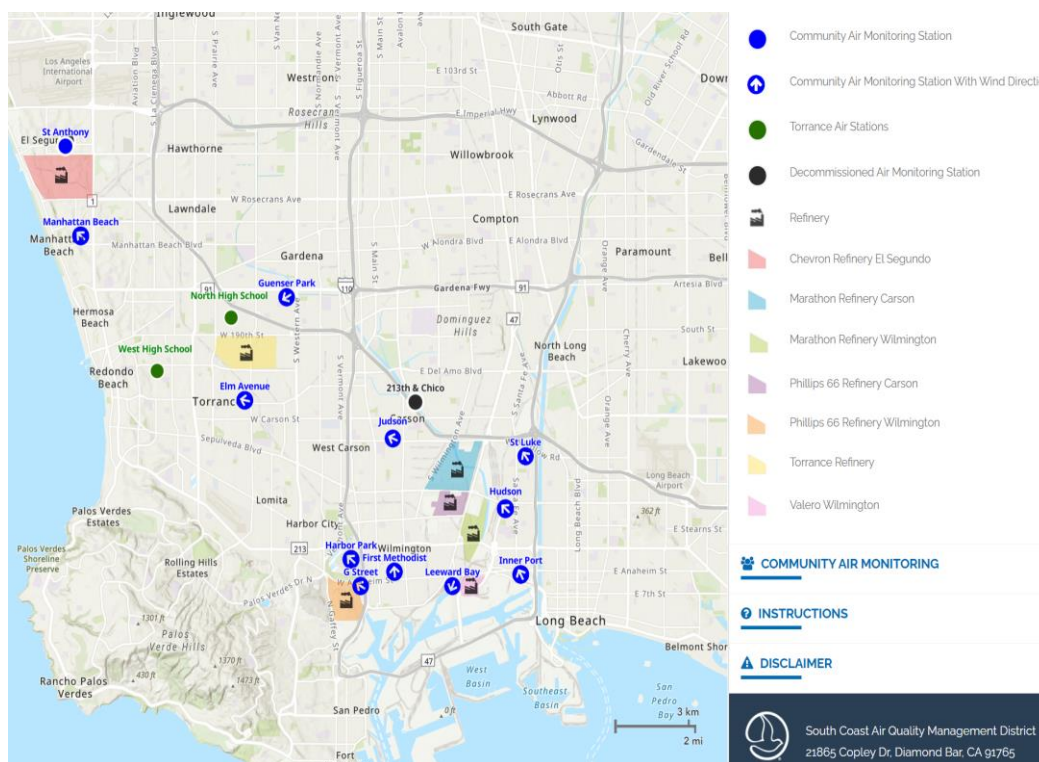
**Figure 2-17: Kinder Morgan Liquids Terminals Facility**

## COMMUNITY AIR MONITORING

### Existing refinery community air monitoring

Pursuant to Health and Safety Code Section 42705.6, Rule 1180 requires facilities to install and operate a real-time fenceline air monitoring system in accordance with their approved fenceline air monitoring plan, and pay fees to install, operate, and maintain the refinery-related community air monitoring system. Using these funds, the South Coast AQMD conducts air monitoring in communities adjacent to the refineries according to the Community Air Monitoring Plan (CAMP).<sup>14</sup> The locations of community air monitors are shown in the figure below Figure 2-18.

<sup>14</sup> South Coast AQMD, "Rule 1180 Community Air Plan," last modified April 2020, [http://www.aqmd.gov/docs/default-source/fenceline\\_monitoring/r1180\\_draft\\_community\\_monitoring\\_plan\\_rev\\_2\\_04022020\\_final\\_use\\_updated1.pdf?sfvrsn=8](http://www.aqmd.gov/docs/default-source/fenceline_monitoring/r1180_draft_community_monitoring_plan_rev_2_04022020_final_use_updated1.pdf?sfvrsn=8).



**Figure 2-18: Existing Rule 1180 Community Air Monitoring Stations**

Air monitoring equipment is placed in climate-controlled enclosures and meets short- and long-term monitoring needs. Long-term monitoring is essential to assess trends and potential air quality impacts from refinery emissions, and the equipment selected for this purpose must be able to detect typical urban variations of the target pollutants. Short-term monitoring is necessary to evaluate the immediate impact of fugitive emissions (e.g., leaks) and other releases in the surrounding communities and will require monitoring equipment with high time-resolution and reporting data in real-time or near real-time. Air monitoring site selection is another important part of community air monitors. Locations were selected to be representative of typical air quality conditions in communities around the refineries, in order to characterize air quality and potential impacts that may result from refinery-related operations. Other community air monitoring site selection considerations include proximity to sensitive receptors and environmental justice communities, proximity to refinery and non-refinery sources, long-term site availability, meteorology, infrastructure access and safety, and site suitability for air quality monitoring.

Ten fully equipped and two partially equipped (monitoring fewer air pollutants) community air monitoring stations have been established as shown in the figure above. Rule 1180 community air monitoring network is providing continuous measurements of all required pollutants in near real-time via a dedicated data portal (<https://xapprod.aqmd.gov/Rule1180CommunityAirMonitoring/>). Public notifications are provided when pollutant concentrations exceed pre-determined health-based notification threshold. Section A3 of Rule 1180 CAMP provides a detailed description of the threshold selection process and rationale. (Note: notifications are currently not issued for black carbon, VOCs, and ethylbenzene due to a lack of existing short-term health-based standards).

Rule 1180 requires facilities to pay for the community air monitoring fees including an installation fee, specified in

2 of Rule 1180, and annual operating and maintenance fees, specified in Rule 301 - Permitting and Associated Fees (Rule 301). Table below lists the specified number of community monitoring stations each facility needs to cover with its fees. The number was determined during the 2017 rulemaking based on the facility's throughput capacity. At this time, staff has evaluated additional community coverage and the applicable fees that would be required with the inclusion of new facilities.

**Table 2-14: Number of Community Air Monitoring Stations Each Existing Facility Funds**

Existing Facility	Number of stations
Tesoro Carson	3
Tesoro Wilmington	
Torrance Refining Company	2
Chevron – El Segundo	2
Phillips 66 Carson	2
Phillips 66 Wilmington	
Valero Wilmington	1

#### **New proposed facilities community air monitoring**

As presented in Table 2-14, staff is proposing to have at least one community monitoring station for each new facility subject to PR 1108.1. The number of community monitoring stations could be increased in future if a facility exceeds the notification threshold continuously. For PAR 1180 related facilities, staff is proposing to require SRP and two Air Products facilities to evenly fund one new community station. The terminals will fund a community station that only measures VOCs and hydrogen sulfide.

**Table 2-15: Proposed Community Monitoring Stations for Each New Facility to Fund**

New Facility Subject to PAR 1180 or PR 1180.1	Number of stations
LTR dba World Oil Refining	1
AltAir Paramount	1
Valero Wilmington Asphalt Plant	1
Tesoro Sulfur Recovery Plant (SRP)	1
Air Products Carson	
Air Products Wilmington	
Tesoro Logistics Carson Crude Terminal	1 (VOCs/hydrogen sulfide only)
Kinder Morgan Liquids Terminals	

The community monitoring fees established by Rule 1180 have already been paid and thus have been removed from PAR 1180. PAR 1180 and PR 1180.1 provides the fees required for initial installation costs for newly required community monitors and initial annual operation and maintenance, including cost for labor, testing, part, etc. For existing Rule 1180 facilities, annual operating and maintenance fees for the refinery-related community air monitoring system designed, developed, installed, operated, and maintained by South Coast AQMD are included in Rule 301. Future amendments to Rule 301 will include the operating and maintenance fees for the PAR 1180 related facilities and the PR 1180 facilities.

### Community Monitoring QA/QC

The community air monitoring is subject to QA/QC requirements and independent audits will be conducted at those sites. The air monitoring systems QAPP for refinery community air monitoring network has been developed with the following major elements.

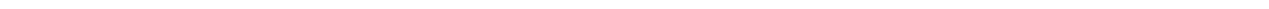
- Quality Assurance Procedures for data generated by community air monitoring systems
  - Data quality objectives
  - Routine maintenance, calibration, and verification for air monitoring equipment
  - Data review, validation and verification
- Project management and responsibilities
- Documentation and recordkeeping
- Data transmittal, including data security
- Training

Similar to fenceline monitoring systems, the first independent audit for community monitoring systems is planned to begin in 2024

## CHAPTER 3: PROPOSED AMENDED RULE 1180

INTRODUCTION

PROPOSED AMENDED RULE 1180



## INTRODUCTION

PAR 1180 applies to petroleum refineries, as defined in the Standard Industrial Classification Manual as Industry No. 2911, and facilities with operations related to refinery processes located on properties contiguous or adjacent to a petroleum refinery (that is, related facilities). The amended rule requires petroleum refineries to install and operate continuous, fenceline air monitoring systems to monitor a comprehensive list of criteria pollutants, toxic air contaminants, and other pollutants in real-time. The amended rule does not apply to refineries that are subject to PR 1180.1. PAR 1180 also establishes a fee schedule, to be paid by the petroleum refineries and related facilities, for the cost of designing, developing, installing, operating and maintaining refinery-related community air monitoring systems. The amended rule PAR 1180 implements Health and Safety Code § 42705.6.

## PROPOSED AMENDED RULE 1180

The purpose of PAR 1180 is to require real-time fenceline air monitoring systems and to establish a fee schedule to fund refinery-related community air monitoring systems that collect and provide air quality information to South Coast AQMD and the public about levels of various criteria air pollutants, volatile organic compounds, metals, and other compounds, at or near the property boundaries of petroleum refineries and in nearby communities. PAR 1180 does not directly reduce emissions from the facilities but will provide information that will assist facilities to detect air emission leaks early; therefore, allowing the facilities to quickly mitigating leaks or upset conditions. PAR 1180 also incorporates enforcement requirements, such as root cause analysis to quickly locate and mitigate the source of the leak. As previously discussed, PAR 1180 will establish fenceline air monitoring requirements for petroleum refineries and facilities with operations related to petroleum refineries located on contiguous or adjacent properties. The amended rule will require the submittal and approval of a fenceline air monitoring plan. This plan must provide detailed information about the fenceline air monitoring systems such as siting, wind data collection, maintenance procedures, temporary measures for equipment failures, quality assurance and auditing, and data reporting methods. Additionally, the proposed amended rule will set forth requirements for the plan review process, notifications and recordkeeping. The proposed amended rule does not apply to refineries subject to PR 1180.1.

### PAR 1180 (a) – Purpose

The purpose of PAR 1180 is to require real-time fenceline air monitoring systems and to establish a fee schedule to fund refinery-related community air monitoring systems that provide air quality information to the South Coast AQMD and the public about levels of various criteria air pollutants, volatile organic compounds, metals, and other compounds, which result from petroleum refinery emissions at or near the property boundaries of petroleum refineries and in nearby communities.

### PAR 1180 (b) – Applicability

PAR 1180 applies to petroleum refineries, related facilities, and their successors. As detailed in Chapter 2, a related facility is any establishment that has operations related to the refinery processes located on properties adjacent to or contiguous with a petroleum refinery, which receive more than 50 percent of its product input either directly or indirectly from, or provide more than 50 percent of its product output either directly or indirectly to, any of the petroleum refineries subject to the rule in the 2022 calendar year. Some related facilities include electricity generating facilities, hydrogen production plants, sulfuric acid plants, sulfur recovery plants, and terminals.

Terminals with total tank capacity less than 310,000 barrels are exempted from PAR 1180. Related facilities must provide documentation from the 2022 calendar year to demonstrate that PAR 1180 does not apply to their facility. A successor to a petroleum refinery and/or related facility is an entity that assumes ownership or operation of the refinery after its acquisition or transfer of ownership. For instance, if a facility subject to PAR 1180 is acquired by a new company, the facility will remain subject to the rule.

Petroleum refineries that were subject to Rule 1180 on December 1, 2017, will remain subject to PAR 1180, even if they have transitioned their operations entirely or partially to process alternative feedstock. Moreover, PAR 1180 does not apply to refineries subject to PR 1180.1.

Seven petroleum refineries and five related facilities have been identified to be subject to this rule.

### **PAR 1180 (c) – Definitions**

Below lists the definitions that have been added in PAR 1180:

- Corrective Action Plan
- Data Quality Flags
- Facility with Operations Related to Petroleum Refineries (Related Facility)
- Facility
- Fenceline Air Monitoring Plan (FAMP)
- Hydrogen Production Plant
- Independent Audit
- Notification Threshold
- Qualified Independent Party
- Root Cause Analysis
- Sulfur Recovery Plant
- Terminal

Related Facility is a key definition added to define and expand which facilities are subject to the rule. Some definitions were added for terms affiliated with Related Facility. The definition for Facility was added as a term to refer to either a Petroleum Refinery or a Facility with Operations Related to Petroleum Refineries. Corrective Action Plan, Independent Audit and Root Cause Analysis are defined due to new requirements in the rule. Other new definitions clarify the terms that have been used in the rule and/or the Guidelines.

The Guidelines were revised to be a reference for both PAR 1180 and PR 1180.1 facilities.

### **Requirements**

Subdivision (d) through (m) establish requirements for FAMP submittal, the fenceline air monitoring system, the plan review process, web-based fenceline data display and notification program, notifications for equipment failure, independent audits, recordkeeping and reporting, community air monitoring fees, and exemptions. PAR 1180 Table 1 identifies the air pollutants to be addressed by the FAMP.

### **PAR 1180 (d) – Plan Requirements**

The FAMP shall address all air pollutants in PAR 1180 Table 1. This includes the following pollutants newly added to PAR 1180:



- Particulate Matter
- Naphthalene
- Polycyclic aromatic hydrocarbons (PAHs)
- Cadmium
- Manganese
- Nickel

The FAMP must also adhere to the Guidelines and provide all of the information listed in subparagraphs (d)(1)(A) to (d)(1)(K). The FAMP must have three parts which are: 1) the plan for the installation of the Fenceline Air Monitoring System; 2) the plan to comply with the web-based fenceline data display and notification program; and 3) the quality assurance project plan that details the project objectives, procedures and tasks performed to ensure the Fenceline Air Monitoring System is producing reliable data.

In addition, collected historical data from the most recent five calendar years that includes all historical measurements from each monitor for all air pollutants measured as one-hour averages. The historical measurements must include time, date, and windspeed data, must be made available to the public in a timely and accessible manner that is easy to find on the website, and can be understood by the general public according to subparagraph (d)(1)(G) and (d)(1)(H). And according to subparagraph (d)(1)(I), the facility owner or operator must make the collected historical data available to the Executive Officer in an approved format.

Some other revisions are for clarification and streamlining purposes. For example, some specifications regarding the FAMP from the existing guidelines are now explicitly provided in paragraph (d)(1). The rationale for health standard-based notification thresholds is explained in Chapter 2.

#### **PAR 1180 (e) – Plan Submittal Deadlines**

For new facilities, the owner or operator of the facility must submit a written FAMP outlining the operation of a real-time fenceline air monitoring system at least 12 calendar months prior to operation commencement.

For facilities with an existing FAMP, the owner or operator of the facility must submit a revised FAMP within seven calendar months of [Date of Rule Adoption]. Facilities with an existing FAMP may need to revise their FAMP to address related facilities, additional air pollutants, and/or any requirement in paragraph (d)(1) that was not addressed in the Facility's previous FAMP.

For related facilities without an existing FAMP, the owner or operator of the Facility must submit a FAMP no later than 12 calendar months after [Date of Rule Adoption].

Paragraph (e)(4) lists the scenarios in which the FAMP must be revised and submitted to the Executive Officer. The feasibility of real-time monitoring for air pollutants listed in Table 1 will be evaluated by the South Coast AQMD every five years and the results will be reported to the Stationary Source Committee. The five-year requirement does not preclude staff from evaluating new technologies as they are developed. For example, if at any time, real-time technology is deemed feasible for PAHs, the Executive Officer will provide written notification to the facilities, and the facilities must submit a revised FAMP. The feasibility of real-time PAH monitoring technologies will include an assessment of the robustness, precision and accuracy of the technology.

**PAR 1180 (f) – Fenceline Air Monitoring Compliance Schedule**

Subdivision (f) provides deadlines for installation and operation of the fenceline air monitoring system. The facility must complete installation and begin operation of the system within 15 calendar months after a FAMP submitted pursuant to paragraph (e)(1), (e)(2), or (e)(3) is approved or partially approved. The facility must complete installation and begin operation of the system within six calendar months after a FAMP submitted pursuant to paragraph (e)(4) is approved or partially approved.

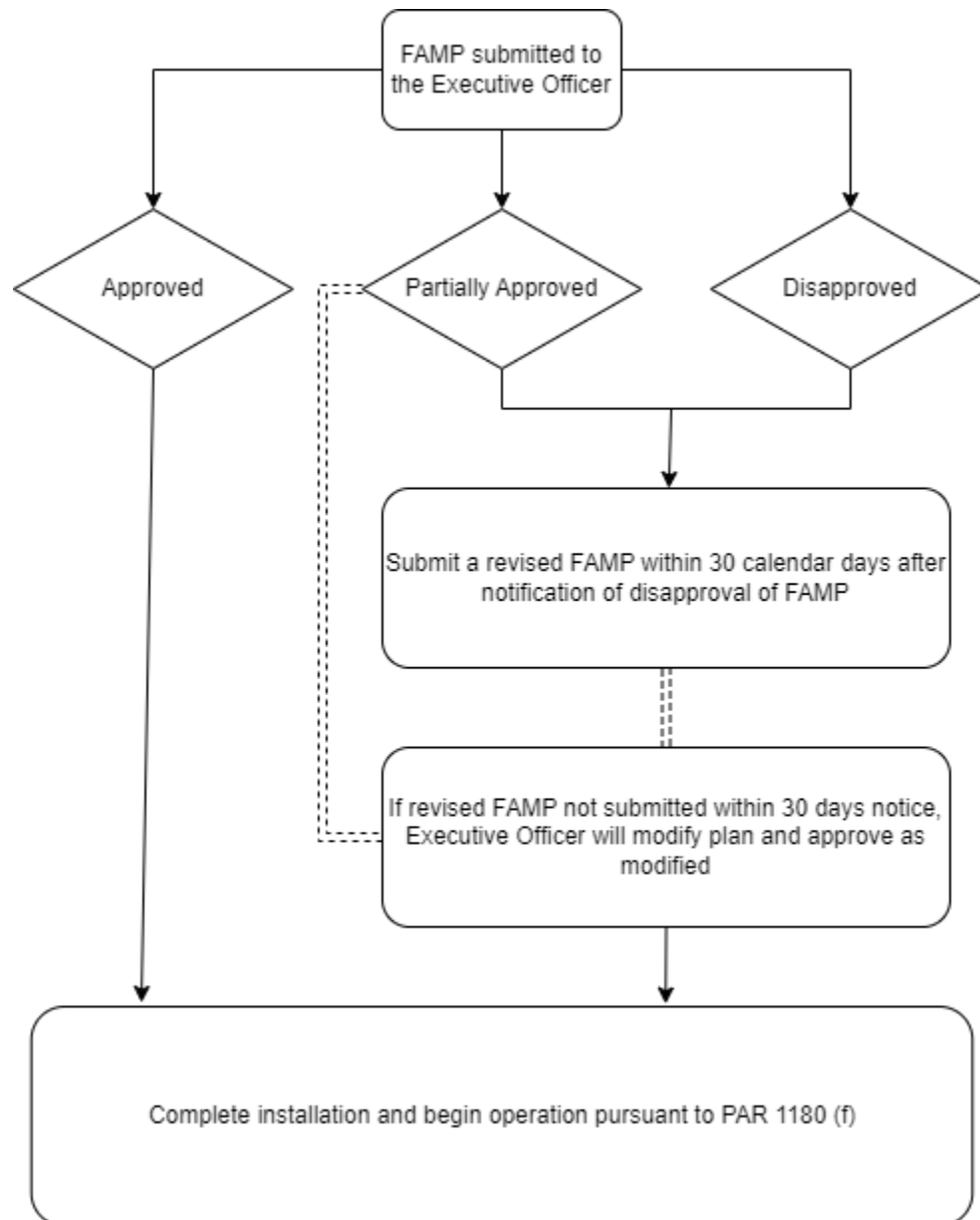
**PAR 1180 (g) – Plan Review Process**

Subdivision (g) outlines the FAMP review process. The Executive Officer will notify facility owners or operators in writing regarding the approval status of their submitted FAMP or revised FAMP. The Executive Officer will make a determination based on the information submitted by the facility. Facilities are required to submit a FAMP that complies with paragraph (d)(1) and the Guidelines. A FAMP is comprised of three main sections which are air monitoring layout specified in subparagraphs (d)(1)(A) through (d)(1)(D), data dissemination, and quality assurance project plan. A FAMP is partially approved if the plan section for air monitoring layout is approved. Currently, all submitted FAMPs have been partially approved. Staff will determine if full approval could be granted to the existing FAMPs after an independent audit of the applicable fenceline air monitoring systems.

If a FAMP or revised FAMP is disapproved, the facility owner or operator must submit a revised FAMP within 30 calendar days of receiving the disapproval notification. The updated plan must include all necessary information to address the deficiencies identified in the disapproval letter.

The Executive Officer will either approve the revised FAMP or modify it and approve it. In the case of dissatisfaction in the modified FAMP, the facility owner or operator has the option to appeal to the Hearing Board.

Staff proposes a new requirement under paragraph (g)(3). If the facility does not submit the revised FAMP within 30 calendar days after notification of disapproval of the plan, the Executive Officer will modify the plan and approve it as modified. By allowing the Executive Officer to modify the plan, this proposal would ensure no further delays. A summary of the plan review process is shown in Figure 3-1 below.



**Figure 3-1: Plan Review Process Flowchart**

Any FAMP or revised FAMP submitted under subdivision (e) will be made available for public review by the Executive Officer 14 calendar days prior to approval.

The review, approval, and modifications of FAMPs and revised FAMPs are subject to plan fees as specified in Rule 306 – Plan Fees.

### **PAR 1180 (h) – Web-based Fenceline Data Display and Notification Program**

Subdivision (h) is a new subdivision for existing requirements specified in the existing guidelines. It lists the features that the web-based fenceline data display and notification program must have publicly available. The owner or operator of a facility is required to maintain a web-based fenceline data display and notification program. Table 3-1 lists the data display requirements for the web-based fenceline data display programs.

**Table 3-1: Web-based Fenceline Data Display Requirements**

Data Display Requirement	Requirement to Comply
Description of all instances when an air pollutant was measured above a notification threshold, measurement techniques, notification thresholds, and type of notification threshold (health-based or information-based)	
Real-Time and historic concentrations, which includes at least five calendar years of data of all air pollutants measured on the fenceline air monitoring system including data quality flags	As required pursuant to paragraph (k)(1),
Real-time and historic wind speed and wind direction data	
Definition of data quality flags	Examples of Data Quality Flags include: Valid, Invalid, Suspect/Questionable
The most recently approved, or partially approved, FAMP and QAPP	A link to the document shall be accessible via the web-based system
Report(s) generated from Independent Audit conducted	Pursuant to subdivision (j)
Root cause analysis	As required pursuant to paragraph (k)(2), (k)(3), and (k)(4)
Quarterly report	As required pursuant to paragraph (k)(5)
Corrective Action Plans	Pursuant to paragraph (j)(4)
Description of the air pollutants monitored by the fenceline air monitoring systems, their general health impacts, and a link to the Office of Health Hazard Assessment (OEHHA) online Air Chemical Database website	

The web-based fenceline notification system operated by the owner or operator of a facility shall automatically generate and send a notification as soon as technically feasible, but no later than 15 minutes after, any air pollutant in Table 1 is detected at a level that exceeds the applicable notification threshold in the approved or partially approved FAMP. At a minimum, the web-based fenceline data display and notification program shall include:

- A unique identification number for each notification generated
  - The nomenclature/naming system is to the owner or operator of the facility's discretion
  - The identification number must be unique to each event related to the notification exceedance
- Facility name
- Location, site, date, and time of the exceedance
- Air pollutant name, concentration measured, and the notification threshold, and
- A link to the OEHHA Air Chemical database website to the specific air pollutant detected above the threshold
  - Take benzene as an example, the link provided would be the following:  
<https://oehha.ca.gov/air/chemicals/benzene>

Notifications are also required as soon as technically feasible, but no later than 15 minutes from, each time the measured concentration of the air pollutant exceeds the follow-up notification threshold determined as below:

$$\begin{aligned} & \textit{Follow – up Notification Threshold} \\ & = \textit{Applicable Notification Threshold} \times 2^X \end{aligned}$$

Where X = 1, 2, 3, 4, and 8

These notifications have the same requirements as the initial exceedance notification.

When the air pollutant is detected has been continuously detected at a level below the applicable notification threshold for 30 minutes or for two consecutive measurements, a follow up notification is required and shall include, at a minimum, what is listed in paragraph (h)(4).

The web-based fenceline data display and notification program must also include a mechanism for the public to opt-in to receive notifications or opt-out of fenceline notifications via email and/or text message. There must also be a mechanism for the public to provide comments or feedback to the facility, and for the facility to respond.

For text message notifications, the Guidelines include requirements for the web-based fenceline data display and notification program to include disclaimers to alert potential users of issues receiving text-based notifications:

1. The user holds sole responsibility for any fees that are incurred by the phone service provider by receiving text message notifications and
2. Text message notifications may be delayed due to available phone services or issues related to compatibility with different phone service providers.

### **PAR 1180 (i) – Fenceline Air Monitoring System Downtime or Malfunction**

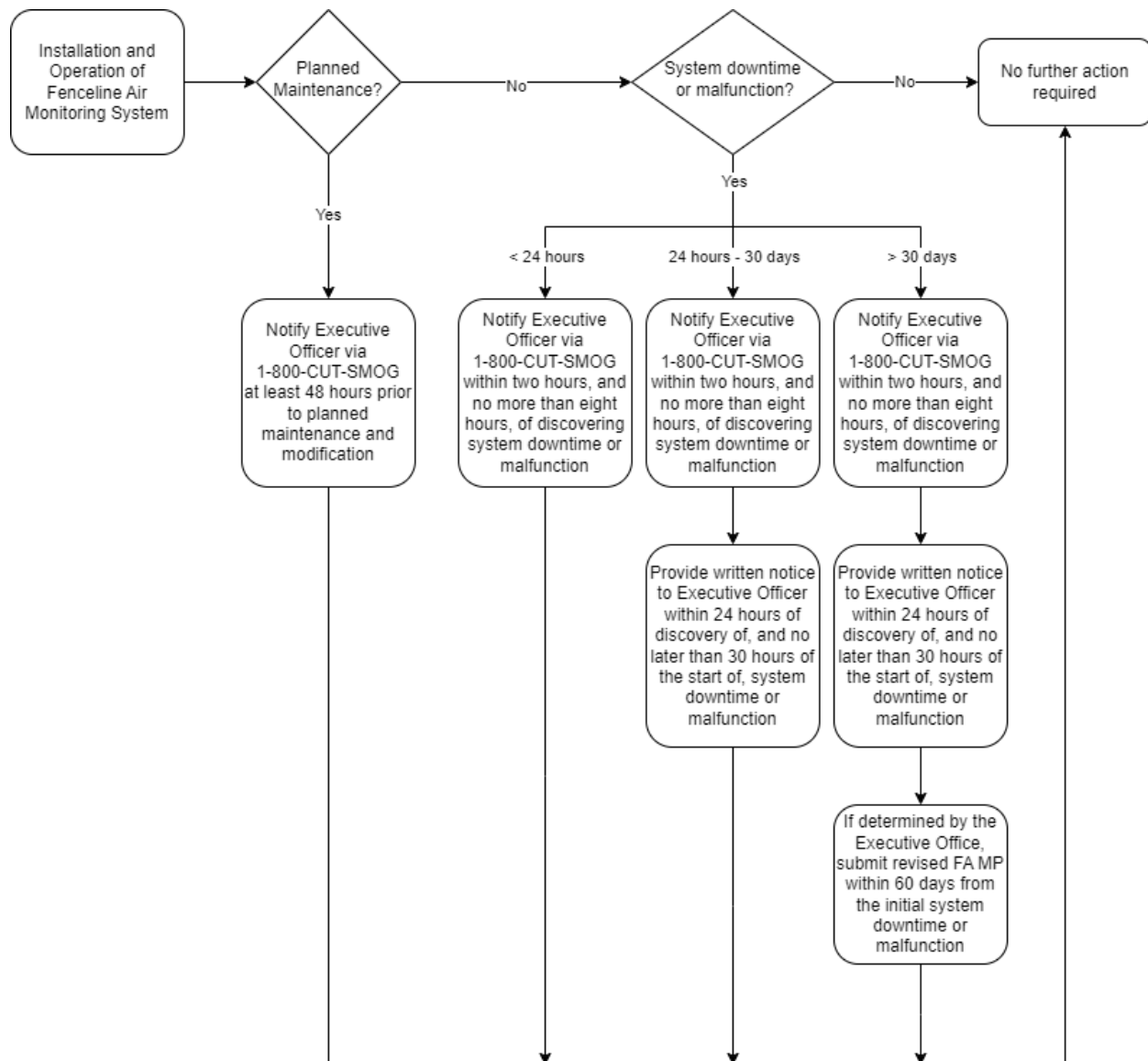
Subdivision (i) requires facilities to notify the Executive Officer about downtimes and malfunctions of the fenceline air monitoring system. This also includes downtimes and malfunctions of the web-based system.

The owner or operator must call 1-800-CUT-SMOG® to notify the Executive Officer:

1. At least 48 hours prior to a planned maintenance or modification. The notification must include the facility name, name of monitor, and planned date(s) of occurrence(s) must be provided.
2. Within two hours, and no more than eight hours, of the start of downtime or malfunction, of discovering that fenceline air monitoring system described in the FAMP fails to provide Real-Time monitoring information for more than one hour. The notification must include the facility name, the part(s) of the impacted fenceline air monitoring system, the impacted data, the date(s) and time(s) of the occurrence(s), and the reason for the lapse in collecting and/or reporting the real-time air monitoring information.

Written notification to the Executive Officer is required if the fenceline air monitoring system downtime or malfunction lasts 24 hours or longer. The written notification must be submitted to the Executive Officer within 24 hours of discovery and no more than 30 hours from the start of the fenceline air monitoring system downtime or malfunction. Subparagraphs (i)(2)(A), (i)(2)(B), and (i)(2)(C) of PAR 1180 lists the information needed in the written notification. A revised FAMP must be submitted to the Executive Officer if the fenceline air monitoring system described in the FAMP fails to provide continuous, real-time monitoring information for more than 30 consecutive calendar days. An updated FAMP must be submitted no later than 60 calendar days from the initial fenceline air monitoring system downtime or malfunction. (See PAR 1180(e)(4)(D).)

The definition of a “Fenceline Air Monitoring System” in the rule includes the equipment that measures and records air pollutant concentrations and the data systems that process and store historical data; and public web-based fenceline data display and notification systems where data are displayed and through which public fenceline notifications are issued. Therefore, a data system or fenceline notification system failure, downtime, or malfunction will be subject to the same notification requirement for equipment failure. A summary of the notifications required for fenceline air monitoring system failure is detailed in the figure below Figure 3-2: Overview of Process for Notifications for .



**Figure 3-2: Overview of Process for Notifications for Fenceline Air Monitoring System Downtime or Malfunction**

### PAR 1180 (j) – Independent Audits

Subdivision (j) is separated into the following categories and their corresponding paragraphs:

1. Independent audit requirements (j)(1) and (j)(2),
2. Independent audit schedule (j)(3),
3. Corrective action plan development and submittal (j)(4),
4. Corrective action plan approval process (j)(5),
5. Follow-up independent audit (j)(6),

6. Revised FAMP (j)(7), and
7. Plan review fees (j)(8)

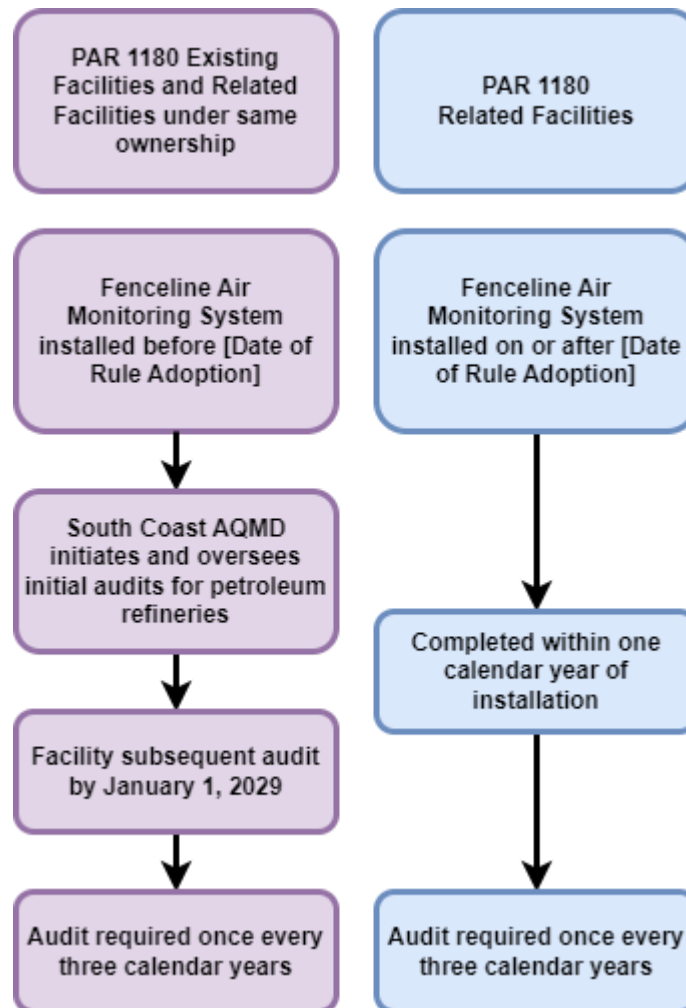
South Coast AQMD will oversee an initial audit for the fenceline monitoring system at petroleum refineries. This initial audit is not covered by rule language. Based on the results of a Request for Proposals (RFP), South Coast AQMD selected a qualified contractor to develop an auditing protocol and implement the first independent audit of all existing Rule 1180 fenceline air monitoring systems.

Current facility owners or operators must cause an independent audit of their fenceline air monitoring systems to be conducted and completed according to an audit protocol approved by the Executive Officer. The independent audit shall be conducted by a qualified independent party, who will identify any deficiencies in the fenceline air monitoring system and quality assurance procedures and document the findings in an audit report. A qualified independent party for an independent audit must be a party that has relevant technical expertise in fenceline air monitoring systems but was not employee of the facility nor involved in the installation or operation of the fenceline monitoring system at the refinery. (Note, an installer or operator of a fenceline air monitoring system could be considered a qualified independent party conducting a root cause analysis pursuant to subdivision (j).)

The audit report must be submitted to the Executive Officer and made available to the web-based fenceline data display and notification system within 90 calendar days after the audit has been completed.

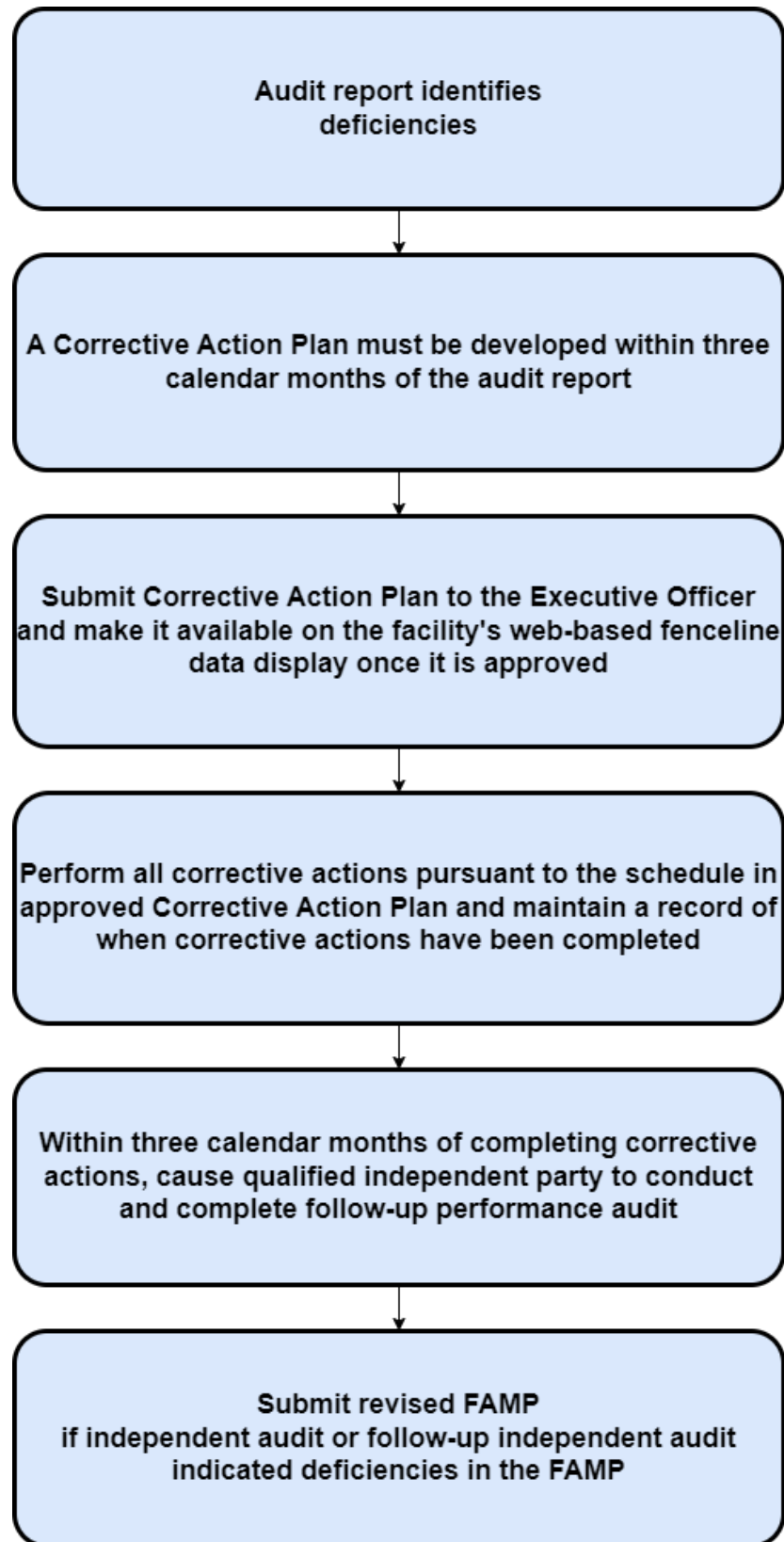
There are separate schedules depending on the fenceline air monitoring system installation data and operations related to a facility, summarized bFigure 3-3below. Additional time will be allowed for related facilities that did not have fenceline air monitoring systems installed prior to this rule amendment. In addition, there are considerations for related facilities with the same parent company as a petroleum refinery that already operates a fenceline air monitoring system. For those facilities, the petroleum refinery will follow the same schedule as all facilities with fenceline air monitoring systems installed prior to rule adoption. Once the fenceline air monitoring systems have been installed at their related facilities, the audit schedule will align with the audit schedule for petroleum refinery. Staff did not want to have the petroleum refinery and their related terminals or SRP on different audit schedules, so the fenceline air monitoring systems must be reviewed as one large system.





**Figure 3-3: PAR 1180 Independent Audit Schedule**

If the independent audit report identifies deficiencies, the facility owner or operator must develop a corrective action plan. The plan must address all deficiencies, unless corrective action would negatively affect safety. In that case, the facility may ask for an exemption from corrective action. Figure below summarizes the requirements for the corrective action plan.



**Figure 3-4: Summary of Corrective Action Plan Development, Approval, and Post-Approval Actions**

The Executive Officer will notify the owner or the operator of a facility in writing whether a corrective action plan is approved or disapproved. If disapproved, the facility is required to submit a revised corrective action plan within 14 calendar days after notification of disapproval of the corrective action plan. Deficiencies outlined in the disapproval letter must be addressed and included in the revised corrective action plan. If the owner or operator, however, does not respond to the disapproval letter within 30 calendar days, the Executive Officer will modify and approve it as modified.

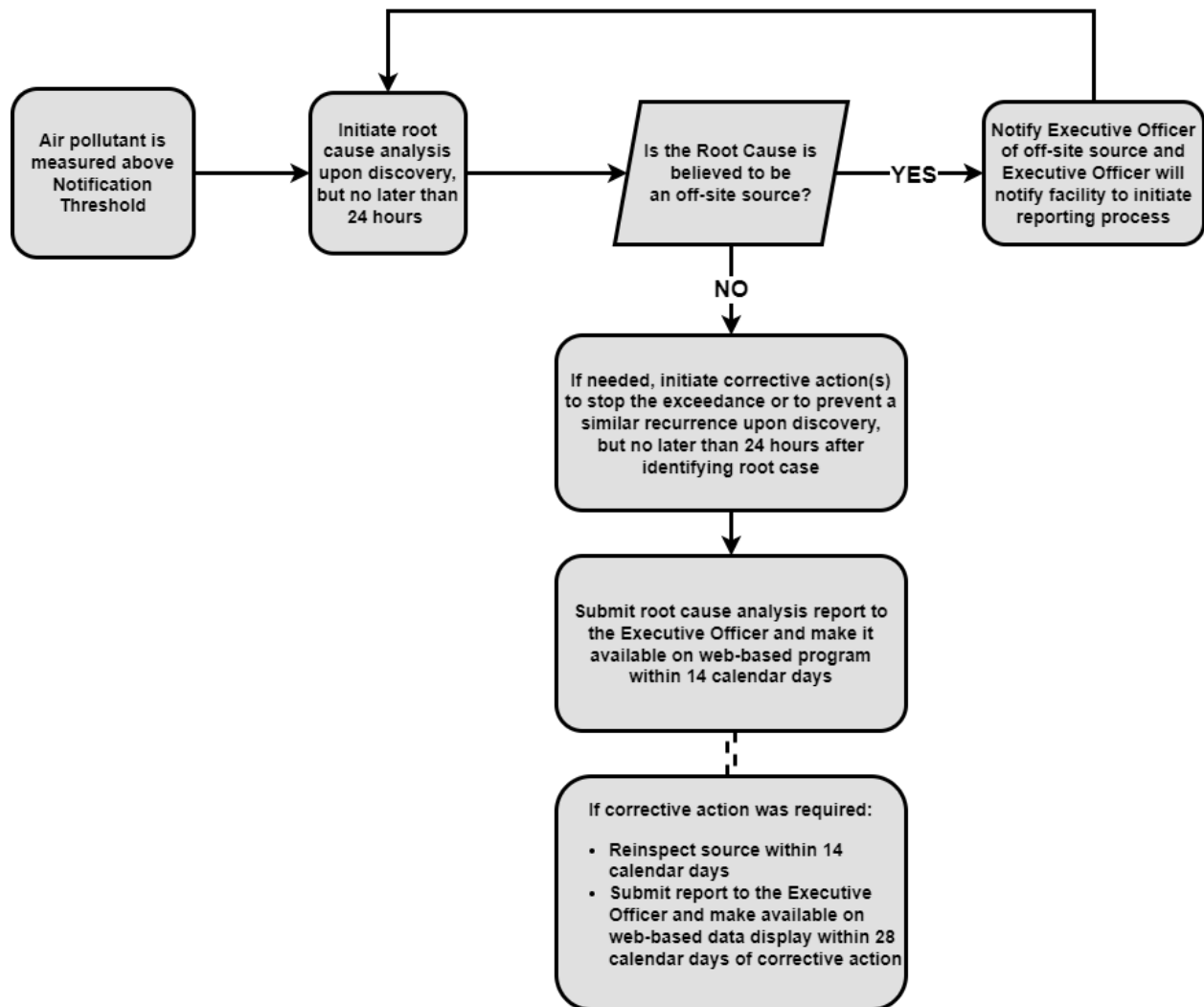
Within three calendar months of completing all corrective actions, the owner or operator of a facility must cause a follow-up independent audit and audit report. This audit report must be signed by the qualified independent party that the statements in the audit report and all attachments and materials are true, accurate, and complete. In addition, the audit report must be submitted to the Executive Officer and made available on the web-based fenceline data display and notification system within 90 calendar days after the follow-up audit has been performed. If the follow-up independent audit identifies more deficiencies, a corrective action plan must be developed and approved according to the corrective action plan development process in paragraph (j)(4) and approval process in paragraph (j)(5).

If the independent audit identifies deficiencies in the FAMP, the owner or operator of the facility must submit a revised FAMP to the Executive Officer within 60 calendar days according to subparagraph (e)(4)(E)

#### **PAR 1180 (k) – Recordkeeping, Reporting, and Root Cause Analysis**

Subdivision (k) requires the facility to keep five calendar years of records for all information required in this rule and requires the information to be made available to the Executive Officer upon request. Records for at least the two most recent years must be kept onsite.

Figure 3-5 below summarizes the requirements for the root cause analysis when an air pollutant listed in Table 1 is measured above the notification threshold on a facility fenceline air monitoring system.



**Figure 3-5: Root Cause Analysis Process Flow**

The root cause analysis must be initiated upon discovery, but no later than 24 hours of the measured exceedance, where the source(s) of the air pollutant must be determined using techniques such as: visual inspection, optical gas imaging, leak inspection using EPA Method 21, and/or any other test or monitoring method approved by the Executive Officer. Corrective actions must also be initiated, if possible, upon discovery, but no later than 24 hours of the measured exceedance.

If the source of the exceedance is determined to be an off-site source, the facility must notify the Executive Officer by calling 1-800-CUT SMOG® no later than 24 hours of determination of cause and provide the basis of the determination. The Executive Officer will notify the responsible facility. If the responsible facility is a PAR 1180 facility, it must initiate the root cause analysis process outlined in subparagraph (k)(3)(A), (k)(3)(B), and (k)(3)(C). The owner or operator of the Facility shall: 1) initiate a root cause analysis within 24 hours of being notified their facility is the cause of the air pollutant emissions, 2) initiate corrective actions, if applicable, no later than 24 hours of identifying the root cause, and 3) submit a root cause analysis report to the South Coast

AQMD and make it available on the web-based program within 14 calendar days of identifying the root cause.

The root cause analysis report prepared by the responsible party must be submitted to the Executive Officer and made available on the web-based program within 14 calendar days of identifying the root cause. Subparagraph (k)(2)(D) lists what the root cause analysis report must include at a minimum.

If the root cause analysis required corrective action, the owner or operator of a facility must conduct a reinspection of the source within 14 calendar days of the corrective action. Subsequently, the owner or operator of the facility must submit the reinspection report to the Executive Officer and make the report available on the refinery fenceline monitoring webpage within 28 calendar days of the corrective actions.

One event is defined as an instance where an air pollutant in Table 1 is measured above the applicable notification threshold on a facility fenceline air monitoring system within a seven-calendar-day period. If three separate events that require root cause analyses within the same calendar year indicate the same cause, or the cause cannot be determined, for the same air pollutant by the same monitor of the fenceline air monitoring system, the owner or operator of the facility shall cause a qualified independent party within 14 calendar days to conduct a root cause analysis of the most recent occurrence. A root cause analysis may involve installation of additional, temporary monitors to identify the source of the air pollutants. The qualified independent party must have relevant technical expertise in refinery operations or fenceline air monitoring systems. The root cause analysis shall determine the corrective actions that could prevent recurring exceedances of the air pollutant threshold. Similarly, the root cause analysis report must be certified by a qualified independent party and submitted to the Executive Officer within 14 calendar days of the root cause analysis that was conducted. If there are corrective actions, they must be initiated as soon as practicable, but no later than 24 hours. Additionally, a reinspection of the source must be completed within 14 calendar days of the corrective action and a report of the corrective actions and root cause analysis must be submitted to the Executive Officer and posted on the refinery fenceline monitoring webpage within 28 calendar days of the corrective action.

Quarterly reports are an existing requirement specified by the existing guidelines. Current Rule 1180 facilities are posting the quarterly reports on their data display websites. For streamlining, staff moved the specifications to the rule and require a report due date 60 calendar days after the conclusion of each quarter.

### **PAR 1180 (l) – Community Air Monitoring Fees**

Subdivision (l) lists the fees associated with the installation of a refinery-related community air monitoring system in addition to permit and other fees authorized to be collected. Petroleum refineries have paid the phase one and phase two fees pursuant to existing requirements. These existing requirements have been deleted from PAR 1180 as they have been met. PAR 1180 provides the new required fees that addresses the cost of installing new community air monitors. Petroleum refineries must pay the fee no later than January 1, 2025. Related facilities must pay the fees by two phases, no later than January 1, 2025, for phase one implementation and January 1, 2016, for phase two implementation. Petroleum refineries are responsible for paying fees for themselves and their related facilities as stated in the requirements in subdivision (l). For instance, Tesoro Refining and Marketing Company, LLC is responsible to pay fees for the petroleum refineries, Tesoro Carson (Facility ID 174655) and Tesoro Wilmington (Facility ID 800436), and

their related facilities, Tesoro SRP (Facility ID 151798) and Tesoro Carson Crude Terminal (Facility ID 174694). Annual operating and maintenance fees for the community air monitoring system are to be paid pursuant to Rule 301. For existing Rule 1180 facilities, annual operating and maintenance fees are already included in Rule 301. Once the additional community monitoring systems are installed to support the related facilities, Rule 301 will be amended to include annual operating and maintenance fees for the PAR 1180 related facilities. Note, these fees are paid in addition to permit and other fees otherwise authorized to be collected from such facilities. Table below specifies the fees to be paid by each facility.

The detailed fee for existing petroleum refineries air monitoring station upgrades (PAR 1180 Table 2), full station for PAR 1180 related facilities, and VOC/H2S community air monitoring station are detailed in the table below:

**Table 3-2: PAR 1180 Refinery-Related Community Air Monitoring System Itemized Fees**

	PAR 1180 Petroleum Refineries	PAR 1180 Related Facilities Full Station	PAR 1180 Related Facilities VOC/H2S
<b>PM Analyzers</b>	\$60,000	\$60,000	N/A
<b>Optical Multi Pollutant Analyzers</b>	N/A	\$250,000	\$250,000
<b>Metal Monitor</b>	\$220,000	N/A	N/A
<b>H2S Analyzer</b>	N/A	20,000	20,000
<b>BC Analyzer</b>	N/A	N/A	N/A
<b>Auto Gas Chromatography</b>	N/A	\$80,000	\$80,000
<b>Met Station</b>	N/A	\$20,000	\$20,000
<b>Data System</b>	\$10,000*	\$30,000	\$30,000
<b>Zero Air Generator</b>	N/A	\$10,000	\$10,000
<b>Dilution System</b>	N/A	\$15,000	\$15,000
<b>Installation Labor cost</b>	\$19,728	\$32,993	\$28,912
<b>South Coast AQMD Staff Labor cost</b>	\$66,868	\$111,830	\$97,996
<b>Site Preparation</b>	N/A	\$140,000	\$140,000
<b>Total</b>	<b>\$376,596</b>	<b>\$769,824</b>	<b>\$691,907</b>

\*Data system upgrade

**Table 3-3: PAR 1180 Refinery-Related Community Air Monitoring System Fees**

<b>Facility ID</b>	<b>Facility Name</b>	<b>Location</b>	<b>Number of Community Air Monitoring Stations</b>	<b>Fees Due no later than January 1, 2025</b>
<b>174655</b>	Tesoro Carson	Carson	2	\$753,192
<b>800436</b>	Tesoro Wilmington	Wilmington	1	\$376,596
<b>800030</b>	Chevron (El Segundo)	El Segundo	2	\$753,192
<b>171109</b>	Phillips 66 Company (Carson)	Carson	1	\$376,596
<b>171107</b>	Phillips 66 Company (Wilmington)	Wilmington	1	\$376,596
<b>181667</b>	Torrance Refining Company (Torrance)	Torrance	2	\$753,192
<b>800026</b>	Valero (Ultramar Inc.)	Wilmington	1	\$376,596

**Table 3-4: PAR 1180 Related Community Air Monitoring System Fees for Related Facilities**

Facility ID	Facility Name (Permit Name)	Location	Number of Community Air Monitoring Stations	Effective Date and Fee Requirement	
				No later than January 1, 2025	No later than January 1, 2026
3417	Air Products Carson (Air Prod & Chem Inc.)	Carson	1/3 full station	\$76,982	\$179,626
101656	Air Products Wilmington (Air Products and Chemicals Inc.)	Wilmington	1/3 full station	\$76,982	\$179,626
151798	Tesoro SRP (Tesoro Refining and Marketing Company, LLC)	Carson	1/3 full station	\$76,982	\$179,626
800057	Kinder Morgan (Kinder Morgan Liquids Terminals, LLC)	Carson	1/2 VOC+H2S station	\$104,882	\$244,724
174694	Tesoro Carson Terminal (Tesoro Logistics, Carson Crude Terminal)	Carson	1/2 VOC+H2S station	\$104,882	\$244,724

### PAR 1180 (m) – Compliance

Subdivision (m) clarifies that the petroleum refinery is ultimately the responsible party when it comes to complying with the requirements of the rule for the related facilities with the same board of directors or parent corporation as the petroleum refinery. That means the petroleum refinery will not only include their related facilities in the revised FAMP, but also will comply with the data display, notification, reporting, notification, independent audit, and all other requirements that are applicable to their related facilities. In addition, once a FAMP is approved or partially approved by the Executive Officer, the owner or operator of a facility must comply with all portions of the FAMP.



### PAR 1180 (n) – Exemptions

The exemption subdivision includes exemptions to some or all provisions in the rule. The following parties are exempt from PAR 1180:

1. An owner or operator of a refinery subject to Rule 1180.1 as staff developed Rule 1180.1 to include requirements for the smaller refineries;
2. An owner or operator of a terminal with a total tank storage capacity less than 310,000 barrels which has low reported annual emissions discussed in Chapter 2 for the applicability; and
3. An owner or operator of a related facility located entirely within the boundary of a petroleum refinery, given the entire fenceline of their facilities are within the petroleum refinery's existing real-time fenceline air monitoring system.

There is also a limited exemption included to allow for downtime of an existing fenceline air monitoring systems if the downtime is needed to install new monitoring technologies required in this amendment.

1. An owner or operator of a facility is exempt from operating the fenceline air monitoring systems if the operation of existing fenceline air monitoring equipment is disrupted by the required installation of new fenceline air monitoring equipment to measure any air pollutant in Table 1 that was not addressed in the facility's previous FAMP and complies with the notification requirement pursuant to subdivision (h) for 96 hours in a calendar year.

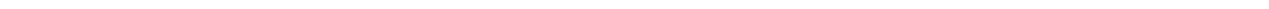
Also included in the subdivision are several air pollutants that facilities do not need to monitor for as they are not emitted from their facilities. Based on the discussion in Chapter 2, the following parties are exempt from monitoring one or more compounds from Table 1 as listed below:

1. An owner or operator of a facility is exempt from monitoring hydrogen fluoride if hydrogen fluoride is not used or stored at the facility. This is not a new exemption, previously it was a footnote to Table 1;
2. An owner or operator of a related facility is exempt from monitoring black carbon and metal compounds (cadmium, manganese, and nickel); and
3. An owner or operator of a terminal is exempt from monitoring all the compounds in Table 1, besides volatile organic compounds (VOCs) and hydrogen sulfide.

## CHAPTER 4: PROPOSED RULE 1180.1

INTRODUCTION

PROPOSED RULE 1180.1



## INTRODUCTION

PR 1180.1 holds several parallels to PAR 1180 since PR 1180.1 was developed to address refineries exempt by the original Rule 1180 adopted December 1, 2017. The original Rule 1180 exempted refineries that had a maximum capacity of processing less than 40,000 barrels per day of crude oil. PR 1180.1 will apply to smaller refineries and refineries processing alternative feedstocks, regardless of the throughput capacity. The differences between the two rules are summarized in Table 4-1.

**Table 4-1: Summary of Differences Between PAR 1180 and PR 1180.1**

Subdivision	Title	Difference from PAR 1180
<b>a</b>	Purpose	None
<b>b</b>	Applicability	Applies to smaller refineries that refine crude oil, Alternative Feedstocks, or both
<b>c</b>	Definitions	Includes Alternative Feedstock, Refine, and Refinery
<b>d</b>	Plan Requirements	None
<b>e</b>	Plan Submittal Deadlines	Timeline for plan submittals
<b>f</b>	Fenceline Air Monitoring Compliance Schedule	Installation schedule
<b>g</b>	Plan Review Process	None
<b>h</b>	Web-based Fenceline Data Display and Notification Program	None
<b>i</b>	Notifications to the Executive Officer for Fenceline Air Monitoring System Downtime	None
<b>j</b>	Independent Audit	None
<b>k</b>	Recordkeeping, Reporting, and Root Cause Analysis	None
<b>l</b>	Community Air Monitoring Fees	Fee schedule
<b>m</b>	Compliance	Does not include the reference to related facilities
<b>n</b>	Exemptions	PAR 1180 Refineries are exempt
<b>Table 1</b>	Air Pollutants and Notification Thresholds to be Addressed by FAMPs	Metals and Black Carbon not required for 1180.1 facilities
<b>Table 2</b>	Refinery-Related Community Air Monitoring System Fees	Specifies the fees for each PR 1180.1 facility

## PROPOSED RULE 1180.1

The differences between PAR 1180 and PR 1180.1 are discussed below. Several key concepts are derived from PAR 1180 and modified for PR 1180.1 refineries.

### PR 1180.1 (a) – Purpose

The purpose of PR 1180.1 is the same as PAR 1180.

### PR 1180.1 (b) – Applicability

One key difference between PAR 1180 and PR 1180.1 is the applicability provision. PR 1180.1 applies to Refineries that refine crude oil, alternative feedstocks, or both crude oil and alternative feedstocks. PR 1180.1 does not apply to Facilities subject to PAR 1180. In short, the intention of PR 1180.1 is to apply to the facilities exempted by PAR 1180. Table 2-3Chapter 2 lists the refineries that will be subject to PR 1180.1.

### PR 1180.1 (c) – Definitions

PR 1180.1 definitions include asphalt plant, alternative feedstock, refine, and refinery, which help differentiate the applicability provisions of PR 1180.1 and PAR 1180.

### Requirements

Similar to PAR 1180, PR 1180.1 subdivisions (d) through (k) establish requirements for fenceline air monitoring plan submittal, the fenceline air monitoring system, the air monitoring plan review process, web-based fenceline data display and notification program, notifications to the Executive Officer for Fenceline Air Monitoring System downtime, independent audits, recordkeeping and reporting, community air monitoring fees, and exemptions. As summarized in Table 4-1, PR 1180.1 is identical with PAR 1180 for majority of the requirements. The sections below discuss the key differences between PR 1180.1 and PAR 1180, which are the provisions on schedules for plan submittal, installation, and fees.

### PR 1180.1 (e) – Plan Submittal Deadlines

PR 1180.1 refineries are all new facilities without an existing FAMP. They have 12 calendar months from [Date of Rule Adoption] to submit a FAMP (the initial FAMP). For future revisions of an existing FAMP for planned or unplanned administration or equipment changes, or deficiencies identified, the required timelines for PR 1180.1 refineries are the same as for PAR 1180 facilities.

### PR 1180.1 (f) – Fenceline Air Monitoring System Installation Compliance Schedule

PR 1180.1 refineries would have up to 24 calendar months after their new FAMP is approved or partially approved to complete installation and begin operation of a real-time fenceline air monitoring system. If a FAMP revision is required pursuant to paragraph (e)(2), PR 1180.1 refineries shall complete installation no later than six calendar months after the Executive Officer approves or partially approves a revised FAMP.

Refineries subject to PR 1180.1 are granted additional installation time compared to PAR 1180 facilities. PR 1180.1 refineries will be designing and installing fenceline air monitoring systems for the first time. Establishing these installations and ensuring their effectiveness presents a considerable challenge, unlike PAR 1180 facilities, which already have established systems in place.

### PR 1180.1 (l) – Community Air Monitoring Fees

Subdivision (l) provides two implementation phases and deadlines for when Refineries must submit payment to the South Coast AQMD. The implementation has been divided into two phases to spread out the cost for a facility, similar approach to the fees specified in 2017 for existing petroleum refineries. The Phase 1 implementation fee can cover the capital investment of the equipment and site preparation, while the Phase 2 implementation fee will fund the rest of the installation. Phase One implementation requires a minimum payment to be made to the South Coast AQMD no later than January 1, 2025. Phase Two implementation requires the remaining balance to be paid to South Coast AQMD no later than January 1, 2026. The combined cost of Phase One and Phase Two for each facility is the estimated cost for one community monitoring station. PR 1180 Table 2 lists the Phase One and Phase Two fees for each refinery. Note, the community air monitoring fees required by paragraph (l)(1) are in addition to permit and other fees authorized to be collected from refineries.

The detailed fee for PR 1180.1 refineries community air monitoring station upgrades (PR 1180.1 Table 2), are detailed in the table below:

**Table 4-2: PAR 1180 Refinery-Related Community Air Monitoring System Itemized Fees**

PR 1180.1 Refineries	
<b>PM Analyzers</b>	\$60,000
<b>Optical Multi Pollutant Analyzers</b>	\$250,000
<b>Metal Monitor</b>	N/A
<b>H2S Analyzer</b>	\$20,000
<b>BC Analyzer</b>	N/A
<b>Auto Gas Chromatography</b>	\$80,000
<b>Met Station</b>	\$20,000
<b>Data System</b>	\$30,000
<b>Zero Air Generator</b>	\$10,000
<b>Dilution System</b>	\$15,000
<b>Installation Labor cost</b>	\$32,993
<b>South Coast AQMD Staff Labor cost</b>	\$111,830
<b>Site Preparation</b>	\$140,000
<b>Total</b>	<b>\$769,823</b>

**Table 4-3: PR 1180.1 Community Air Monitoring Fees**

Facility ID	Facility Name	Location	Phase One Implementation (No later than January 1, 2025)	Phase Two Implementation (No later than January 1, 2026)
187165	AltAir Paramount (Paramount)	Paramount	\$230,947	\$538,876
800080	LTR dba World Oil Refining (South Gate)	South Gate	\$230,947	\$538,876
800393	Valero Wilmington Asphalt Plant (Wilmington)	Wilmington	\$230,947	\$538,876

**PR 1180.1 (m) – Compliance**

Once a FAMP is approved or partially approved by the Executive Officer, the owner or operator of a Facility must comply with all portions of the FAMP.

**PR 1180.1 (n) – Exemptions**

Petroleum refineries subject to PAR 1180 are exempt from PR 1180.1. Additionally, the owner or operator of a refinery is exempt from the requirement of operating a real-time fenceline air monitoring system for 96 hours if new fenceline air monitoring equipment is installed to address any air pollutant in Table 1 or the facility complies with the notification requirement in subdivision (i). This situation could occur if real-time PAH monitoring technology became available that the refineries were required to install.

## CHAPTER 5: IMPACT ASSESSMENT

AFFECTED SOURCES

EMISSION IMPACTS

SOCIOECONOMIC IMPACT ASSESSMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE

COMPARATIVE ANALYSIS

**AFFECTED SOURCES****PAR 1180**

PAR 1180 applies to petroleum refineries and facilities with operations related to petroleum refineries located on contiguous or adjacent properties. Based on South Coast AQMD permits and information provided by facilities, there are seven petroleum refineries and several facilities with operations related to petroleum refineries that would be affected by PAR 1180 as listed in the table below.

**Table 5-1: PAR 1180 Affected Sources**

Facility ID	Facility Name	Location	Type of Facility
<b>Petroleum Refineries</b>			
174655	Tesoro Carson (Tesoro Refining & Marketing Co, LLC)	Carson	Petroleum Refinery
800436	Tesoro Wilmington (Tesoro Refining & Marketing Co, LLC)	Wilmington	Petroleum Refinery
171109	Phillips 66 Carson (Phillips 66 Company/Los Angeles Refinery)	Carson	Petroleum Refinery
171107	Phillips 66 Wilmington (Phillips 66 Company/LA Refinery Wilmington Pl)	Wilmington	Petroleum Refinery
800030	Chevron, (Chevron Products Co.)	El Segundo	Petroleum Refinery
181667	Torrance (Torrance Refining Company LLC)	Torrance	Petroleum Refinery
800026	Valero (Ultramar Inc.)	Wilmington	Petroleum Refinery
<b>Related Facilities</b>			
151798	Tesoro SRP (Tesoro Refining & Marketing Co, LLC)	Carson	Related Operations
101656	Air Products Wilmington (Air Products and Chemicals)	Wilmington	Related Operations
3417	Air Products Carson (Air Products and Chemicals)	Carson	Related Operations
174694	Tesoro Logistics, Carson Crude Terminal	Carson	Related Operations
800057	Kinder Morgan Liquids Terminal LLC	Carson	Related Operations



PR 1180.1 applies to refineries that refine crude oil, alternative feedstocks, or both crude oil and alternative feedstocks that are not subject to PAR 1180. Based on South Coast AQMD permits, there are three refineries that would be affected by PR 1180.1:

**Table 5-2: PR 1180.1 Affected Sources**

Facility ID	Facility Name	Location	Type
800393	Valero Wilmington Asphalt Plant	Wilmington	Asphalt Plant
800080	LTR dba World Oil Refining	South Gate	Asphalt Plant
187165	AltAir Paramount LLC	Paramount	Alternative Feedstock

## EMISSION IMPACTS

PAR 1180 and PR 1180.1 do not directly reduce emissions from facilities. However, even though quantifiable emissions reduction will not result from the rules, indirect emissions benefits may be realized. Indirect emissions reductions are achieved through early detection of leaks or malfunctions and quick action to control such fugitive emissions or make corrections.

## SOCIOECONOMIC IMPACT ASSESSMENT

A socioeconomic impact assessment will be conducted and released for public review and comment at least 30 calendar days prior to the South Coast AQMD Governing Board Hearing on PAR 1180 and PR 1180.1, which is anticipated to be heard on January 5, 2024 (subject to change).

## CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (PAR 1180 and PR 1180.1) is exempt from CEQA pursuant to CEQA Guidelines Sections 15061(b)(3) and 15306. Further, there is no substantial evidence indicating that any of the exceptions in CEQA Guidelines Section 15300.2 apply to the proposed project. A Notice of Exemption will be prepared pursuant to CEQA Guidelines Section 15062, and if the proposed project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Planning and Research.

## DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE

### Requirements to Make Findings

Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report.

### Necessity

There is a need to adopt PAR 1180 and PR 1180.1 to address issues identified in the SJVAPCD and South Coast AQMD lawsuits, by removing the 40,000-bpd exemption, and including facilities with operations related to petroleum refineries located on contiguous or adjacent properties and refineries that refine alternative feedstocks. PAR 1180 and PR 1180.1 are also needed to provide more specifications on the compliance schedule, web-based fenceline data display and notification program, independent audits, and quarterly reports. Further, PAR 1180 and PR 1180.1 are needed to set notification thresholds for several new air pollutants and air pollutants with historical fenceline monitoring data and require root cause analysis of threshold exceedances and corrective action and community air monitoring fees for new facilities.

### Authority

The South Coast AQMD Governing Board has authority to adopt PAR 1180 and PR 1180.1 pursuant to Health and Safety Code Sections 40000, 40001, 40440, 40441, 40702, 40725 through 40728, 41508, 41700 and 42705.6.

### Clarity

PAR 1180 and PR 1180.1 are written or displayed so that its meaning can be easily understood by the persons directly affected by it.

### Consistency

PAR1180 and PR 1180.1 are in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

### Non-Duplication

PAR1180 and PR 1180.1 do not impose the same requirements as any existing state or federal regulation and is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

### Reference

By adopting PAR 1180 and PR 1180.1, the South Coast AQMD Governing Board will be implementing, interpreting, or making specific the provisions of the Health and Safety Code Sections 39002, 40001, 40702, and 42705.6 (refinery air monitoring) and Federal Clean Air Act Section 116 (Retention of State authority).

## INCREMENTAL COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires an incremental cost-effectiveness analysis for Best Available Retrofit Control Technology (BARCT) rules or emission reduction strategies when there is more than one control option that would achieve the emission reduction objective of the proposed amendments, relative to ozone, carbon monoxide, sulfur oxides, NOx, and their precursors. PAR 1180 and PR 1180.1 do not include new BARCT requirements; therefore, this provision does not apply to the proposed project.

### **COMPARATIVE ANALYSIS**

Health and Safety Code Section 40727.2 requires a comparative analysis when South Coast AQMD proposes to adopt, amend, or repeal a rule or regulation. The comparative analysis is made relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines that apply to the same equipment or source type. As such, a comparative analysis for PAR 1180 and PR 1180.1 is provided in the following tables.

**Table 5-3: Comparison of PAR 1180 and PR 1180.1 with Health and Safety Code § 42705.6 and U.S. EPA 40 CFR § 63.658**

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
<b>Applicability</b>	– Petroleum refineries and related facilities.	– Refineries that refine crude oil, alternative feedstocks, or both crude oil and alternative feedstocks (facilities exempted by PAR 1180)	– Petroleum Refineries	– Petroleum refineries that are a major source as defined by section 112(a) of the Clean Air Act; and emit or have equipment containing or contacting one or more specified hazardous air pollutants
<b>Required air pollutants for monitoring</b>	– Sulfur dioxide, nitrogen oxides, PM10, PM2.5, total VOCs, formaldehyde, acetaldehyde, acrolein, 1,3 butadiene, naphthalene, PAHs, styrene, benzene, toluene, ethylbenzene, xylenes, metals (cadmium, manganese, nickel), hydrogen sulfide, carbonyl sulfide, ammonia, black carbon, hydrogen cyanide, hydrogen fluoride	– Sulfur dioxide, nitrogen oxides, PM10, PM2.5, total VOCs, formaldehyde, acetaldehyde, acrolein, 1,3 butadiene, naphthalene, PAHs, styrene, benzene, toluene, ethylbenzene, xylenes, hydrogen sulfide, carbonyl sulfide, ammonia, hydrogen cyanide	– Not specified (compounds emitted to the atmosphere from refinery processes, as determined by the district; in accordance with guidance developed by the district)	– Benzene

<sup>15</sup> Health and Safety Code § 42705.6, available at: <https://codes.findlaw.com/ca/health-and-safety-code/hsc-sect-42705-6/#>

<sup>16</sup> US EPA 40 CFR § 63.658, July 2022, available at: <https://www.govinfo.gov/content/pkg/CFR-2022-title40-vol12/pdf/CFR-2022-title40-vol12-sec63-658.pdf>

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
<p><b>Plan Requirements</b></p>	<ul style="list-style-type: none"> <li>- A facility shall revise an existing Fenceline Air Monitoring Plan (FAMP) or shall prepare a FAMP in accordance with the Rule 1180 and Rule 1180.1 Fenceline Air Monitoring Plan Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>- Same requirements as PAR 1180</li> </ul>	<ul style="list-style-type: none"> <li>- A district shall design, develop, install, operate, and maintain the refinery-related community air monitoring system, which shall be operated and maintained in accordance with guidance from the appropriate district</li> <li>- The refinery-related community air monitoring system shall include equipment capable of measuring compounds emitted to the atmosphere from refinery processes, as determined by the appropriate district</li> <li>- On or before January 1, 2020, the owner or operator of a petroleum refinery shall develop, install, operate, and maintain a fence-line monitoring system in accordance with guidance developed by the appropriate district</li> </ul>	<ul style="list-style-type: none"> <li>- The owner of operator must develop and submit a site-specific monitoring plan for approval according to the requirements in paragraph (i) of this section</li> </ul>

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
<p><b>Plan Submittal Deadline</b></p>	<ul style="list-style-type: none"> <li>– No later than seven calendar months after [Date of Rule Adoption] for a petroleum refinery with an existing FAMP to update their systems or include new related facilities with common ownership</li> <li>– No later than 12 calendar months after [Date of Rule Adoption] for a facility without an existing FAMP</li> <li>– Ten to sixty calendar days to submit a revised FAMP addressing issues specified in the rule, which include planned and unplanned modification, system malfunction, and deficiency identified by independent audit or root cause analysis</li> </ul>	<ul style="list-style-type: none"> <li>– Submit to the Executive Officer a written FAMP No later than one year after [Date of Rule Adoption], or at least one year prior to commencing operations at a new refinery</li> <li>– Same FAMP requirements as PAR 1180</li> </ul>	<ul style="list-style-type: none"> <li>– No provision</li> </ul>	<ul style="list-style-type: none"> <li>– No provision</li> </ul>

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
<p><b>Monitoring Technologies or Test Methods</b></p>	<p>Real-time monitoring (e.g., measurement every 5-minute) using:</p> <ul style="list-style-type: none"> <li>- Point monitors measuring black carbon, hydrogen sulfide, PM/PM2.5, and metals</li> <li>- Open-Path technologies including Fourier-transform infrared spectroscopy (FTIR) and Ultra-Violet Differential Optical Adsorption Spectrometer (UV-DOAS) for other air pollutants</li> </ul>	<p>Real-time monitoring (e.g., measurement every 5-minute) using:</p> <ul style="list-style-type: none"> <li>- Point monitors measuring, hydrogen sulfide, and PM/PM2.5</li> <li>- Open-Path technologies including Fourier-transform infrared spectroscopy (FTIR) and Ultra-Violet Differential Optical Adsorption Spectrometer (UV-DOAS) for other air pollutants</li> </ul>	<ul style="list-style-type: none"> <li>- In accordance with guidance from the appropriate district</li> </ul>	<ul style="list-style-type: none"> <li>- Conduct sampling along the facility property boundary and analyze the samples in accordance with Methods 325A and 325B</li> <li>- Alternative test methods capable of real time measurements, open path instruments</li> <li>- Alternative method must be validated according to Method 301</li> </ul>
<p><b>Fenceline Air Monitoring System Installation compliance schedule</b></p>	<ul style="list-style-type: none"> <li>- Complete installation and begin operation of a real-time fenceline air monitoring system in accordance with the approved or partially approved FAMP:</li> <li>- Beginning no later than 18 calendar months after a FAMP submitted</li> <li>- No later than six calendar months after the Executive Officer approves, or partially approves, an updated FAMP</li> </ul>	<ul style="list-style-type: none"> <li>- Complete installation and begin operation of a real-time fenceline air monitoring system in accordance with the approved or partially approved FAMP:</li> <li>- Facility without an existing FAMP: no later than two calendar years after a FAMP submitted</li> <li>- Facility with an existing FAMP: no later than six calendar months after a FAMP submitted</li> </ul>	<ul style="list-style-type: none"> <li>- On or before January 1, 2020, the owner or operator of a petroleum refinery shall develop, install, operate, and maintain a fence-line monitoring system in accordance with guidance developed by the appropriate district</li> </ul>	<ul style="list-style-type: none"> <li>- By January 29, 2018 refineries are required to install fenceline air monitoring systems</li> </ul>

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
		<ul style="list-style-type: none"> <li>- Prior to commencing operations at a new Refinery</li> </ul>		
<b>Plan Review Process</b>	<ul style="list-style-type: none"> <li>- The Executive Officer shall notify the owner or operator in writing whether the FAMP is approved, partially approved, or disapproved</li> <li>- Determination of approval status for the fenceline air monitoring plan shall be based on, at a minimum, submittal of information that satisfies the criteria set forth in rule and guidelines</li> </ul>	<ul style="list-style-type: none"> <li>- Same requirements as PAR 1180</li> </ul>	<ul style="list-style-type: none"> <li>- No provision</li> </ul>	<ul style="list-style-type: none"> <li>- The EPA administrator is required to approve site-specific monitoring plans within 90 days of receipt</li> <li>- If the EPA Administrator disapproves the plan for deficiencies the petroleum refinery owner or operator is provided 90 days to re-submit the plan</li> <li>- The plan is considered approved if the EPA administrator approves the plan in writing or fails to disapprove the plan in writing</li> <li>- Approval of the site-specific plan will be based on completeness, accuracy and reasonableness of the request</li> </ul>
<b>Web-based Fenceline Data Display and Notification Program</b>	<ul style="list-style-type: none"> <li>- Maintain a web-based fenceline data display and notification program to display, store, which includes at least five calendar years of data and shall, at a minimum:</li> <li>- Automatically generate and issue a notification no longer</li> </ul>	<ul style="list-style-type: none"> <li>- Same requirements as PAR 1180</li> </ul>	<ul style="list-style-type: none"> <li>- The district and the owner or operator of a petroleum refinery shall collect real-time data from the refinery-related community air monitoring system and the fence-line monitoring system and shall maintain records of</li> </ul>	<ul style="list-style-type: none"> <li>- No provision</li> </ul>



Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
	<p>than 15 minutes after any air pollutant listed in Table 1 exceeds the applicable notification thresholds</p> <ul style="list-style-type: none"> <li>- Include a mechanism for public to opt-in to (and opt-out of) fenceline notifications</li> <li>- Send the fenceline notifications, by email and/or text message, to members of the public</li> <li>- Send follow-up notifications each time the measured concentration of the air pollutant exceeds follow-up notification threshold(s)</li> <li>- Send a follow-up notification after the air pollutant has been continuously detected at a level below the applicable Notification Threshold for 30 minutes or two consecutive measurements</li> </ul>		<p>that data. To the extent feasible, the data generated by these systems shall be provided to the public as quickly as possible in a publicly accessible format.</p>	
<p><b>Fenceline Air Monitoring System Downtime or Malfunction</b></p>	<ul style="list-style-type: none"> <li>- Upon installation and operation, a fenceline air monitoring system shall comply with the following notification requirements:                             <ul style="list-style-type: none"> <li>o Call 1-800-CUT-SMOG® to notify the Executive Officer</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Same requirements as PAR 1180</li> </ul>	<ul style="list-style-type: none"> <li>- No provision</li> </ul>	<ul style="list-style-type: none"> <li>- No provision</li> </ul>

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
	<p>within 48 hours of planned maintenance activities</p> <ul style="list-style-type: none"> <li>○ Call 1-800-CUT-SMOG to notify the Executive Officer within 2 hours of discovering that failed to accurately provide real-time air monitoring information</li> <li>– Submit a written notification to the Executive Officer of any equipment failure that also results in a failure to accurately provide continuous, real-time air monitoring information for 24 hours or longer.</li> <li>– Submit an updated FAMP to the Executive Officer if an equipment failure results in a failure to accurately provide continuous, real-time air monitoring information for more than 30 days</li> </ul>			
<b>Independent Audit</b>	<ul style="list-style-type: none"> <li>– Initiate an Independent Audit according to a protocol approved by the Executive Officer to identify any deficiencies in the Fenceline Air Monitoring System and quality assurance procedures</li> <li>– Conduct an Independent Audit no later than January 1, 2029, if Fenceline Monitoring System</li> </ul>	<ul style="list-style-type: none"> <li>– Same requirements as PAR 1180</li> </ul>	<ul style="list-style-type: none"> <li>– No provision</li> </ul>	<ul style="list-style-type: none"> <li>– No provision</li> </ul>

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
	<p>installed before [Date of Rule Adoption]</p> <ul style="list-style-type: none"> <li>– Complete within 12 calendar months after the installation and operation of the Fenceline Air Monitoring System for a Fenceline Monitoring System installed on or after [Date of Rule Adoption]</li> <li>– Corrective Action Plan to be submitted to the Executive Officer for review within three calendar months of the audit report</li> <li>– The Executive Officer shall notify the owner or operator of a facility in writing whether the Corrective Action Plan is approved or disapproved</li> <li>– If the Corrective Action Plan is disapproved, submit a revised Corrective Action Plan within 14 calendar days after notification of disapproval of the plan</li> <li>– Cause a qualified independent party conduct and complete a follow-up Independent Audit within three calendar months of completing the corrective actions</li> </ul>			

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
<b>Recordkeeping, Reporting, and Root Cause Analysis</b>	<ul style="list-style-type: none"> <li>- The owner or operator of a facility is required maintain records of all information required under this rule for at least five calendar years</li> <li>- Initiate Root Cause Analysis within 24 hours when an air pollutant listed in PAR 1180.1 Table 1 is measured above the Notification Threshold:                             <ul style="list-style-type: none"> <li>o Submit a Root Cause Analysis report to the South Coast AQMD and make it available on the web-based program within 14 calendar days</li> </ul> </li> <li>- Submit a quarterly report within 60 calendar days after the conclusion of each quarter</li> </ul>	<ul style="list-style-type: none"> <li>- Same requirements as PAR 1180</li> </ul>	<ul style="list-style-type: none"> <li>- The district and the owner or operator of a petroleum refinery shall collect real-time data from the refinery-related community air monitoring system and the fence-line monitoring system and shall maintain records of that data</li> </ul>	<ul style="list-style-type: none"> <li>- If the annual average value for benzene is greater than the action level, conduct a root cause analysis and corrective action</li> <li>- Within 5 days of determining that the action level has been exceeded for any annual average, initiate a root cause analysis</li> <li>- No longer than 50 days after completion of the sampling period, initiate a root cause analysis to determine the cause of such exceedance and to determine appropriate corrective action</li> <li>- The root cause analysis and initial corrective action analysis shall be completed and initial corrective actions taken no later than 45 days after determining there is an exceedance</li> </ul>
<b>Community Air</b>	<ul style="list-style-type: none"> <li>- Requires facilities to pay an installation fee for refinery-</li> </ul>	<ul style="list-style-type: none"> <li>- No later than July 1, 2024, shall make a payment to South Coast</li> </ul>	<ul style="list-style-type: none"> <li>- The owner or operator of a petroleum refinery shall be</li> </ul>	<ul style="list-style-type: none"> <li>- No provision</li> </ul>

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
<b>Monitoring Fees</b>	<p>related community air monitoring system</p> <ul style="list-style-type: none"> <li>- No later than January 1, 2025, the owner or operator of a Petroleum Refinery shall make the payment to the South Coast AQMD as specified in Table 2</li> <li>- No later than January 1, 2025, for phase 1 and no later than January 1, 2026 for phase two, the owner or operator of a Related Facility shall make the payment to the South Coast AQMD as specified in Table 3</li> <li>- Annual operating and maintenance fees for the community air monitoring system are to be recovered pursuant to Rule 301-Permitting and Associated Fees</li> </ul>	<p>AQMD as specified in Table 2 for phase one implementation.</p> <ul style="list-style-type: none"> <li>- No later than January 30, 2025 shall make a payment to the South Coast AQMD as specified in Table 2 for phase two implementation</li> <li>- Remainder provides the same requirements as PAR 1180</li> </ul>	<p>responsible for the costs associated with community air monitoring</p> <ul style="list-style-type: none"> <li>- To the extent a refinery-related community air monitoring system is intentionally utilized by a district to monitor emissions from sources under its jurisdiction other than a petroleum refinery, the district shall ensure the costs of the system are shared in a reasonably equitable manner</li> </ul>	
<b>Exemptions</b>	<ul style="list-style-type: none"> <li>- An owner or operator of a refinery subject to Rule 1180.1</li> <li>- Terminal with total tank storage capacity less than 310,000 barrels</li> <li>- Exempt from the requirement of operating an existing Real-Time Fenceline Air Monitoring System for 96 hours in a calendar year</li> </ul>	<ul style="list-style-type: none"> <li>- An owner or operator of a Refinery subject to Rule 1180 is exempt from the requirements of this rule</li> <li>- Exempt from the requirement of operating a real-time fenceline air monitoring system for 96 hours if new fenceline air monitoring equipment is installed to address any air pollutant in Table 1 or the facility complies</li> </ul>	<ul style="list-style-type: none"> <li>- No provision</li> </ul>	<ul style="list-style-type: none"> <li>- No provision</li> </ul>

Rule Element	PAR 1180	PR 1180.1	Health and Safety Code § 42705.6 <sup>15</sup>	US EPA 40 CFR § 63.658 <sup>16</sup>
	<ul style="list-style-type: none"> <li>- An owner or operator of a Related Facility located entirely within the boundary of a Petroleum Refinery</li> <li>- Following Facilities are exempt from monitoring the specified compound from Table 1:                             <ul style="list-style-type: none"> <li>o Exempt from monitoring hydrogen fluoride if hydrogen fluoride is not used or stored at the Facility;</li> <li>o Related facilities are exempt from monitoring black carbon and the metal compounds; and</li> <li>o A terminal is exempt from monitoring all the compounds in Table 1 other than the volatile organic compounds and hydrogen sulfide.</li> </ul> </li> </ul>	<p>with the notification requirement in subdivision (i).</p>		

**Table 5-4: Comparison of PAR 1180 and PR 1180.1 with SJV APCD Rule 4460<sup>17</sup> and BAAQMD Regulation 12 Rule 15<sup>18</sup>**

Rule Element	SJV APCD Rule 4460	BAAQMD Regulation 12 Rule 15
<b>Applicability</b>	<ul style="list-style-type: none"> <li>– Petroleum refineries</li> </ul>	<ul style="list-style-type: none"> <li>– Refineries and support facilities that processes any petroleum or alternative feedstock</li> </ul>
<b>Required air pollutants for monitoring</b>	<ul style="list-style-type: none"> <li>– Acetaldehyde, ammonia, benzene, 1,3-butadiene, cadmium, diethanolamine, ethylbenzene, formaldehyde, hydrogen fluoride, hydrogen sulfide, manganese, naphthalene, nickel, nitrogen oxide, polycyclic aromatic hydrocarbons (PAH), particulate matter (PM), sulfur Dioxide, sulfuric acid, toluene, xylene</li> </ul>	<ul style="list-style-type: none"> <li>– Sulfur dioxide (SO<sub>2</sub>), alkanes or other organic compound indicators, 1, 3-butadiene, and ammonia benzene, toluene, ethyl benzene, and xylenes (BTEX) and hydrogen sulfide</li> </ul>
<b>Plan Requirements</b>	<ul style="list-style-type: none"> <li>– Install, operate, and maintain a fence-line air monitoring system, and collect monitoring data in real-time</li> <li>– Make data available to the public as quickly as possible, and incorporate a public notification system in accordance with an APCO-approved fence-line air monitoring plan</li> </ul>	<ul style="list-style-type: none"> <li>– Detailed information describing the equipment to be used to monitor, record, and report air pollutant levels, the siting, operation, and maintenance of this equipment, and procedures for implementing data quality assurance and quality control</li> </ul>
<b>Plan Submittal Deadline</b>	<ul style="list-style-type: none"> <li>– No later than May 1, 2023, the owner or operator of a petroleum refinery shall submit to the APCO a written fence-line air monitoring plan</li> </ul>	<ul style="list-style-type: none"> <li>– On or before April 20, 2017, the owner/operator shall submit to the APCO a site-specific plan for establishing and operating a fence-line monitoring system</li> </ul>

<sup>17</sup> Amended October 20, 2022<sup>18</sup> Amended November 3, 2021

Rule Element	SJV APCD Rule 4460	BAAQMD Regulation 12 Rule 15
<b>Monitoring Technologies or Test Methods</b>	Real-time monitoring using: <ul style="list-style-type: none"> <li>○ Open path monitors: Ultra Violet Differential Optical Absorption Spectroscopy (UV-DOAS), Tunable Diode Laser Absorption Spectroscopy (TDLAS), and Fourier Transform Infrared (FTIR)</li> <li>– Point monitors: Gas, PM, total VOC monitoring and Gas Chromatography - Mass Spectrometry (GC-MS)</li> </ul>	<ul style="list-style-type: none"> <li>– Refinery operators must measure benzene, toluene, ethyl benzene, and xylenes (BTEX) and hydrogen sulfide concentrations at refinery fence-lines with open path technology time resolution of five minutes</li> </ul>
<b>Fenceline Air Monitoring System Installation compliance schedule</b>	<ul style="list-style-type: none"> <li>– Complete installation and begin operation of a real-time fence-line air monitoring system within 365 calendar days of APCO approval of proposed monitoring plans</li> </ul>	<ul style="list-style-type: none"> <li>– Within one year of the approval of an air monitoring the petroleum refinery owner or operator will ensure that a fenceline monitoring system is installed and operated in accordance with an approved air monitoring plan</li> </ul>
<b>Plan Review Process</b>	<ul style="list-style-type: none"> <li>– The APCO shall notify the owner or operator in writing whether the fence-line air monitoring plan is approved or disapproved</li> <li>– If disapproved, the owner or operator shall revise and resubmit the fence-line and air monitoring plan within thirty (30) calendar days after notification of disapproval of the plan</li> </ul>	<ul style="list-style-type: none"> <li>– Air monitoring plan subject to public review procedure for determining whether and air monitoring plan meets the applicable requirements of the rule including the following:                             <ul style="list-style-type: none"> <li>– A preliminary 45-day review by the APCO to identify any deficiencies that need to be corrected</li> </ul> </li> </ul>
<b>Web-based Fenceline Data Display and Notification Program</b>	<ul style="list-style-type: none"> <li>– The air monitoring plan shall identify how the data will be provided to the public through a website. The website for displaying the data shall include the current realtime measurements, historical data, and quarterly data reports. The</li> </ul>	<ul style="list-style-type: none"> <li>– The refinery operator must include in the Air Monitoring Plan how the data will be displayed and the steps taken to provide context of the measurements to the public</li> </ul>



Rule Element	SJV APCD Rule 4460	BAAQMD Regulation 12 Rule 15
	air monitoring data shall be provided in a manner that the public can readily access and understand.	– The Air Monitoring Plan must also outline a methodology for the public to provide comments and feedback for improvement of the website
<b>Fenceline Air Monitoring System Downtime or Malfunction</b>	– Submit a written report for each calendar quarter and include the time and date of each period during which the fence-line air monitoring system was inoperative and the nature of system repairs and adjustments	– No provision
<b>Independent Audit</b>	<ul style="list-style-type: none"> <li>– According to the air monitoring plan:</li> <li>– shall address quality assurance and quality control, including training of personnel, development and maintenance of proper documentation (i.e., instrument manuals, standard operating procedures (SOPs), a Quality Assurance Project Plan (QAPP), routine maintenance and calibration checks, technical audits, data verification and validation, and data quality assessment</li> </ul>	– Supporting data maintained by a Refinery shall be made available for inspection and audit by the APCO at the Refinery upon request
<b>Recordkeeping and Reporting</b>	– The owner or operator of a petroleum refinery shall maintain onsite records of all information, required under this rule for at least five (5) years and shall make the information readily available to the District upon request	<ul style="list-style-type: none"> <li>– Air monitoring Plan must describe how the refinery will provide the air monitoring data in a way that the public can readily access and understand</li> <li>– Air Monitoring Plan must provide a means for public to provide input toward the way data are displayed</li> <li>– Maintain records of all information required under the rule for a period of 5 years after the date of the records</li> </ul>
<b>Community Air Monitoring Fees</b>	– In Rule 3200, Petroleum Refinery Community Air Monitoring Fees	– No provision in the rule but specified in their guidelines
<b>Exemptions</b>	– No provision	– The requirements of this rule shall not apply to refineries processing less than 20,000 barrels per stream day of any organic feedstock

## Appendix A RESPONSE TO COMMENTS

## PUBLIC WORKSHOP COMMENTS

Staff held the Public Workshop, with morning and evening sessions on August 22, 2023, to provide a summary of PAR 1180 and PR 1180.1. The following is a summary of the comments received on PAR 1180 and PR 1180.1 and staff responses.

### Public Workshop – Morning Session

*Commenter #1: Genghmun Eng – Citizen*

Comment #PWM-1a: Black carbon monitoring should not be exempted for PAR 1180 related facilities and 1180.1 facilities.

Response to Comment #PWM-1a:

Black carbon is not listed as a candidate for air monitoring in OEHHA 2019 final report, “Analysis of Refinery Chemical Emissions and Health Effects,” which is the basis for required air pollutants listed in Table 1. The major petroleum refineries who already have black carbon monitoring systems installed are required to continue to monitor for black carbon.

Comment #PWM-1b: Facilities using asphalt and asphaltic materials should be included in the rules.

Response to Comment #PWM-1b:

PAR 1180 and PR 1180.1 are adopted to comply with Assembly Bill 1647 (Muratsuchi) and Health and Safety Code Section 42705.6 for requiring petroleum refinery to conduct fenceline air monitoring and fund refinery-related community air monitoring.

PR 1180.1 applies to small petroleum refineries that were exempted by PAR 1180 and refineries that process alternative fuel stocks. PAR 1180 has expanded its applicability to related operations contiguous or adjacent to a petroleum refinery, which receive or provide more than 50 percent of their input derived from, or production output to, the petroleum refinery. Overall, the rules are focused on the refineries as defined by SIC code 2911 and specified related operations, with a purpose of monitoring air pollutants from refinery operations.

Asphalt and asphaltic materials used by other industries are subjected to different rules for monitoring and controlling their emissions. For example, an asphalt aggregate plant is subject to several source specific rules. Depending on the operation and capacity, they could be subject to Regional Clean Air Incentives Market (RECLAIM) program for emissions control and monitoring, Rule 218 series for Continuous Emission Monitoring System if not in RECLAIM program, Rule 1155 for PM control, Rules 1110.2, 1146, 1146.1, 1146.2, and 1147.1 for the applicable combustion sources, or South Coast AQMD Regulation XXX – Title V Permits, if applicable.

Comment #PWM-1c: Where is the data source for previous PAHs measurements?

Response to Comment #PWM-1c:

Data related to PAHs measurements can be found in on the AQMD website under the Multiple Air Toxics Exposure Studies (MATES) here: <https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies>.

*Commenter #2: Moses Huerta – City of Paramount Resident*

Comment #PWM-2: Can the requirement for independent audits “to be made available to the web-based fenceline data display and notification system within 90 days after the audit had been performed” be set to a shorter timeframe?

Response to Comment #PWM-2:

Facilities need adequate time to compile data, identify any potential issues, and finalize the report. For a comprehensive report such as the independent audit report, it is common for a rule to allow facilities 90 calendar days or a calendar quarter to submit the report. The South Coast AQMD will consider a shorter timeframe at the next rulemaking if it appears feasible based on the experience of future audits.

*Commenter #3: Jane Williams – California Communities Against Toxics*

Comment #PWM-3a: Do the rules specify subsequent requirement when corrective actions from root cause analysis are not completed in a timely manner?

Response to Comment #PWM-3a:

PAR 1180 and PR 1180.1 require the corrective actions, if applicable, to be initialized as soon as practicable but no later than 24 hours. The root cause analysis report shall be made available within 14 days and include an explanation of the reason(s) for any corrective actions taking more than 14 calendar days. If the corrective actions are not conducted according to the timeline required by the rules, it constitutes a violation of the rules, and the South Coast AQMD’s Compliance & Enforcement division may take an enforcement action towards the facility.

Comment #PWM-3b: The rule should specify test methods for required to measure the air pollutants in the staff report.

Response to Comment #PWM-3b:

Many South Coast AQMD rules include a subdivision that list the required South Coast AQMD, U.S. EPA or ASTM Test Methods that must be performed in the laboratory to demonstrate compliance with emission limits in the rule. Ambient air monitoring, like the monitoring required in PAR 1180 and 1180.1, differs from laboratory compliance testing. Ambient air monitoring relies on operating procedures and quality assurance/quality control procedures that are specific to the air monitoring instruments being used. PAR 1180 and PR 1180.1 require the FAMP to include procedures for the operation, maintenance, and quality assurance and quality control for the fenceline air monitoring system. The fenceline air monitoring plan guidelines suggest the type of monitor to use for each air pollutant and provide certain specifications (e.g., spatial coverage, time resolution,

detection limits, etc.) on the measurement method or procedure for each air pollutant. Measurement procedures may vary among vendors and additional specifications are highly dependent on the manufacturers' recommendations. As required by the rule, each FAMP includes measurement procedures for the systems utilized for implementing the FAMP. Those measurement procedures are reviewed and approved through the FAMP review process.

*Commenter #4: McKina Alexander – City of Carson*

Comment #PWM-4: How is an independent party for independent audit selected?

Response to Comment #PWM-4:

The rule does not specify how an independent party for the audit is selected. As specified in the definition for independent audit, an independent party for this purpose shall be a party with technical expertise with fenceline air monitoring systems that has not worked on the implementation of Rule 1180 or Rule 1180.1 fenceline air monitoring at the facility. The South Coast AQMD will oversee the development of the audit protocols and the initial audits of the fenceline air monitoring systems at the petroleum refineries, and selected National Physical Laboratory (NPL) through a Request for Proposal process.

*Commenter #5: Elizabeth Camilla - Unknown*

Comment #PWM-5a: Is there any audit of the root cause analysis to prevent a superficial root cause analysis that does not identify the real cause of an exceedance?

Response to Comment #PWM-5a

Currently, the rule does not have an audit of the root cause analysis. However, there are mechanisms to ensure each exceedance will be sufficiently addressed through the root cause analysis. First, the root cause analysis must be submitted to the South Coast AQMD and made available for the public through the facilities data display website. The public can provide feedback to the South Coast AQMD regarding the analysis. South Coast AQMD enforcement staff also investigates each exceedance event and will review the root cause analysis to ensure it is sufficiently investigated. Furthermore, staff has proposed that if three root cause analyses within the same calendar year indicate the same cause, or indicate the case cannot be determined, for the same air pollutant detected above the notification threshold by the same monitor, the facility will be subject to subsequent requirement. That is, the facility shall hire a qualified independent party to conduct a root cause analysis within 14 calendar days or revise the FAMP to include additional monitor(s) if the independent party cannot identify the root cause.

Comment #PW-5b: Please consider adding a requirement that the historic and real-time data on the online dashboards be publicly available to download.

Response to Comment #PWM-5b:

Staff acknowledges the importance of data accessibility and has added provisions under subdivision (d) of PAR 1180 and PR 1180.1 and specifications in the Refinery Fenceline Air Monitoring Plan Guidelines to ensure FAMPs include methods to enhance data accessibility for the public. Specifically, a FAMP must describe methods for making

historical data available for public download in an easily downloadable, accessible electronic format that is approved by the Executive officer. Furthermore, subdivision (g) of both rules specify that the web-based fence-line data display and notification program shall make all real-time and historic data publicly available.

### Public workshop – Evening Session

*Commenter #1: Jan Viktor – East Yard Communities for Environmental Justice*

Comment #PWE-1: Importance of making data available quickly and to shorten audit timelines.

Response to Comment #PWE-2:

Staff understands the concern to make data available quickly; however, the facilities will need adequate time to ensure the data provided to the public is reliable and accurate. For more information, please refer to Response to Comment #PWM-2.

*Commenter #2: Renate Boronowski – East Yard Communities for Environmental Justice*

Comment #PWE-2: The community needs to understand health impacts to sensitive groups regarding notification thresholds.

Response to #PWE-2:

The health standard-based notification thresholds are established based on the acute reference exposure limit (RELs) by OEHHA, NAAQS, or CAAQS. The NAAQS for pollutants are established to “protect public health, including the health of ‘sensitive’ populations, such as asthmatics, children, and the elderly.” Similarly, the REL for CAAQS is defined as the “the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without any harmful effects on people or the environment.” The acute REL for OEHHA is based on short-term exposure meant to protect individuals from the adverse effects of exposure to an air pollutant.

*Commenter #3: Whitney Amaya – East Yard Communities for Environmental Justice*

Comment #PWE-3a: Requested to include all pollutants in the OEHHA list since they all have health impacts on communities.

Response to Comment #PWE-3a:

OEHHA states that the “candidate chemicals will differ based on location as well as year. Some top-candidate chemicals are only released in small amounts from individual refineries.” 18 air pollutants are listed as the top candidates for air monitoring based on their toxicity level, average levels of emissions from refineries statewide, and involvement in multiple refinery processes and incidences. Of the 18 air pollutants, eight of them are not required by this rule for several reasons. For example, some air pollutants, such as diethanolamine and sulfuric acid, do not stay in the vapor phase for a sufficient amount of time and would be unable to be detected in real-time at the fence-line. In addition, real-time monitoring technology does not exist for polycyclic aromatic hydrocarbons (PAHs) other than naphthalene. Moreover, the likelihood of measuring a high concentration of metals, such as cadmium, nickel, and magnesium, is unlikely if the facility does not operate

equipment capable of emitting metals during normal or upset conditions, such as a fluid catalytic cracking unit.

Comment #PWE-3b: Consider shorter timelines for corrective actions.

Response to Comment #PWE-3b:

Staff understands the uncertainty of the timelines for corrective actions to be completed. The timeline in which all corrective actions must be completed is detailed in the corrective action plan and will vary based on what is technically feasible. Therefore, staff is proposing Executive Officer approval of the corrective action plan, which details the timeline needed to complete corrective actions. If the timeline provided in the corrective action plan is found to be longer than needed, the Executive Officer can disapprove the corrective action plan and require a shorter timeline.

*Commenter #4: Cindy Donis – East Yard Communities for Environmental Justice*

Comment #PWE-4a: Concerned that diethanolamine and sulfuric acid are no longer included in the rule.

Response to Comment #PWE-4a:

Diethanolamine has a short-lived gaseous phase since it has the tendency to absorb water and to supercool. Diethanolamine would not stay in the vapor phase long enough to be detected through real-time air monitoring technology at the fenceline.

Sulfuric acid is not very volatile, because of its high boiling point of 365 degrees Celsius (°C). If it is release to the atmosphere, it will most likely not stay in vapor phase and will fall to the ground in liquid phase. Similar to diethanolamine, sulfuric acid will not stay in the vapor phase long enough to be detected through real-time air monitoring technology at the fenceline; therefore, monitoring for these air pollutants are not required in the rules.

Comment #PWE-4b: Improve accessibility and simplify the information to make it more accessible and understandable for the general public.

Response to Comment #PWE-4b:

Staff is proposing requiring web-based fenceline data display and notification program to have a mechanism for the public to opt-in to receive fenceline notifications, select email and/or text notification options, and provide comments or feedback on the facility. The South Coast AQMD is working to integrate fenceline and community air monitoring notifications via the South Coast AQMD mobile application.

*Commenter #5: Paola – East Yard Communities for Environmental Justice*

Comment #PWE-5: Are there any requirements for sensitive receptors such as schools?

Response to Comment #PWE-5:

PAR 1180 and PR 1180.1 are monitoring rules that require the facilities to monitor air pollutant concentrations at their fenceline and fund the South Coast AQMD to install and operate community air monitoring stations. The intent is to measure air pollutants in and around the refineries and alert members of the public who opt-in to receive notifications if

an air pollutant is detected above a notification threshold. The health standard-based notification thresholds are established based on the acute reference exposure limit (RELs) by OEHHA, NAAQS, or CAAQS, which include sensitive populations. For more information on the health-based notification thresholds and sensitive groups, please refer to Response to Comment #PWE-2.

The South Coast AQMD also conducts air monitoring in communities adjacent to the refineries according to the Community Air Monitoring Plan (CAMP). Moreover, the South Coast AQMD also has other programs and rules that address sensitive receptors, such as AB 2588, Rule 1401, and Rule 1402.

*Commenter #6: Oscar Espino Padron – Earthjustice*

Comment #PWE-6: Consider including the five-year review of the requirements of the rule in the rule language

Response to Comment #PWE-9:

The intent of South Coast AQMD rules is to impose requirements on applicable facilities, not on the agency. The five-year review of the requirements of the rule will be specified in the resolution for this rule project, which is where requirements on the South Coast AQMD are normally included. The resolution will be presented for approval by the Governing Board at the Public Hearing to consider the adoption of PAR 1180 and PR 1180.1. The South Coast AQMD is legally bound to comply with the actions in the Resolution approved by the Governing Board; the Resolution is an enforceable document.

*Commenter #7: Christian Tapia Delgado – East Yard Communities for Environmental Justice*

Comment #PWE-7: Consider the option of text messages for notifications.

Response to Comment #PWE-7:

Staff is proposing requiring a mechanism for the public to opt-in for text message notifications. Please see Response to Comment #PWE-4b for more information.



## COMMENT LETTER #1

Comment Letter #1



August 8, 2023

VIA ELECTRONIC MAIL ONLY

Michael Krause, Assistant DEO  
 South Coast Air Quality Management District  
[mkrause@aqmd.gov](mailto:mkrause@aqmd.gov)

**Re: Proposed Amended Rule 1180 and Proposed Rule 1180.1 Fenceline and Community Air Monitoring for Petroleum and Alternative Feedstock Refineries and Related Operations**

Dear Mr. Krause:

On behalf of East Yard Communities for Environmental Justice, we submit the following comments on the draft Proposed Amended Rule 1180 and Proposed Rule 1180.1 (collectively "Refinery Monitoring Rules"). While South Coast AQMD has proposed significant improvements to the current refinery fenceline and community air monitoring program under this rulemaking, we have identified several areas of concern with the draft Refinery Monitoring Rules that should be addressed by staff.

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- **The Refinery Monitoring Rules create a compliance loophole by restricting monitoring to facilities with operations related to refining operations that are "located on contiguous properties" and "with the Same Ownership" as the petroleum refinery.**

The draft Refinery Monitoring Rules would allow some refining operations to exclude support facilities that may not be "contiguous" (i.e., bordering the refinery) but that might instead be "adjacent" to or located near but not necessarily sharing a border with the refinery.<sup>1</sup> This draft language is also at odds with definitions used by other air districts; for example, the Bay Area Air Quality Management District defines refineries as operations that are "located on one or more *contiguous or adjacent* properties that processes any petroleum or alternative feedstock."<sup>2</sup> Moreover, this draft language limits monitoring requirements to related facilities under the "Same Ownership" as the refinery. A facility is under the "Same Ownership" when it has the same "subsidiaries," "same board of directors," or "same

1-1

<sup>1</sup> See, e.g., Proposed Amended Rule 1180, subd. (b) (applicability), (c)(5) (defining "facilities with operations related to petroleum refineries." See also "Contiguous" defined as "[t]ouching at a point or along a boundary." "Adjacent" defined as "[l]ying near or close to, but not necessarily touching." *Black's Law Dictionary* (11th ed. 2019).

<sup>2</sup> BAAQMD Rule 12-15.

parent corporation” as the refinery.<sup>3</sup> Requiring that facilities be under the “Same Ownership” creates enforcement uncertainty and a compliance loophole that would allow refineries to exclude related facilities through corporate schemes. This approach also ignores what actually occurs in practice, where third-party operations that are essential to refinery operations are often under different ownership.

1-1

- **The proposed “independent audit” requirement under the Refinery Monitoring Rules should be completed in an expedited manner with community involvement and additional oversight by South Coast AQMD staff to ensure fenceline monitoring systems are operating as planned.**

South Coast AQMD staff must make several important updates to the “independent audit” requirement under the proposed Refinery Monitoring Rules as part of this rulemaking. First, South Coast AQMD staff should approve of auditors selected by refineries to ensure independence and appropriate qualifications to evaluate the adequacy of fenceline air monitoring systems. Second, the initial audit for fenceline air monitoring systems installed after rule adoption should be completed within a few months rather than one year to ensure data quality. Third, audits should be conducted every two years after the initial audit rather than every three years to maintain or modify fenceline air monitoring systems as needed. Finally, the Refinery Monitoring Rules should establish a deadline for approval or disapproval of audit-related corrective action plans by South Coast AQMD and community engagement by refineries when corrective action is necessary to ensure that fenceline air monitoring system issues are resolved by refineries in an expedited manner and that affected residents are aware of deficiencies.

1-2

- **The definition of “fenceline air monitoring plan” under the Refinery Monitoring Rules should underscore the need to detail not only data reporting under these plans but also a data provision element that outlines data objectives and standards.**

The draft Refinery Monitoring Rules language defines “fenceline air monitoring plan” as a compliance plan that details “data reporting methods” and other important data quality assurance measures.<sup>4</sup> In addition to highlighting the importance of data reporting, the Refinery Monitoring Rules should require that fenceline air monitoring plans establish key data objectives and standards as part of a data provision element. This standalone plan element should detail the objectives, procedures, and tasks that would be performed to ensure data produced by fenceline air monitoring systems are made available to the public

1-3

<sup>3</sup> See, e.g., Proposed Amended Rule 1180, subd. (c)(6).

<sup>4</sup> See, e.g., Proposed Amended Rule 1180, subd. (c)(8).

in a timely and accessible manner that conforms to the FAIR standards (i.e., standards concerning the Findability, Accessibility, Interoperability, and Reuse of digital assets).<sup>5</sup>

- **The definition of “fenceline air monitoring system” under the Refinery Monitoring Rules should clarify that these systems must also make air pollutant concentration data available to the public, not merely display or report this data.**

The draft Refinery Monitoring Rules language defining “fenceline air monitoring system” notes that these systems are comprised of “equipment that measures, records, and reports air pollutant concentrations” from refineries.<sup>6</sup> The proposed rules, however, should make clear that refineries must also make available or public the air monitoring data generated by these monitoring systems. There should be no ambiguity that South Coast AQMD is requiring that refineries make this data available to the public for download.

1-4

- **In describing the web-based fenceline data display program, the Refinery Monitoring Rules should expand on what it means to make “information publicly available,” which should involve more than the current practice of displaying data online.**

The South Coast AQMD staff should make clear that the web-based fenceline data program must make “information publicly available,” which includes public access to monitoring data in an easily downloadable, accessible format (e.g., .csv via an API).<sup>7</sup> Moreover, if applicable, data accessed through these systems should provide for a widely permissive licensing statement, such as creative commons licensing statement.<sup>8</sup> There should be no restrictions on the public use of this data.

1-5

- **The web-based fenceline data display and notification program should explain the health impacts associated with exposure to pollutants, when detailing the pollutants measured at the fenceline monitoring system.**

The draft Refinery Monitoring Rules currently require that refinery websites “[d]escribe all pollutants” monitored by the refinery.<sup>9</sup> In describing pollutants, refineries should also be directed to note the health impacts, such as developmental and cancer risk, associated with exposure to pollutants at certain levels and duration that are monitored at the fenceline. Similarly, South Coast AQMD should do the same on its own website for

1-6

<sup>5</sup> GO FAIR, *Fair Principles*, <https://www.go-fair.org/fair-principles/> [archived at <https://perma.cc/829C-CQEL>].

<sup>6</sup> See, e.g., See, e.g., Proposed Amended Rule 1180, subd. (c)(9).

<sup>7</sup> See Appendix B, Earthjustice, *Crossing the Fenceline: Critical Reforms to California’s Petroleum Refinery Emissions Monitoring Law*, [https://earthjustice.org/wp-content/uploads/fenceline\\_2022.pdf](https://earthjustice.org/wp-content/uploads/fenceline_2022.pdf)

<sup>8</sup> Creative Commons, *About CC Licenses*, <https://creativecommons.org/about/cclicenses/> [archived at <https://perma.cc/Y8AH-ZHIP>].

<sup>9</sup> Proposed Amended Rule 1180, subd. (g)(1)(A).

community air monitoring systems to assist community members in understanding when pollution levels become hazardous or would have negative health effects.

- **The fenceline air monitoring plan “methods for dissemination of data” description should be expanded to detail methods for maintaining data to ensure the public has reliable access to this air monitoring data.**

The South Coast AQMD’s objective in this rulemaking process should entail more than just data dissemination – it should also ensure adequate data management. To achieve this objective, fenceline air monitoring plans should also provide methods for maintaining data and ensuring findable, accessible, interoperable, and reusable data for government agencies, researchers, and the public.

1-7

- **The “notification to [the] Executive Officer” by refineries of equipment failures should also occur when there are problems with data collection and retention or other database problems, not just monitoring equipment issues.**

The draft Refinery Monitoring Rules should also require that South Coast AQMD be notified of instances where data for a period of 24 hours or greater is missing from publicly accessible data archives.<sup>10</sup> The agency should be made aware of database and other electronic infrastructure failures that undermine monitoring goals.

1-8

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We appreciate your consideration of these issues. We welcome the opportunity to discuss our concerns and we look forward to receiving a response to these comments.

Sincerely,



Oscar Espino-Padron, Senior Attorney  
Byron Chan, Senior Attorney  
Earthjustice

cc: Heather Farr, Planning and Rules Manager ([hfarr@aqmd.gov](mailto:hfarr@aqmd.gov))

Yanrong Zhu, Program Supervisor ([yzhu1@aqmd.gov](mailto:yzhu1@aqmd.gov))

Mojtaba Moghani, Ph.D., AQ Specialist ([mmoghani@aqmd.gov](mailto:mmoghani@aqmd.gov))

Jennifer Vinh, AQ Specialist ([jvinh@aqmd.gov](mailto:jvinh@aqmd.gov))

<sup>10</sup> See, e.g., Proposed Amended Rule 1180, subd. (h)(2)

## Response to Comment Letter #1

### *Response to Comment 1-1:*

Staff appreciates the comment and agrees with the concern. PAR 1180 definition for Facility With Operations Related to Petroleum Refineries (Related Facility) has been revised to include facilities that are “adjacent to or contiguous with” petroleum refineries and removed the “same ownership” requirement.

### *Response to Comment 1-2:*

PAR 1180 requires a qualified independent party to conduct and complete an independent audit according to an independent audit protocol approved by the Executive Officer. South Coast AQMD selected a qualified contractor through a Request for Proposals (RFP# P2022-13) to develop an audit protocol and implement the first independent audit of all fenceline air monitoring systems subject to Rule 1180. Staff expects the initial audits to be initiated by January 1, 2025. This audit protocol will establish methodologies for auditors and standardize future audits for facilities subject to both PAR 1180 and PR 1180.1.

The rules propose the initial audit within one calendar year of installation and operation for systems installed after rule adoption, and reoccurring audits every three calendar years for all systems. Sufficient data by operating the fenceline monitoring systems will be needed for auditors to have a systematic evaluation of the entire fenceline air monitoring network and ensure the collected refinery data meets the stringent quality control and quality assurance criteria. Staff believes that at least one calendar year’s data is needed for the initial audit. Facilities generally conduct quarterly and semi-annual internal audit according to their QAPP for quality control and quality assurance. Independent audit by a qualified third party every three calendar years is consistent with U.S. EPA’s Best Practices for Review and Validation of Ambient Air Monitoring Data<sup>19</sup>.

Staff agrees that correction actions should not be delayed by the approval or disapproval of the corrective action plan. The current proposal is to require the facility to conduct all corrective actions pursuant to the schedule in an approved corrective action plan , and follow-up performance audit within three calendar months of completing the corrective actions. The facility must submit the corrective action plan to the Executive Officer within three calendar months of the audit report and make it available on the facility’s web-based fenceline data display and notification program within one business day of approval by the Executive Officer.. Staff also proposed to require a revised FAMP if corrective action plan identifies that a modification of the FAMP is required.

### *Response to Comment 1-3:*

Staff acknowledges the importance of a data provision element that requires data to be accessible, intuitive, and easy to interpret. For more information regarding the data provision elements please refer to Response to Comment #PWM-5b.

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<sup>19</sup> U.S. EPA, "Best Practices for Review and Validation of Ambient Air Monitoring Data," August 2021. [Online]. Available: <https://www.epa.gov/system/files/documents/2021-10/data-validation-guidance-document-final-august-2021.pdf>.

*Response to Comment 1-4:*

Staff agrees with the comment and is proposing requiring public access to historical data in addition to the display of the data. Please refer to Response to Comment 1-3 and Response to Comment #PWN-5b for more information.

*Response to Comment 1-5:*

Please refer to Response to Comment 1-3. In addition to displaying data online which is currently existed in rule 1180, in this amendment the historical data shall also be available to public in an user friendly and downloadable format from facilities' web-based fenceline data display and notification program.

*Response to Comment 1-6:*

Staff agrees with the comment. Current web-based fenceline data display and notification programs are providing descriptions of all air pollutants being monitored and how they affect human health. Staff proposed to specify the requirement of describing the air pollutants and their health impacts and include a link to the OEHHA online Air Chemical Data base website under subdivision (h) to include additional health-based information with the notifications. The proposed requirement states the facility must include a link to the OEHHA website on the specific air pollutant in the fenceline notification when an air pollutant is detected above the threshold to provide information to the public on the health risks associated with the exceedances.

*Response to Comment 1-7:*

Please refer to Response to Comment 1-3 for rule enhancement on data accessibility. In addition, staff proposed to add a specification under subdivision (d) plan requirement requiring FAMP to include methods for data to be in an easily downloadable, accessible, and interpretable electronic format that is approved by the Executive Officer. The new subdivision (h) also requires the web-based fenceline data display and notification program to display and store at least five calendar years of the most recent data collected from the fenceline air monitoring systems and make the information publicly available.

*Response to Comment 1-8:*

Staff agrees and has modified the definition for Fenceline Air Monitoring System to include data systems that store historical data, public websites where data is displayed, and public fenceline notification systems. A data system or fenceline notification system failure, downtime, or malfunction will be subject to the same notification requirement for equipment failure.

## COMMENT LETTER #2:



**Ramine Cromartie**

Senior Manager, Southern California Region

Comment Letter #2

August 15, 2023

Heather Farr  
 Planning and Rules Manager  
 South Coast Air Quality Management District  
 21865 Copley Drive  
 Diamond Bar, CA 91765

Via e-mail at: hfarr@aqmd.gov

**Re: SCAQMD Proposed Amended Rule 1180, Fenceline and Community Air Monitoring for Petroleum Refineries and Related Operations, and SCAQMD Proposed Rule 1180.1, Other Refinery Fenceline and Community Air Monitoring  
 WSPA Comments on Initial Draft Rule Language**

Dear Ms. Farr,

Western States Petroleum Association (WSPA) appreciates the opportunity to participate in South Coast Air Quality Management District (SCAQMD or District) Proposed Amended Rule 1180, Fenceline and Community Air Monitoring for Petroleum Refineries and Related Operations (PAR1180), and SCAQMD Proposed Rule 1180.1, Other Refinery Fenceline and Community Air Monitoring (PR1180.1), Working Group Meetings (WGMs). The purpose of this rulemaking is to remove exemptions so that all petroleum refineries identified under SIC 2911 will be subject to the rule and expand applicability to include operations related to refineries that are contiguous to the property of the refinery. SCAQMD is also proposing to expand the Rule 1180 list of monitored compounds to include those chemicals included in the California Office of Environmental Health Hazard Assessment (OEHHA) priority list.

WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport, and market petroleum, petroleum products, natural gas, renewable fuels, and other energy supplies in five western states including California. WSPA has been an active participant in air quality planning issues for over 30 years. WSPA member companies operate petroleum refineries and other facilities in the South Coast Air Basin that are within the purview of the SCAQMD and thus will be impacted by PAR1180 and PR1180.1.

SCAQMD published initial draft rule language for PAR1180 and PR1180.1 and proposed audit requirements on June 16, 2023.<sup>1,2,3</sup> WSPA offers the following comments.

<sup>1</sup> PAR1180 Initial Draft Rule Language, June 16, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/par-1180---initial-draft.pdf?sfvrsn=6>.

<sup>2</sup> PR1180.1 Initial Draft Rule Language, June 16, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/pr-1180-1---initial-draft.pdf?sfvrsn=6>.

<sup>3</sup> Proposed Audit Requirements, June 16, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/independent-audit-document---from-rule-language.pdf?sfvrsn=6>.

August 15, 2023  
Page 2

1. SCAQMD is proposing to modify the list of monitored compounds; however, the District has not demonstrated that the proposed additional chemicals are present or detectable at the fencelines of each facility. Before requiring such monitoring, SCAQMD should perform a study to demonstrate that these compounds are detectable at the fencelines as a result of releases from refineries and not other neighboring sources. Additionally, WSPA recommends that only compounds with existing health notification thresholds and compounds where feasible real-time monitoring technology is available be included in Rule 1180 and Rule 1180.1.

SCAQMD has proposed to expand the Rule 1180 list of monitored compounds to include all of the chemicals included in the California Office of Environmental Health Hazard Assessment Analysis of Refinery Chemical Emissions and Health Effects (OEHHA Analysis) priority list.<sup>4,5</sup> The six compounds proposed to be added are as follows:<sup>6</sup>

- Particulate Matter (PM)
- Naphthalene
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Cadmium
- Manganese
- Nickel

2-1

While the OEHHA report lists an array of candidate chemicals for air monitoring, it also notes:<sup>7</sup>

*An important consideration for air monitoring at individual refineries is that the candidate chemicals will differ based on location as well as year. Some top-candidate chemicals are only released in small amounts from individual refineries... **the release of these chemicals from refineries does not necessarily mean that local communities face substantial exposures or significant health risks.** [emphasis added]*

Several pollutants are likely to be detected at the fenceline from sources outside the refineries. It is unclear how SCAQMD will treat those detections and differentiate those emissions from refinery source emissions. For example, PM at refineries is primarily emitted from combustion processes, which are released from elevated stacks. In many/most cases, PM from these refinery sources is unlikely to be detectable with fenceline air monitoring systems. It is much more likely

<sup>4</sup> Analysis of Refinery Chemical Emissions and Health Effects – Fact Sheet, California Office of Environmental Health Hazard Assessment, March 2019. Available at:

<https://oehha.ca.gov/media/downloads/fags/refinerychemicalsfacts032019.pdf>.

<sup>5</sup> Analysis of Refinery Chemical Emissions and Health Effects, California Office of Environmental Health Hazard Assessment, March 2019. Available at:

<https://oehha.ca.gov/media/downloads/fags/refinerychemicalsreport032019.pdf>.

<sup>6</sup> PAR1180 Initial Draft Rule Language, June 16, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/par-1180---initial-draft.pdf?sfvrsn=6>

<sup>7</sup> Analysis of Refinery Chemical Emissions and Health Effects, California Office of Environmental Health Hazard Assessment, March 2019. Available at:

<https://oehha.ca.gov/media/downloads/fags/refinerychemicalsreport032019.pdf>.



August 15, 2023  
Page 3

that PM levels detected at fencelines will be contributed by surrounding mobile sources or roadways including tailpipe emissions and entrained road dust. Similarly, metals measured at a fenceline could be from mobile sources such as brake wear and tire wear, diesel particulate matter (DPM) from trucks, etc. SCAQMD should provide the methodology that will be used to distinguish the PM from refinery and non-refinery sources.

Of the above proposed compounds, only nickel has a proposed health-standard based threshold.<sup>8</sup> SCAQMD is proposing to add statistically based notification thresholds for one of the proposed compounds (i.e., PM) and two of the compounds listed under the existing Rule 1180 (i.e., total VOCs and black carbon).

Public notification thresholds need to be based on health hazards. Historical levels do not provide stakeholders with useful information on whether a measured concentration is potentially hazardous or not. WSPA strongly recommends the five chemicals with no established health hazard thresholds should be removed from the list of chemicals proposed for monitoring under Rule 1180 and 1180.1. WSPA also recommends against establishing statistical notification thresholds for any compounds required to be monitored under Rule 1180 and 1180.1. If SCAQMD proceeds with the statistical notification thresholds, WSPA recommends that these thresholds must be established through workshops with stakeholders to determine the upper bounds of background levels. And a single background value would likely not be appropriate to all refineries (or pathways) given the variations in ambient conditions and differences in the local non-refinery sources near the various facilities.

2-1

Finally, SCAQMD has acknowledged that there is no feasible real-time monitoring technology for PAHs and states that a facility can cite the staff report for not including such compounds.<sup>9</sup> Given that it is not possible to perform real-time monitoring on PAHs, WSPA recommends that references to PAHs be removed from the proposed rule.

**2. SCAQMD should clarify in the rule that the proposed technology review is only for compounds that are not currently monitored under Rule 1180 and would not impact monitoring of compounds that are already listed in the Fenceline Air Monitoring Plan (FAMP). For monitoring of new compounds, WSPA recommends that a cost-benefit analysis be performed in conjunction with stakeholders to understand if potential monitoring is necessary. For new facilities proposed in PAR 1180 and PR 1180.1, WSPA requests that facilities have the optionality to install point monitors in lieu of open path in instances where space constraints limit a facilities ability to achieve “full coverage.” Additionally, WSPA requests additional clarity on the rationale for and the process of providing technical justification to exclude compounds from the monitoring requirements.**

2-2

<sup>8</sup> PAR1180 Initial Draft Rule Language, June 16, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/par-1180---initial-draft.pdf?sfvrsn=6>

<sup>9</sup> SCAQMD PAR1180 and PR1180.1 Working Group Meeting #2. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/rule-1180-1180.1---wgm-2---presentation.pdf?sfvrsn=6>.

August 15, 2023  
Page 4

SCAQMD is considering a requirement for Staff to conduct a review of technology, rule language and guidelines, and report findings to the Board every 5 years.<sup>10</sup> If Staff determined that real-time air monitoring is feasible for any previously excluded compound, the facility would be required to revise the fenceline air monitoring plan within 6 months and begin monitoring for the newly included compound one year after the plan is approved. It is not clear from the information provided by SCAQMD if this technology review would also result in modified technology requirements for compounds already being measured.

Refineries have constructed air monitoring systems based on requirements for the 18 initial compounds covered under the current rule. The elevated platforms, equipment stations, and power requirements were custom designed to accommodate the existing monitoring equipment. If new monitoring instrumentation is required, it could require expansion of the analyzer shelters, platforms, or electrical infrastructure. The facility would need to review each structure to determine spacing consideration as well as if it could accommodate additional weight. These are potentially costly endeavors.<sup>11</sup> SCAQMD must account for the cost of equipment, installation, and training and perform a cost-benefit analysis developed with stakeholders to understand whether the monitoring technology is necessary. If the results of the technology review show that additional monitoring equipment must be installed at facilities, there should be an allowance added to the rule stating that air monitoring is not required during periods of platform and station modification. There should not be an expectation of temporary back-up monitoring required during modification.

2-2

For new facilities, space constraints may limit a facility's ability to achieve the proposed monitoring requirements in all areas of the facility. As a way to meet the objectives of the proposed monitoring provisions, WSPA requests that facilities are granted the flexibility to install point monitors in lieu of open path monitors, where needed.

PAR1180(d)(4) states that facilities "must provide a technical justification for not including Real-Time air monitoring for any of the air pollutants specified in Table 1... Explanations for not including Real-Time air monitoring for any pollutants specified in Table 1 must be consistent with the criteria in the Refinery Fenceline Air Monitoring Guidelines." Additional guidance is needed for impacted facilities to understand how to perform this demonstration.

### **3. PAR1180 and PR1180.1 should include one timeline for installations subsequent to revised and updated FAMPs.**

PAR1180(d)(2) and (d)(5), and PR1180.1(d)(2) and (d)(5), respectively, set forth requirements to submit a "revised" or "updated" FAMP depending on the type of modification needed. PAR1180(e) sets forth the compliance schedule for completion of installation and start of operation in accordance with an approved or partially approved FAMP, stating:

2-3

<sup>10</sup> SCAQMD PAR1180 and PR1180.1 Working Group Meeting #2. Available at: [http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/rule-1180\\_1180-1---wgm-2---presentation.pdf?sfvrsn=6](http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/rule-1180_1180-1---wgm-2---presentation.pdf?sfvrsn=6).

<sup>11</sup> SCAQMD PAR1180 and PR1180.1 Working Group Meeting #3. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/rule-1180---wgm-3---final.pdf?sfvrsn=10>

August 15, 2023  
Page 5

- (1) *The owner or operator of a Facility shall complete installation and begin operation of a Real-Time Fenceline Air Monitoring System or modify the operation of the Fenceline Air Monitoring System in accordance with the approved, or partially approved, FAMP:*
- (A) *Beginning no later than one year after a FAMP submitted pursuant to paragraph (d)(1) or (d)(2) is approved, or partially approved, by the Executive Officer;*
  - (B) *No later than six months after the Executive Officer approves, or partially approves, an updated FAMP required pursuant to paragraph (d)(5); and*
  - (C) *Prior to commencing operations at a new Petroleum Refinery.*

2-3

PR1180.1(e) uses similar language.

PAR1180 and PR 1180.1 should not include different compliance timelines for installation for “revised” and “updated” plans. The constraints on installation timeline result from system and structural design, permitting, and construction, and are the same regardless of revised or updated plans.

Additionally, it might not be possible for vendors to provide and build the volume of new analyzers required if AQMD approves multiple plans in a short time period. WSPA recommends that two years be allowed for all installation and start of operation under modified plans.

**4. WSPA requests that SCAQMD clarify the scientific necessity of adding additional community air monitoring stations and how the detected emissions will be attributed to local sources.**

SCAQMD seems to be proposing at least one community monitoring station for each new potential facility subject to the rule and have stated that “an owner or operator with an existing Rule 1180 fenceline air monitoring plan that modifies [the] plan to include related facilities may not be subject to new community monitoring requirements/fees”.<sup>12</sup>

2-4

At least some of the proposed new facilities under the proposed rule and rule amendments are near existing Rule 1180 facilities and community monitoring stations. SCAQMD needs to demonstrate why additional community monitoring stations are needed in these areas and include information outlining how any new stations would meaningfully improve stakeholder’s understanding beyond the information already being provided by the existing community monitoring stations. SCAQMD should also justify how the values measured at new stations would be attributed to contributing sources, including non-refinery sources.

**5. PAR1180 and PR 1180.1 require facilities to perform a root cause analysis when a monitored compound is measured above the notification threshold. It may not be possible to understand a root cause for emissions detected at the fenceline, as the source may be offsite or the direct cause cannot be identified. If a facility does find a leak that requires repair, that repair is handled under a separate rule, making a root**

2-5

<sup>12</sup> SCAQMD PAR1180 and PR1180.1 Working Group Meeting #2. Available at: [http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/rule-1180\\_1180-1---wgm-2---presentation.pdf?sfvrsn=6](http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/rule-1180_1180-1---wgm-2---presentation.pdf?sfvrsn=6).

August 15, 2023  
Page 6

**cause analysis unnecessary under a fenceline air monitoring rule. In addition, for new facilities under PAR 1180 and PR1180.1, where root cause analysis may be a new requirement, WSPA requests potential changes to the Root Cause Analysis report.**

As currently drafted, PAR1180(j)(2) and PR1180.1(j)(2) would require a root cause analysis be initiated within 24 hours of an air pollutant measurement that is above the applicable notification threshold. A report detailing the analysis must be submitted to SCAQMD and made available on the web-based program within 14 days. PAR1180 and PR1180.1 are monitoring rules, not compliance programs. Therefore, there are no exceedances of thresholds.

Requiring a root cause analysis each time a measurement is above a notification threshold is burdensome and unnecessary, and so it should be limited to only health-based threshold exceedances. Performance of a root cause analysis would require source apportionment, which may not be possible for emissions detected at the fenceline. In addition, in the case where monitoring results in detection of a leak, repair of that leak would be addressed under source-specific rules such as Rule 1178. WSPA therefore recommends that the requirements related to a root cause analysis be re-evaluated to ensure there is no double work or conflicts with source specific rules like Rule 1173 and Rule 1178. One such example of this can be found with the 14-day reinspection requirement in PR1180(j)(2)D). Existing regulations may already call for reinspection after a leak is repaired. In instances such as this, where there is duplication of provisions, WSPA requests that Staff remove the provision from the PAR1180 rule language. As part of this evaluation, WSPA requests that Staff consider provisions in the event a root cause analysis cannot be performed within the designed time windows (e.g., allowances for an extension) or if, for example, a reinspection is not possible in a timely manner.

2-5

The rule provisions state that facilities shall "submit a Root Cause Analysis report to the South Coast AQMD and make it available on the web-based program within 14 days."<sup>13,14</sup> A root cause analysis may contain confidential information that may not be appropriate for submittal or posting online. To help ensure the protection of business confidential information, WSPA requests that the treatment of confidential information contained in root cause analyses is consistent with similar analyses (e.g., Specific Cause Analysis) in Rule 1118 and Rule 430.

<sup>13</sup> SCAQMD PAR1180 Draft Rule Language. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/par-1180---initial-draft.pdf?sfvrsn=6>.

<sup>14</sup> SCAQMD PAR 1180.1 Draft Rule Language Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/pr-1180-1---initial-draft.pdf?sfvrsn=6>

August 15, 2023  
Page 7

WSPA appreciates the opportunity to provide these comments related to PAR1180 and PR1180.1. We look forward to continued discussion of this important rulemaking. If you have any questions, please contact me at (310) 808-2146 or via e-mail at [rcromartie@wspa.org](mailto:rcromartie@wspa.org).

Sincerely,



Cc:

Michael Krause, Assistant Deputy Executive Officer, Planning, Rule Development and Implementation

Yanrong Zhu, Program Supervisor

Mojtaba Moghani, Ph.D., Air Quality Specialist

Jennifer Vinh, Air Quality Specialist

Andrea Polidori, Assistant Deputy Executive Officer, Monitoring and Analysis Division

**Response to Comment Letter #2:***Response to Comment 2-1:*

Thank you for providing comments. During the 2017 rulemaking, staff proposed the list of OEHHA identified air pollutants in the initial draft as the list of pollutants to be monitored by refineries. In March 2019, OEHHA finalized the report and added six compounds to the priority list. During the current amendment, staff added the additional compounds identified by OEHHA's finalized report into the rule.

Rule 1180 and Rule 1180.1 Fenceline Air Monitoring Plan Guidelines provide criteria for exclusion. The owner or operator of a facility can request to exclude a compound if there is no feasible real-time monitoring technology capable of real-time or near-real time measurement, or the facility has not used or will never use a compound based on facility's activities and processes. At previous Working Group Meetings and in this report, staff indicated there is no real-time and near-real-time air monitoring technology available for PAHs and suggested that facilities currently will not be required to conduct fenceline real-time air monitoring for PAHs. Staff proposed to list PAHs in Table 1 of PAR 1180 and PR 1180.1, but only require PAHs monitoring technologies be available in the future. Staff will monitor the progress of real-time and near-real-time air monitoring technologies and conduct a technology assessment every five calendar years for any air pollutant that had been deemed infeasible.

Staff acknowledges that statistically derived notification thresholds (information-based notification thresholds) do not indicate if measured concentrations are hazardous or not, and health-based notification thresholds are preferred. However, some of the air pollutants subject to fenceline real-time monitoring do not have a health standard. The historical data show that their air pollutant concentrations could spike to a very high level but there is no notification provided to the community and no subsequent evaluation required. Staff established information-based notification threshold for two air pollutants, total VOCs and Black Carbon, through a public process based on available data from petroleum refineries' data display websites. The purpose of establishing information-based notification thresholds is to notify communities when higher than typical pollutant concentrations are present and consequently, alert facilities to conduct an investigation to ensure normal operation.

*Response to Comment 2-2:*

Rule 1180 included a five-year assessment to evaluate the fenceline monitoring systems:

- (6) No later than January 1, 2025, and every five years thereafter, the Executive Officer shall conduct a refinery-related community air monitoring assessment to evaluate adequate coverage and/or need for equipment upgrades.

The assessment was removed from the proposed rule language and instead will be included in the resolution. This assessment will not be limited to the new compounds but will be an overall assessment as was the original intent. The five-year assessment will be conducted through a public process and an element of the review will focus on technologies for real-time air monitoring that was previously infeasible.

Considering the disruption to existing fenceline air monitoring systems by new installations, PAR 1180 provides an exemption under subdivision (1). An existing real-time fenceline air monitoring

system is exempt from the requirement of the rule for up to 96 hours if disrupted by the required installation of new fenceline air monitoring equipment to measure any new air pollutant.

This rule is not a Best Available Retrofit Control Technology rule subject to cost-effectiveness analysis; however, staff is evaluating the cost impact and conducting a socioeconomic impact analysis.

Facilities are required to have adequate fenceline coverage for the real-time air monitoring, when feasible. In its FAMP, the owner and operator of a facility can explain space or other constraints that limit the facilities' ability to install open-path monitoring technologies.

The Guidelines provide criteria for exclusion. Staff report Chapter 2 also has a section with more explanation. Please see Response to Comment 2-1 regarding criteria for exclusion.

*Response to Comment 2-3:*

FAMP development and the installation timelines are specified to allow adequate time for facilities to comply with the new rule requirements. Facilities are subject to one the following timelines to complete installation and begin operation of the new monitoring technologies or new fenceline air monitoring systems:

- a. Fifteen (15) calendar months after FAMP is approved or partially approved for:
  - i. an existing PAR 1180 facility to include related facilities of common ownership, any air pollutant in Table 1, and new requirements in subdivision (d) that was not addressed previously, and
  - ii. a new PAR 1180 related facility.
- b. Twenty four (24) calendar months for PR 1180.1 refineries.
- c. Six months after a revised FAMP is approved or partially if the FAMP was determined to be inadequate for both PAR 1180 and PR 1180.1.
- d. Prior to commencing operations for a new PAR 1180 facility or new PR 1180.1 refinery.

. Staff is proposing a shorter implementation schedule (15 months versus 24 months) for PAR 1180 related operation facilities as PR 1180.1 facilities will require more time to establish analyzer shelters, platforms and electrical infrastructure, and potentially require the installation of multiple open path and point sensors. For PR 1180.1 facilities, more fenceline air monitoring technologies are expected to be installed as more compounds are required to be monitored than the related facilities in PAR 1180; therefore, staff is proposing more time (i.e., two calendar years) for the installation. Based on conversations with the petroleum refineries for their previous experience for installation and challenges involved in the timeline, staff did increase the timeline from 12 - 15 calendar months for the Rule 1180 facilities to install new monitoring equipment and including related facilities.

*Response to Comment 2-4:*

There are ten air monitoring stations within communities adjacent to refineries subject to Rule 1180 adopted in 2017, whose locations were optimized for these facilities. However, there are

several residential communities adjacent and or downwind of the related facilities proposed by PAR 1180 that do not have a community air monitoring station. Examples of such residential areas include a community located north-northeast of Tesoro Carson and Tesoro SRP and another community located south of Phillips 66 Carson and Tesoro Logistics Carson Crude Terminal and west of Tesoro Wilmington refinery. Adding community stations in residential areas such as these will help assess the potential impact of emissions from the facilities in these communities. In addition, measurements of air pollutants will be used to alert the public of potential air pollutant levels that may cause health concerns.

Rule 1180 was adopted in 2017 and applies to seven petroleum refineries with an exemption to refineries with a capacity less than 40,000 bpd of crude oil. Based on Health and Safety Code § 42705.6 (Assembly Bill 1647, 2017) and Rule 1180, those petroleum refineries has funded the current Community Air Monitoring network. Rule 1180 Community Air Monitoring Plan (CAMP) outlines the South Coast AQMD's strategy and approach for conducting air monitoring in communities adjacent to the above-mentioned refineries, as part of Rule 1180 implementation. The Community Air Monitoring network was developed and has been operated by the South Coast AQMD based on the information provided in the CAMP.

With new facilities subject to PAR 1180 or PR 1180.1, more communities have been identified to be adjacent to the applicable facilities. The East Yard Communities For Environmental Justice lawsuit against South Coast AQMD also specifically noted some communities near PR 1180.1 facilities requiring communities monitoring.

Staff's current proposal on the number and type of community monitoring is based on analysis of the community coverage required to adequately assess the impact of all facilities subject to PAR 1180 in the neighboring communities. Also, some information is provided in the existing Rule 1180 CAMP for the existing community monitoring stations. Staff included a discussion with more detail on additional community coverage required with the inclusion of new facilities in Chapter 2 of this staff report.

*Response to Comment 2-5:*

Root cause analysis is important to initiate investigation to find the sources for correction. Some previous fence line notification at exceedance led to issuance of Notice of Violations for Rule 3002-Title V Requirements, Rule 463-Organic Liquid Storage, and Rule 1178-Further reductions of VOC Emissions from Storage Tanks at Petroleum Facilities. Conducting a root cause analysis when the concentrations at fence line is found exceeding the notification threshold would help the facility conduct compliance investigations and prevent any further potential violation of any source specific rule. Any investigation or corrected action conducted for a source specific rule that is related to the exceedance at fence line can be used for cause analysis.

A root cause analysis needs to be initiated (not completed) within 24 hours. Corrective actions, if applicable, must be initiated as soon as practicable. The rules do allow the facility to provide an explanation of the reason(s) if the corrective actions take more than 14 calendar days.

The information provided in a root cause analysis will be comparable to information found in compliance investigation reports that the facility provides to the South Coast AQMD or other public agencies. Staff is willing to consider facility's specific claims of confidential business information and work out a solution to protect the facility's confidentiality on a case-by-case basis.



## COMMENT LETTER #3

Comment Letter #3

**Citizen Concerns**  
**Re: SCAQMD Rule 1180 and 1180.1 Released Data**  
**for 22 August 2023 SCAQMD Public Workshop**

Submitted on 21 August 2023 for the 22 August 2023 SCAQMD Public Workshop  
 on Rule 1180 Expansion and New Rule 1180.1  
 by Dr. Genghmun Eng ("Citizen"), 5215 Lenore Street, Torrance, CA 90503

**Please add the following Public Notes and Comments to the SCAQMD Record on this item, and take these additional factors into consideration in your rule-making in order to be properly protective of the Public Health and Safety.**

**Note 1:** The SCAQMD Workshop Presentation presently titled: "Preliminary Draft Refinery Fenceline Air Monitoring Plan Guidelines - August 2023" should be re-titled to indicate applicability to non-Refinery Facilities. Citizen suggests replacing all document text, aside of the references as follows: "Refinery" should be "Refinery {or other SCAQMD Monitored Facility}" and "Refineries" should become "Refineries {or other SCAQMD Monitored Facilities}".

3-1

**Note 2:** While the SCAQMD notes that their historical data supports not a lot of Refinery PAH (Polycyclic or Polynuclear Aromatic Hydrocarbon) emissions, their data primarily emphasizes normal Refinery operations, and proper PAH monitoring may disclose significantly higher Refinery PAH emissions during non-Normal Refinery operations, where the net short-term PAH release can significantly exceed months of Refinery PAH releases under normal operations. Thus it is incumbent for the SCAQMD to continue to work toward developing near real-time and intermittent time assessments of PAH release amounts.

3-2

**Note 3:** While the SCAQMD notes that their historical data supports not a lot of Refinery PAH (Polycyclic or Polynuclear Aromatic Hydrocarbon) emissions, the new Rule 1180.1 now covers additional facilities, where their historical PAH emissions are not well known. This further supports the necessity for the SCAQMD to continue to work toward developing near real-time and intermittent time assessments of PAH release amounts.

**Note 4:** If you are not looking for something, it is easy to not see it, until someone else points it out. This was true with the SCAQMD "discovery" of excess hexavalent chromium emissions from small chemical plating facilities. Citizen believes there are multiple localized emission sources of PAH, PM-2.5, PM-10, and other presently monitored air-pollution organics, presently within the SCAQMD responsibility region, which present a hazard to the Public Health and Safety, and which need to be put under SCAQMD monitoring and control. See **Notes 5-11**.

**Note 5:** The SCAQMD purview extends to fixed air pollution sources, i.e. to sources that are not moving. As a result, it is under the SCAQMD purview to regulate Diesel Truck idling at Fixed Trucking Stations, as well to regulate near-shore Diesel Ships when idling in the US protected waters off the US coastline edge. Eventually these sources move, putting them out of the SCAQMD purview once they become non-stationary. However, while they are temporarily stationary, it remains the SCAQMD responsibility to ensure their operation is properly monitored, with their operation being properly protective of the Public Health and Safety.

3-3

**Note 6:** The SCAQMD has responsibility over SIC 2911 entities and materials. The US Department of Labor OSHA SIC Manual notes the "SIC 2911 Petroleum Refining" designation applies to, among other things: (a) Petroleum Refining, (b) Road Materials, bituminous: produced in petroleum refineries, (c) Road oils, produced in petroleum refineries, and (d) Tar or residuum, produced in petroleum refineries.

**Note 7:** In light of the above **Notes 5-6**, the new category ASPHALT USING FACILITIES needs to be added to the Proposed Rule 1180.1 section (c) under 'Definitions', so as to be included in the SCAQMD purview. Citizen suggests the following additional wording:

(0) ASPHALT USING FACILITY is a stationary or temporarily stationary facility which uses: (a) Road Materials, bituminous: produced in petroleum refineries, (c) Road oils, produced in petroleum refineries, (d) Tar or residuum, produced in petroleum refineries; including (i) Asphalt Treated Road Material, (ii) Bituminous Cold Patch Material, (iii) Asphaltic Concrete Hot Mix, (iv) Recycled Asphalt Products, and similar items originally produced in petroleum refineries.

**Note 8:** Many of these presently SCAQMD unregulated ASPHALT USING FACILITIES are contractors hired by various City and State agencies for Road Repair. When doing Road Repair operations, each contractor establishes a temporary fenceline boundary, inside which ordinary Citizens are not allowed. However, on multiple occasions, Citizen has experienced nausea and headaches, even when ten to hundreds of feet away from these temporary fenceline boundaries. It is also unclear to Citizen whether the Contractor workers operate with proper OSHA PPE (Personal Protective Equipment), likely due to the lack of present-day proper regulatory oversight. Rule 1180.1 should fix this lack of proper facility regulation.

3-3

**Note 9:** Proposed Rule 1180.1 section (b) under 'Applicability' should be revised, so as to be included in the SCAQMD purview. Citizen suggests the following wording:

"This rule applies to Refineries and Other SCAQMD Monitored Facilities that refines crude oil, Alternative Feedstocks, or both crude oil and Alternative Feedstocks, including, but not limited to Asphalt Plants and Asphalt Using Facilities."

**Note 10:** Proposed Rule 1180.1 section (c) under 'Definitions', should add and (11a) so as to be included in the SCAQMD purview. Citizen suggests the following additional wording:

(11a) OTHER SCAQMD MONITORED FACILITY is a facility that operates by primarily using materials as defined in the Standard Industrial Classification Manual as Industry No. 2911, "SIC 2911 Petroleum Refining" designation, which applies to, among other things: (b) Road Materials, bituminous: produced in petroleum refineries, (c) Road oils, produced in petroleum refineries, and (d) Tar or residuum, produced in petroleum refineries; whereas (a) Petroleum Refining is covered by the above 'Definition (11) REFINERY'.

**Note 11:** The remainder of the proposed Rule 1180.1 sections should substitute "Refinery {or other SCAQMD Monitored Facility}" for "Refinery", and substitute "Refineries {or other SCAQMD Monitored Facilities}" for "Refineries", as needed, to be consistent with the above revised 'Definitions' and 'Applicability'.

3-4

Sent by eMail to:

Michael Krause (909) 396-2706, Assistant DEO: MKrause@aqmd.gov

Heather Farr (909) 396-3672, Planning and Rules Manager: HFarr@aqmd.gov

Yanrong Zhu (909) 396-3289, Program Supervisor: YZhu1@aqmd.gov

Mojtaba Moghani, Ph.D (909) 396-2527, AQ Specialist: MMoghani@aqmd.gov

## Response to Comment Letter #3

*Response to Comment 3-1:*

The Guidelines have been retitled to, “Rule 1180 and Rule 1180.1 Fenceline Air Monitoring Plan Guidelines,” which include all facilities detailed in PAR 1180 and PR 1180.1. Facility in PAR 1180 refers to petroleum refineries and related facilities and is a defined term in the rule.

*Response to Comment 3-2:*

The South Coast AQMD is currently performing a study, called the Multiple Air Toxics Exposure Study (MATES VI), to characterize the risk from exposure to air toxics across the South Coast region, which includes areas outside petroleum refineries. The compounds being monitored includes several air toxics, including Polycyclic Aromatic Hydrocarbons (PAHs). The South Coast AQMD monitors PAHs in Central Los Angeles and Rubidoux as part of MATES and the National Air Toxics Trends (NATTS) network, a nationwide program geared to provide consistent and long-term air toxics monitoring data. PAHs measurements by MATES and NATTS programs are not real-time measurements and take a considerable amount of time for sample preparation and lab testing.

There is no real-time air monitoring technology currently available to measure PAHs. Naphthalene is the only PAH that can be monitored in real-time and will be required to be monitored by current open-path systems installed at refinery fencelines. Staff will continue to monitor and assess the development of real-time air monitoring technologies for PAHs and report the results of the assessment to the Stationary Source Committee every five calendar years. If staff determines real-time air monitoring is feasible, the facilities would be required to revise their FAMPs and QAPPs and start monitoring for PAHs according to the timeline specified by PAR 1180 and PR 1180.1.

*Response to Comment 3-3:*

PAR 1180 and PR 1180.1 are adopted to comply with Health and Safety Code Section 42705.6 with a focus on monitoring air pollutant concentrations that are a result of refinery or related facilities operations. Some of the mentioned air pollutants (e.g., PM10, PM 2.5) will be required air pollutants that the facilities must monitor for once the new technologies are installed. In the case of PAHs, monitoring will be required once real-time monitoring technologies become available.

The South Coast AQMD enforces the California Air Resources Board (CARB) truck idling regulation, which limits diesel truck and bus idling to five minutes. More information can be found here: <https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/regs-commitments>

Health and Safety Code Section 42705.6 only applies to "petroleum refineries. Facilities under Standard Industrial Classification (SIC) 2911 include refineries that *refine* asphalt but does not include facilities that *blend or apply* asphalt. PAR 1180 applies to facilities with operations related to petroleum refineries to address operations related to refinery processes located on properties adjacent or contiguous to a petroleum refinery. Moreover, “asphalt plant” is defined in PR 1180.1 as a facility permitted to process petroleum that primarily produces asphaltic materials as defined in SIC 2911. Rule 1180 or Rule 1180.1 may apply to other facilities that process materials stated in Standard Industrial Classification (SIC) 2911 but shall be evaluated on a case-by-case basis.

Temporary road repairs do not have an established property boundary and therefore, cannot establish a fenceline air monitoring plan and/or a fenceline air monitoring system. Additionally,

these repairs may be completed before the time it would take to develop, submit, and implement a fenceline air monitoring plan.

For more information regarding facilities subject to PAR 1180 and PR 1180.1, please see Response to Comment #PWM-1b.

*Response to Comment 3-4:*

Since PR 1180.1 will not include facilities that blend or apply asphalt as stated in Comment 3-3, Staff will not include new definitions for the aforementioned facilities.

## COMMENT LETTER #4

Comment Letter #4

**Mojtaba Moghani**

**From:** Renate Boronowsky <renate.ware@gmail.com>  
**Sent:** Sunday, August 27, 2023 3:16 PM  
**To:** Heather Farr; Mojtaba Moghani  
**Subject:** [EXTERNAL]Public Comment - Enhancing Fence Line and Community Monitoring for Refinery Operations

Dear South Coast Air Quality Management District (AQMD) members,

I trust this message finds you well. My name is Renate and I am a committed PhD student in environmental engineering, as well as a member of East Yard Communities for Environmental Justice. At this past week's workshop, I provided a public comment concerning the notification thresholds for air quality, particularly for sensitive groups. I wish to underscore the significance of this matter and encourage the AQMD to consider my perspective.

In line with the AQMD's expressed concern over the volume of notifications, I'd like to emphasize that *the crux of the matter is indeed the frequency of these alerts*. It is vital for residents, particularly those who are most vulnerable, to be made aware of the potential health risks posed by the air they breathe, and the frequency at which they are exposed to these harmful pollutants.

Many folks living in the vicinity of oil operations and refineries often have no option to relocate, and these communities are often characterized by lower income demographics. Disabled community members often live in low income neighborhoods due to the policies that limit access to social services based on an income cap. Those who live on ventilators, and experience other disabilities are much more likely to be harmed by pollutants within their environment, thus necessitating the need for notifications that inform sensitive groups.

It's also important to stress that the health challenges prevalent in these communities extend beyond air quality alone. These communities frequently grapple with a host of issues, including diet-related illnesses, trauma, and stress ailments that come as a direct result of living in poverty and near industrial operations. These additional factors compound with toxin emissions and further impact the health of many residents.

Moreover, the need to safeguard infants and children who inhabit or attend schools in these communities cannot be overstated. Some of these pollutants can impact brain development, and increase cancer risks. Clean air is a human right and something that every child should have access to. *Given these circumstances, I strongly urge the AQMD to revise the notification thresholds for each pollutant, aligning them with the level of risk to sensitive groups.* This revision should encompass both acute events and long-term exposures.

4-1

In sharing my perspective, I would also like to provide a personal context. I am a mother of twins who were born prematurely and brought home to our residence in West Long Beach that was just a few blocks from the edge of the Carson Marathon Refinery. In our time living on W Cameron street, our family experienced many flares from nearby refineries, often in the middle of the night. I distinctly recall a harrowing incident, as we were sitting with our infants in the garden, alarms blared and a heavy cloud of yellow smoke blew in our direction. When I called the police to see if we should be evacuating the area or shutting our windows, I was brushed off and told I would be notified if anyone needed to evacuate. They could tell me nothing of the pollutant that was escaping, nor the potential impacts to our health, and had no advice on how to protect us. However, I am confident that if I had been an individual calling from Bixby Knolls or Belmont Shore, my experience with the emergency services would have played out very differently. These events are vivid reminders of the tangible impact refinery operations can have on individuals and communities.

As a society, we bear a duty and a moral obligation to protect and value the life of the most vulnerable members of our population. The policies and practices that emerge from AQMD's decisions are pivotal in

determining the degree of equity – or lack thereof – that exists in terms of disability, race, and economic discrimination. Your policies implemented now can begin to repair the legacies of the environmentally racist policies of the past, and to help prevent further overall environmental degradation.

As an additional consideration, I align with the sentiment expressed by my fellow East Yard community members regarding accessibility. It is imperative that workshops and policy materials be made more comprehensible for all members of our community. I wholeheartedly support the implementation of text message notifications, recognizing their accessibility to a wide range of residents. However, I advocate for the integration of diverse communication methods. Multiple modalities should be developed. The existing South Coast AQMD app, for instance, presents an opportunity to offer residents real-time insights into emissions, risks, and pollution trends, fostering a deeper understanding of their environment.

4-2

Lastly, I urge the AQMD to expand the scope of refinery fees to include community projects aimed at environmental restoration and public health enhancement. In addition to covering monitoring device setup costs, the fees paid by refineries should contribute to alleviating the community impacts they generate. This could encompass initiatives such as providing funding to local environmental nonprofits, implementing tree plantings, providing and installing diverse air filter systems, and other projects that empower residents to proactively safeguard their health, regardless of their economic status.

4-3

In conclusion, I implore you to recognize the far-reaching consequences of your decisions on our most vulnerable populations. By embracing a more equitable and comprehensive approach to fence line and community monitoring, you play a pivotal role in shaping the well-being of our communities. I trust you will carefully consider these perspectives as you work toward a more just and inclusive future for all.

Thank you for your time and for your dedication to this work.

Sincerely,

--

**Renate Boronowsky**

(pronounced: Ren-ah-ta)

(She/Her/Hers)

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*University of California Los Angeles*

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## Response to Comment Letter #4

### *Response to Comment 4-1:*

Thank you for providing comments. The Office of Environmental Health Hazard Assessment (OEHHA) identified and developed information on chemicals emitted from refineries and their health effects and the final report published in March 2019 presents a comprehensive list of chemicals emitted from California refineries and prioritizes the chemicals according to their emissions levels and toxicity.

Measures of toxicity for individual air pollutants included OEHHA's Reference Exposure Levels (RELs), Cancer Potency Factors (CPFs) and Unit Risk Values which addresses both short- and long-term toxicity concerns. These toxicity designations were compared to routine and non-routine emissions from refineries and air pollutants with involvement in the most refinery equipment or processes. Therefore, this study is an extensive study to find the top candidates for air monitoring either at the fenceline and in the communities considering different types of health risks including long term exposures that could potentially be involved.

Notification thresholds defined in PAR 1180 and PR 1180.1 are based on the most stringent of the OEHHA acute RELs, on-hour national, and one-hour California health-based standards (NAAQS and CAAQS). Based on OEHHA definition, REL is the concentration level at or below which no adverse health effects are anticipated for a specified exposure duration and has been revised in 2008 in particular to explicitly include consideration of possible differential effects on the health of infants, children and other sensitive subpopulations, in accordance with the mandate of the Children's Environmental Health Protection Act (Senate Bill 25, Escutia, Chapter 731, Statutes of 1999, Health and Safety Code Section 39669.5 *et seq.*). Most of the listed pollutants have established RELs. EPA defines primary standards as "limits to protect public health, including the health of 'sensitive populations such as asthmatics, children, and the elderly'". In addition, staff proposed to add information based notification thresholds for air pollutants with no established RELs or health-based standards to inform the public of any concentration exceedance from normal operations. In an event of threshold exceedance, a facility will include a link to the OEHHA online Air Chemical Database website to the specific air pollutant detected above the threshold and information on long term impacts will also be available.

For additional information and context, please refer to Response to Comment #PWE-2.

### *Response to Comment 4-2:*

Please refer to Response to Comment #PWM-5b, #1-3, and #1-5. In addition, staff is proposing to add text notifications and integrating notifications into the South Coast AQMD mobile application.

### *Response to Comment 4-3:*

The PAR 1180 and PR 1180.1 will focus on monitoring air pollutant concentrations from refineries and related operations in the South Coast Air Basin to provide real-time information to the public on the potential exceedance of air pollutants emitted by these facilities. However, there are multiple programs in the South Coast AQMD focusing on improving air quality in communities near to refineries. For example, the AB 617 program invests resources and focuses on improving air quality in Environmental Justice communities which includes developing Community Emission Reduction Plans (CERPs). The AB 617 program holds meetings to discuss opportunities to address air pollution concerns in Environmental Justice communities. More information about AB 617 and

the South Coast AQMD's supporting efforts for AB 617 can be found here on the AQMD website:  
<http://www.aqmd.gov/nav/about/initiatives/environmental-justice/ab617-134>.



## COMMENT LETTER #5

Comment Letter #5

**Citizen Notes and Comments on Rule 1180 and 1180.1  
for 12 October SCAQMD Working-Group Meeting #5**

Submitted on 11 October 2023 for the SCAQMD Working Group Meeting #5 on Rule 1180 Expansion  
by Dr. Genghmun Eng ("Citizen"), 5215 Lenore Street, Torrance, CA 90503

**Note 1:** The SCAQMD Staff Presentation for their 12 October 2023 Working Group Meeting #5 (45 pages) has added the requirement (p. 25 of 45) for 'Real-Time Monitoring of PAHs' after an SCAQMD Executive Officer provides written notice that 'Real-Time Monitoring of PAHs' is feasible. Citizen appreciates this addition to the Rule 1180 / Rule 1180.1 requirements on this important issue.

**Note 2:** Citizen previously highlighted (*Further Notes and Concerns Regarding Facility PAH Emissions: Note 1, Submitted 11 July 2023*) the SCAQMD Staff noted in their Working Group Meeting #1 that their present rules and procedures require updating their Board on technology progress once every 5 years. Citizen noted back then that, for Public Health and Safety, progress and updates on PAH assessment should be done more often, and SCAQMD Staff verbally agreed to do a yearly PAH update assessment to their Board. This SCAQMD commitment should be explicitly captured in these Working-Groups Meeting charts. This yearly update to the SCAQMD Board by the SCAQMD Staff becomes even more important, to document progress, or lack of it, towards 'Real-Time Monitoring of PAHs', given the requirements for the SCAQMD Executive Officer to evaluate its feasibility.

5-1

**Note 3:** On p. 33 of 45, 'Root Cause Analysis', the flowchart box labeled "Root Cause is an off-site source?" would probably be better labeled as "Is Root Cause believed to be an off-site source?", as root-cause analysis often requires many steps to achieve reasonable certainty on a Primary Root Cause, as being the most likely one of many alternatives considered. Pathways for 'Yes' and 'No' should also be labeled in the final archived form for this SCAQMD Presentation page.

5-2

**Note 4:** Regarding 'Root Cause Analysis' (p. 33 of 45); A 'Fishbone Diagram' identifying potential Root-causes, and how their likelihoods were amplified or reduced during the Root-cause Analysis phase, is an important standard 1-page Root Cause Analysis Summary Tool. It's inclusion should be required for any and all Root Cause Analysis reporting, both as part of the historical record, and as an efficient guide to helping determine the most likely Root-cause in an efficient manner.

**Note 5:** Regarding 'Text Notifications' (p. 27 of 45), Citizen favors the Short-Messaging-Service (SMS) format with its 160-character limit. This should be done as an adjunct to the exemplary long-form email that is illustrated. Citizen further notes that a lot of the long-form email shown is dedicated to presenting historical and administrative information, a lot of which may be unnecessary for inclusion in an SMS. Citizen believes that highlighting threshold exceedances is more valuable and impactful in the shorted SMS format, compared to using a Multimedia Messaging Service (MMS) format which can result in messages 10X longer, risking the messages not being read.

**Note 6:** Citizen agrees it is a good idea to have both a SMS Threshold-Exceedance Message (TEM), as well as a follow-on SMS Now-Below-Threshold (NBT) Message. Both message types do not need to include the exact same information. Having a unique identification number for both TEM and NBT messages is a good idea. The simplest would be something like: 'N9270120C' where "N" indicates it is a notification indexer; 'C' indicates year 2023; '9' indicates month (with 'A', 'B', 'C' for October, November, or December); '27' indicated day-of-month; and '0120' is the hours and minutes on a 24-hour clock). High noon Christmas Day 2023 would then be 'NC251200C'.

5-3

**Note 7:** For the TEM, instead of having a 'Link to OEHHA Air Chemical Data Base', where someone would have to go look that up, Citizen suggests putting in the actual CAS Number for the chemical. It will help people receiving the text message to better manage what their needed responses should be. For the NBT, the CAS Number is not needed, as NBT's represent a return to normalcy.

**Note 8:** Citizen proposes these <160 character TEM and NBT message formats. Example here is based on the same representative situation used in the SCAQMD Presentation (p. 27 of 45):

**PROPOSED MODIFIED INFORMATIONAL TEXT**

Valero Wilmington Refinery (C2-East Sensors) shows  
30.5 ppb Hydrogen Sulfide (CAS-7783064), 9-27-2023, 1:20:00AM  
WilmingtonRefineryMonitoring.org N9270120C (153 char.)

Valero Wilmington Refinery (C2-East Sensors) below  
30.0 ppb Hydrogen Sulfide Threshold, 9-27-2023, 2:30:00AM  
WilmingtonRefineryMonitoring.org N9270230C (149 char.)

Inclusion of a link to the TEM and NBT source then allows the message receiver to efficiently find out any additional information that they need. Also, having the 'Notification Threshold' is unnecessary, because every TEM message is already an exceedance. Even if the first message were a high multiple of the 'Notification Threshold', knowing the actual value is a lot more important than knowing the 'Notification Threshold', since that is an administrative action threshold, and the existence of the notice itself already communicates that something is not normal. Finally, since most TEM and NBT messages are not expected to be reporting a full-scale disaster, the above proposed NBT message has the threshold value built into it, making that data available to all message receivers.

5-3

**Note 9:** After the first TEM message is sent out, what happens if the situation gets worse or better with time? Citizen suggests the following thresholds for TEM messages, until an NBT level is reached:

*TEM Message #2: When Threshold-Exceedance goes 40.0% or more of TEM Message #1*

*.OR. When Threshold-Exceedance goes below 30.0% or more of TEM Message #1*

5-4

These levels are carefully selected, so that two successive 40% increases  $(1.4) \times (1.4) = 1.96$  corresponds to a near doubling of the TEM levels, while two successive 30% decreases  $(0.7) \times (0.7) = 0.49$  corresponds to a reduction by nearly 1/2 of the TEM levels.

**END OF CITIZEN NOTES AND COMMENTS**

### Response to Comment Letter #5

#### *Response to Comment 5-1:*

The owner or operator of a facility will be required to revise their FAMP if real-time monitoring technology for PAHs become available. The proposed five-calendar year technology assessment does not precluded staff from requiring PAH monitoring at any time if it determines monitoring is technically feasible. The South Coast AQMD Monitoring and Analysis Division is constantly evaluating new technologies for real-time monitoring. For more information regarding PAH measurements, please refer to Response to Comment #PWM-c.

#### *Response to Comment 5-2:*

Staff agrees that it is not always a straightforward yes or no conclusion when conducting a root cause analysis and has amended the figure. A root cause analysis report is required to have the cause and duration of the air pollutant concentrations, determination of the source of air pollutant emissions, any mitigation and corrective actions taken to stop the exceedance, an explanation of the release for any corrective actions that take more than 14 calendar days, and any monitoring data requested by the Executive Officer. The goal of the rule is to have the root cause identified

and to have all actions related to the root cause documented thoroughly and effectively. A problem-solving pathway (referred to as a fishbone diagram by the commenter) could be a way for facilities to report the information for the root cause analysis report. The provision for root cause analysis has been further revised to improve the problem-solving pathway for identifying the root cause and addressing the possible issues. In addition to the timelines of the root cause analysis, corrective action, reinspection, and reporting, staff has modified the process required for root cause identified to be from off-site sources, and proposed root cause analysis by qualified independent party for reoccurring exceedances.

*Response to Comment 5-3:*

The purpose of the text notification is to provide information to the general public in an effective and understandable manner. Integration of the CAS number into the message may not be easily understood by the general public. Staff will continue to work on the most feasible way to deploy and implement the text message notification system. Staff will take suggestions for content included in the text message notification into consideration. For more information regarding data accessibility, please refer to Response to Comment #PWE-4b.

*Response to Comment 5-4:*

Staff agrees with the recommendation for follow-up notifications if concentrations significantly increase over time. Staff included a requirement for the facility to send follow-up notification(s) if the detected level of any of the air pollutants in Table 1 increases significantly above the notification threshold, using the following equation:

$$\begin{aligned} & \textit{Follow – up Notification Threshold} \\ & = \textit{Applicable Notification Threshold} \times 2^X \end{aligned}$$

Where X = 1, 2, 3, 4, and 8

The rules also include a follow-up notification when concentrations go below the threshold for a certain period of time. This is not a new requirement for Rule 1180; however, PAR 1180 includes clarification on the specific time (30 minutes) the air pollutant must be measured below the notification threshold level before the follow-up, end of exceedance notification is triggered.

## COMMENT LETTER #6

Comment Letter #6



Ramine Cromartie  
Senior Manager, Southern California Region

November 02, 2023

Heather Farr  
Planning and Rules Manager  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765

Via e-mail at: hfarr@aqmd.gov

*Re: SCAQMD Proposed Amended Rule 1180, Fenceline and Community Air Monitoring for Petroleum Refineries and Related Operations, and SCAQMD Proposed Rule 1180.1, Other Refinery Fenceline and Community Air Monitoring  
WSPA Comments on Preliminary Draft Rule Language*

Dear Ms. Farr,

Western States Petroleum Association (WSPA) appreciates the opportunity to participate in South Coast Air Quality Management District (SCAQMD or District) Proposed Amended Rule 1180, Fenceline and Community Air Monitoring for Petroleum Refineries and Related Operations (PAR1180), and SCAQMD Proposed Rule 1180.1, Other Refinery Fenceline and Community Air Monitoring (PR1180.1) Preliminary Draft Rule Language. The purpose of this rulemaking is to remove exemptions so that all petroleum refineries identified under SIC 2911 will be subject to the rule and expand applicability to include operations related to refineries that are contiguous to the property of the refinery. SCAQMD is also proposing to expand the Rule 1180 list of monitored compounds to include those chemicals included in the California Office of Environmental Health Hazard Assessment (OEHHA) priority list.<sup>1</sup>

WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport, and market petroleum, petroleum products, natural gas, renewable fuels, and other energy supplies in five western states including California. WSPA has been an active participant in air quality planning issues for over 30 years. WSPA member companies operate petroleum refineries and other facilities in the South Coast Air Basin that are within the purview of the SCAQMD and thus will be impacted by PAR1180 and PR1180.1.

<sup>1</sup> OEHHA Analysis of Refinery Chemical Emissions and Health Effects. March 2019. Available at: <https://oehha.ca.gov/media/downloads/faqs/refinerychemicalsreport032019.pdf>.

November 02, 2023

Page 2

SCAQMD published the Preliminary Draft Staff Report and Preliminary Draft Refinery Fenceline Air Monitoring Plan Guidelines on August 18, 2023 and revised preliminary draft rule language for PAR1180 and PR1180.1 on October 6, 2023.<sup>2,3,4,5</sup> WSPA understands that this rulemaking was initially undertaken in response to a lawsuit filed by East Yard Communities for Environmental Justice (EYCEJ) that claimed that the District failed to install a community air monitoring system and require fenceline monitoring at refineries with <40,000 barrel per day production capacity.<sup>6,7</sup> As the rulemaking proceeded, SCAQMD added potential requirements that were being considered as part of a piece of proposed legislation, Senate Bill 674 (SB674).<sup>8</sup> SB674 would have expanded the definition of refineries to include certain non-crude oil feedstock refineries and auxiliary facilities, and require refineries to improve public notification processes, reporting, data accessibility, and to conduct third-party audits and root cause analyses of any threshold exceedances. But on September 14, 2023, SB674 was moved to the "inactive" file for the 2023 legislative session and as such will not become State law this year.<sup>5</sup> Given the number of outstanding issues proposed in the draft rule language related to these SB674 concepts, and the fact that SB674 is still a legislative proposal, WSPA recommends that Rule 1180 be bifurcated such that the concerns of the EYCEJ lawsuit are addressed separately by the required deadline. All other proposals which do not pertain to the EYCEJ lawsuit would be addressed after all refineries and auxiliary facilities have fully approved Fenceline Air Monitoring Plans (FAMPs)/ Quality Assurance Project Plans (QAPPs) and have conducted the first system audit under such approvals.

Under the bifurcation as indicated above, WSPA offers the following additional comments.

1. PAR1180 would require facilities with existing FAMPs to submit a revised FAMP within 6 months of the date of rule adoption. PAR1180 and PAR1180.1 would also require that facilities submit a revised FAMP within 60 days after notification that real time monitoring of polycyclic aromatic hydrocarbons (PAHs) is feasible. WSPA requests that these timelines be updated such that facilities would have one year to submit a revised FAMP.

6-1

<sup>2</sup> PAR1180 Revised Preliminary Draft Rule Language. October 6, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/revised-preliminary-draft-par-1180---october-2023.pdf?sfvrsn=14>.

<sup>3</sup> PR1180.1 Revised Preliminary Draft Rule Language. October 6, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/revised-preliminary-draft-pr-1180-1---october-2023.pdf?sfvrsn=14>.

<sup>4</sup> PAR1180 and PR1180.1 Preliminary Draft Staff Report. August 18, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/preliminary-draft-staff-report-for-par-1180-and-1180.1---august-2023.pdf?sfvrsn=6>.

<sup>5</sup> Preliminary Draft Refinery Fenceline Air Monitoring Plan Guidelines. August 18, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/preliminary-draft-1180-and-1180.1-guidelines---august-2023.pdf?sfvrsn=6>.

<sup>6</sup> SCAQMD PAR1180 and PR1180.1 Working Group Meeting #5, October 12, 2023. Available at: <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1180-and-1180.1/par-1180-and-pr-1180.1-wgm5-october-2023.pdf?sfvrsn=14>.

<sup>7</sup> East Yard Communities for Environmental Justice v. South Coast Air Quality Management District. Los Angeles County Superior Court, Case No. 22STCP04938. Available at: [https://legal-planet.org/wp-content/uploads/2022/12/2022-1219\\_1\\_Verified-Petition.pdf](https://legal-planet.org/wp-content/uploads/2022/12/2022-1219_1_Verified-Petition.pdf).

<sup>8</sup> Senate Bill 674. Available at: <https://legiscan.com/CA/bill/SB674/2023>.

November 02, 2023  
Page 3

Under the current draft language, PAR1180(d)(2) would require that an owner or operator of a Refinery with an existing Fenceline Air Monitoring Plan (FAMP) submit a revised FAMP no later than six months after date of rule adoption. Further, PAR1180(d)(5)(G) and PR1180.1(d)(4)G would require that a revised FAMP be submitted 60 days after a future notification that real time monitoring of PAHs is feasible.

The addition of new equipment may require new locations and/or new infrastructure. Such projects take time to design, and the proposed timelines may not be feasible since at this time, it is unknown what the new equipment would be or what ancillary equipment would be necessary to support such equipment. WSPA suggests that PAR1180(d)(5)(G) and PR1180.1(d)(4)G be amended to allow 1 year for submittal of a revised FAMP. Further, FAMP development is based on the requirements in the Refinery Fenceline Air Monitoring Plan Guidelines. The timeline for a revised FAMP for PAH monitoring should therefore be tied to the issuance of revised Refinery Fenceline Air Monitoring Plan Guidelines rather than a notification by the Executive Officer.

6-1

- 2. WSPA recommends that two years be allowed for all installation of monitoring equipment and start of operation resulting from a revised FAMP. Additionally, installation of monitoring equipment should only be required once all FAMPs have been fully approved by the District.**

PAR1180(e) sets forth the compliance schedule for completion of installation and start of operation in accordance with an approved or partially approved FAMP, stating:

*(1) The owner or operator of a Facility shall complete installation and begin operation of a Real-Time Fenceline Air Monitoring System or modify the operation of the Fenceline Air Monitoring System in accordance with the approved or partially approved FAMP:*

*(A) Beginning no later than one year after a FAMP submitted pursuant to paragraph (d)(1) and, subparagraphs (d)(2)(B) and (d)(2)(C) is approved, or partially approved, by the Executive Officer;*

*(B) Beginning no later than 18 months after a FAMP submitted pursuant to subparagraph (d)(2)(A) and paragraph (d)(3) is approved, or partially approved, by the Executive Officer;*

*(C) No later than six months after the Executive Officer approves, or partially approves, a revised FAMP required pursuant to paragraph (d)(5); and*

*(D) Prior to commencing operations at a new Facility.*

6-2

PAR1180 should not include different compliance timelines for installation of equipment resulting from revised plans versus new plans. The constraints on installation timelines are associated with system and structural design, permitting, and construction, and are the same regardless of whether a plan is new or revised. Additionally, it might not be possible for vendors to provide and build the volume of new analyzers required if SCAQMD approves multiple plans in a short time period. WSPA recommends that two years be allowed for all installation and start of operation under both new and revised plans.

November 02, 2023  
Page 4

Additionally, timelines in PAR1180 and PR1180.1 for the installation of new monitoring systems should specify that installation should only commence following full approval of all facility FAMPs. A requirement to construct and install monitoring systems which may only have partial District approval would place unreasonable risk on facilities should the District make changes later to the FAMP requirements. Also, WSPA believes SCAQMD needs to focus on fully approving the existing FAMPs before requiring facilities to modify them. Full approvals may end up staggered over a lengthy time period depending on the FAMP. With this, there may be the possibility that the District makes changes to the FAMP requirements as individual facility FAMPs are approved. This could result in an unequal application of the FAMP requirements across the various impacted facilities. Therefore, facilities should not be required to install their new systems until all FAMPs under rule have been fully approved.

6-2

**3. While we appreciate the District’s interest in making data collected under PAR1180 and PR1180.1 available to the public, facilities must be allowed sufficient time to ensure data is quality controlled before it is made available for public download.**

PAR1180(d)(4)(H) and PR1180.1(d)(3)(H) require that facilities include in the FAMP methods to make real time and historical data available for public download. PAR1180 states:

*(H) Methods for making Real-Time Data and historical data collected by the equipment specified in subparagraphs (d)(4)(A) and (d)(4)(C) available for public download in an easily downloadable, accessible, and interoperable electronic format that is approved by the Executive Officer;*

6-3

Additionally, PAR1180(g)(1)(B) and PR1180.1(g)(1)(B) require that facilities maintain a web-based fenceline data display that includes real-time and historic concentrations of all air pollutants measured by the fenceline air monitoring system. Requiring that real time data be available to the public does not allow facilities the time to perform their QA/QC process to ensure data quality. This could result in presenting data that is not valid due to equipment malfunction. Data should be allowed to undergo QA/QC before it is made available for public download. Additionally, the rules should not require that a facility’s real time data be publicly available until that facility’s QAPP has been approved. References to “real-time” data should be removed from these sections of the rules.

**4. Requirements related to the web-based fenceline data displays and notification program described in PAR1180(g)(1) and PR1180.1(g)(1) should be in accordance with a facility’s approved FAMP, as opposed to the Refinery Fenceline Air Monitoring Plan Guidelines, and the rules should allow a timeline for facilities to make required changes to their websites.**

PAR1180(g)(1) and PR1180.1(g)(1) describe requirements related to the web-based fenceline data displays and notification program. WSPA requests that the following update be made to the draft rule language in these sections:

*The owner or operator of a Facility shall maintain a web-based fenceline data display and notification program ~~according to the Refinery Fenceline Air Monitoring Plan Guidelines in accordance with the approved FAMP...~~*

6-4

November 02, 2023

Page 5

Additionally, time should be allowed for implementation of any changes that are required to be made to facilities' websites to meet the reporting requirements of these rule sections and should not be required until all FAMPs under rule are fully approved.

6-4

**5. PAR1180 and PR1180.1 would require facilities to include a mechanism in their notification programs to provide text messages to the public. WSPA believes that text messages are not the appropriate communication method for public notifications.**

PAR1180(g)(4) and PR1180.1(g)(4) would require that facilities include a mechanism in their notification programs to provide text messages to the public. Fenceline notifications can happen at any hour of the day, and the public may not be interested in receiving notifications late at night. Text messaging can impact users' data plan limits and have the potential to incur additional fees for the users. Additionally, messages are limited to a certain number of characters and therefore texts may not be able to fully convey the scope of the notification. Finally, carriers and devices are not necessarily reliable. There is a concern that if a text fails to be received by a member of the public, it could be perceived as a shortcoming of the refinery rather than an issue with a carrier or device. For these reasons, WSPA believes that text messages are not the appropriate communication method for notifications and requests that this requirement be removed from the rule.

6-5

**6. PR1180(j)(2) and PR1180.1(j)(2) would require that a root cause analysis (RCA) be performed when an air pollutant listed in Table 1 is measured above the notification threshold. The impetus for including root cause analyses in the proposed rules was alignment with SB674. Now that SB674 has been moved to the inactive file for this legislation, WSPA requests that requirements pertaining to root cause analyses be removed from the proposed rule/rule amendments.**

Per SCAQMD, the main goals and objectives of Rule 1180 are as follows:<sup>9</sup>

- Implement a robust, continuous and near real-time community air monitoring network near all refineries in the Basin;
- Provide near real-time air quality information through a dedicated website to inform the public of current air quality conditions in their community;
- Notify the public in case the ambient concentration of one or more air pollutants exceeds pre-determined thresholds;
- Collect air pollution data suitable for short- and long-term air quality assessments;
- Provide up-to-date community air quality data;
- Promote awareness of the potential impact of refinery emissions on air quality through public education; and
- Track progress in improving community air quality.

6-6

<sup>9</sup> SCAQMD Rule 1180 Community Air Monitoring. Available at: <http://www.aqmd.gov/home/rules-compliance/rules/support-documents/rule-1180-refinery-fenceline-monitoring-plans/rule-1180-community-air-monitoring>.



November 02, 2023  
Page 6

The purpose of Rule 1180 is to require real-time fenceline air monitoring systems and “to provide air quality information to the public and local response agencies about levels of various criteria air pollutants, volatile organic compounds and other compounds at or near the property boundaries of petroleum refineries.”<sup>10</sup> [emphasis added] Requiring results of RCAs in the notification program does not align with this stated purpose for Rule 1180, and inclusion of RCAs in the notification program would inappropriately set the expectation to members of the public that PAR1180 and PR1180.1 are compliance rules. They are not. Additionally, existing regulations that address equipment repairs may already call for an RCA to be performed. In instances such as this, the RCA requirement would be duplicative.

Also, because SB674 has been moved to the inactive file by the legislature, and it is no longer necessary for the District to align these amendments with that legislative proposal, WSPA requests that requirements pertaining to root cause analyses be removed from the rule.

Although WSPA requests that RCAs be removed from the rule, WSPA offers the following comments with respect to RCAs as they apply to fenceline monitoring:

**a. Dealing with off-site sources**

- The most recent versions of PAR1180 and PR1180.1 acknowledge that refineries may not be the cause of an exceedance of a notification threshold. Other sources, such as vehicle traffic near the fenceline, could cause or contribute to pollutant exceedances. PAR1180 and PR1180.1 should include exceptions for reporting of RCAs when it is determined that pollutant exceedances are likely caused by off-site sources.
- PAR1180(j)(2)(C) and PR1180.1(j)(2)(C) require that a facility notify an off-site source subject to the rule if it is determined that the root cause was from the off-site source. It is not appropriate for SCAQMD to require one facility to assign a possibly legally enforceable compliance obligation to another facility; that is the District’s responsibility.

**b. Management of confidential business information**

- Publication of the details of an RCA must avoid disclosure of confidential business information to the public. The requirements listed under PAR1180(j)(2) and PR1180.1(j)(2) must allow for the exclusion or redaction of confidential business information in RCAs before they are publicly disclosed.

**c. Qualified independent party**

- PAR1180(j)(3) and PR1180.1(j)(3) state that if three RCAs within the same year indicate the same cause or indicate the cause cannot be determined for the same air pollutant detected above the notification threshold, the facility must have a qualified independent party conduct an RCA within 14 days of the most recent instance of exceedance of a threshold. SCAQMD has not defined “qualified independent party.” There are few who understand the complexities of refinery operations, so it will be difficult to source a qualified independent party to do the RCA. In addition, it is unlikely that such an individual outside of the refinery operations would be able to perform the audit in the suggested

6-6

<sup>10</sup> SCAQMD Rule 1180 Refinery Fenceline Air Monitoring Plan Guidelines, December 2017.

November 02, 2023

Page 7

timeframe. Further, if the threshold exceedances are spaced out over several months, it may be impossible to track down a root cause.

**d. Instrument or operator error**

- The rules should include exceptions for when data has been determined to not meet the requirements of the approved QAPP. This could be the result of, for example, instrument malfunction or operator error. If the facility determines that this has occurred, then the monitoring data should be considered invalid, and an RCA should not be required.

6-6

**7. PAR1180(h)(1) and PR1180.1(h)(1) include reporting requirements that are already required to be included in the quarterly reports; WSPA requests that these reporting requirements be removed from the draft rule language.**

PAR1180(h)(1)(B) and PR1180.1(h)(1)(B) require that phone notifications to the SCAQMD be made within two hours of discovering, and no more than eight hours of the start of downtime or malfunction, that the fenceline air monitoring system has failed to accurately provide real-time air monitoring information for more than one hour. Additionally, PAR1180(h)(2) and PR1180.1(h)(2) require written notification be submitted to SCAQMD within 24 hours of discovering that downtime of the fenceline air monitoring system has resulted in a failure to accurately provide information as required by the FAMP for 24 hours or longer. The same information related to equipment downtime is required to be included in the quarterly reports, so such additional reporting appears to be redundant. SCAQMD should only require that this information be included in the quarterly reports, as opposed to the shorter-term notification timelines prescribed in the revised preliminary draft rules.

6-7

**8. A facility should not be required to perform an audit unless there is an approved audit protocol. Audits should only be implemented at facilities when all FAMPs and QAPPs have been fully approved. Additionally, the rules should include a provision to allow facilities to contest audit findings if they determine that the findings are inaccurate or if the audit protocol was not followed correctly.**

PAR1180(i) and PR1180.1(i) describe requirements related to independent audits of the fenceline air monitoring systems. However, SCAQMD staff have not yet developed and approved a protocol for third parties to conduct these audits.<sup>6</sup> WSPA recommends that stakeholders be allowed to review and comment on the audit protocol prior to audits being performed. Audits should not be conducted until the protocol has been reviewed by stakeholders and approved by the Executive Officer. Additionally, audits should not be performed for a facility until all the FAMPs and QAPPs have both been fully approved for each facility.

6-8

The rules should include provisions to allow facilities to contest audit findings. There may be instances where findings are inaccurate, or the approved audit protocol was not correctly applied. Facilities must be given the opportunity to independently review the third-party auditor reports to determine whether the audits were conducted accurately and according to the approved protocol. If not, facilities must be allowed to contest the findings, report any such disputes to SCAQMD, and request an appropriate remedy.

November 02, 2023

Page 8

9. PAR1180(l) exempts Related Facilities from monitoring of black carbon. SCAQMD has used the OEHHA priority list of pollutants to inform what pollutants to include in monitoring in PAR1180 and PR1180.1. Because black carbon is not included in the OEHHA priority list, the rule should not require any facilities to monitor black carbon emissions.

PAR1180(l) states that an owner or operator of a Related Facility is exempt from monitoring black carbon. Although black carbon is not included on the OEHHA priority list of pollutants, facilities with existing black carbon monitors could, at their discretion, still use these monitors. But since black carbon is not included on the OEHHA list, facilities should no longer be required to monitor black carbon and its future monitoring should be at each facility's discretion.

6-9

WSPA appreciates the opportunity to provide these comments related to PAR1180 and PR1180.1. We look forward to continued discussion of this important rulemaking. If you have any questions, please contact me at (310) 808-2146 or via e-mail at [rcromartie@wspa.org](mailto:rcromartie@wspa.org).

Sincerely,



Cc: Michael Krause, Assistant Deputy Executive Officer  
Yanrong Zhu, Program Supervisor  
Mojtaba Moghani, Ph.D., Air Quality Specialist  
Jennifer Vinh, Air Quality Specialist  
Andrea Polidori, Assistant Deputy Executive Officer

## Response to Comment Letter #6

### *Response to Comment 6-1:*

At the initial rule adoption, refineries successfully met the 8-month timeline to submit a more comprehensive plan. However, staff understands that the original timelines in the rule were very challenging. While staff does not agree that a full calendar year is needed to revise the FAMPs, staff is proposing to extend the timeline from 6 calendar months to 7 calendar months for PAR 1180 petroleum refineries that have an existing FAMP to submit their revised FAMPs. to include related facilities with common ownership, newly required monitoring technologies, and other new requirements in PAR 1180 facilities. A related facility without an existing FAMP are provided one year to develop and submit their FAMP.

Regarding PAHs, staff will report to the Stationary Source Committee when PAHs real-time monitoring is deemed feasible and provide guidance on the installation, operation, and maintenance of the real-time monitoring system before the Executive Officer notifies the facility in writing to revise the FAMP to include real-time fenceline monitoring for PAHs.

### *Response to Comment 6-2:*

Staff appreciates the comment and understands the challenges the original Rule 1180 timelines posed and has amended the proposed compliance timeline for equipment installation from 12 calendar months to 15 calendar months for facilities with an existing FAMP. The revised compliance timeline for equipment installation is the same for all facilities subject to this rule with or without a FAMP.

Regarding the approval of the plans, partial approval indicates system design and equipment are approved while quality control provisions are still being assessed. Moreover, partial approval is granted if only individual sections are approved. Partial approval allows for more sooner installation of air monitoring system, thus preventing delays in meeting rule requirements, reporting data in quarterly reports, commencing audits, etc.

### *Response to Comment 6-3:*

The staff recognizes the significance of delivering accurate data to the public and acknowledges the necessity for facilities to allocate sufficient time for quality control and quality assurance. Consequently, staff revised the proposed provision to specify that data must be made available within 60 calendar days after the conclusion of each quarter. Further, staff is proposing to eliminate the requirement to provide real-time data for the same rationale.

### *Response to Comment 6-4:*

PAR 1180 already includes ample time for the facilities to comply with the new requirements for the web-based fenceline data display and notification systems. Subdivision (d) requires the facility to amend their FAMP, including the web-based fenceline data display and notification system, within nine-calendar months of rule adoption. According to the compliance schedule, facilities will have 15 calendar months to install the fenceline monitoring system, which includes the web-based fenceline data display and notification system. Consequently, the web-based data display system must be operational in conjunction with the entire fenceline air monitoring system. Data must be made available to the public and the Executive Officer after the conclusion of the first quarter during which the entire fenceline air monitoring system is operational. Staff has updated the definition of the "Fenceline Air Monitoring System" to enhance clarity by explicitly

including the web-based fenceline data display and notification system as an integral part of the entire system.

*Response to Comment 6-5:*

Staff acknowledges the concerns of facilities regarding the text message system. However, it's important to note that the text message option is specifically for interested parties to either opt in or opt out of receiving text notifications. The guidelines provide specific considerations related to the format of text messages, the information to include in each message type, and a disclaimer noting that text messages are handled by individual cell phone carriers, which is outside the control of the facilities to prevent the perception that the non-delivery of text messages is a fault of the facility.

*Response to Comment 6-6:*

Staff added root cause analysis requirements in this rule amendment as an essential tool for identifying sources of air pollutant exceedances to prevent future exceedances. Those assessments will be made available to the public so staff understands that confidential business information cannot be provided. The root cause analysis must provide adequate information that demonstrates the actions the facilities took to determine the cause of the elevated air pollutant measurement and the steps they took to prevent future occurrences. Please see response to comment 2-5 for additional information.

Staff made additional modifications to the root cause requirements for an off-site source to remove the requirement to notify another facility that they may be the source of the air pollutant measurement. The current proposal only requires the facilities to notify the Executive Officer if the root cause is determined to be from an off-site source. Additionally, staff added a new definition for a "Qualified Independent Party", allowing any person or consulting firm with technical expertise with fenceline air monitoring systems that is not an employee of the facility to conduct the root cause analysis.

The facility's FAMP can include data flags to identify invalid data resulting from errors or malfunctions. If an error or malfunction is identified before an exceeding value is observed and the data are determined to be invalid before a root cause analysis should be initiated, the facility does not need to conduct the root cause analysis. Often time, it is uncertain if the data are invalid when a root cause analysis is due by the raw measurements. In this case the facility is expected to initiate the root cause analysis until the time of the data invalidity is confirmed. The facility is not required to conduct a root cause analysis for the time when the measurements cannot be validated. A root cause analysis report submitted with the measurements invalidated can be canceled or noted for invalidity. However, the invalid data will impact the data completeness which must be included in the quarterly report.

*Response to Comment 6-7:*

The notification and report required in subdivision (i) (subdivision (h) in the preliminary draft rule version) are required so staff can quickly respond to it for further investigation. This requirement is separate from the reporting requirements in the quarterly reports which will be available 60 days after conclusion of each quarter.

*Response to Comment 6-8:*

The initial audit for PAR 1180 petroleum refineries will be conducted by National Physical Laboratory (NPL), which is an independent party contracted by South Coast AQMD under a Request for Proposal (RFP). A requirement of the RFP was to develop an audit protocol through a public process. This protocol will be utilized for any future audit for PAR 1180 and PR 1180.1 facilities. Audits are expected to be performed one calendar year after the installation and operation of the fence line air monitoring system. Facilities can always contest the audit findings with through submitting comment letters.

*Response to Comment 6-9:*

Black carbon is a product of incomplete combustion, such as combustion in heavy-duty diesel engines; therefore, black carbon has historically been used to quantify the portion of particulate matter that is diesel particulate matter. In order to determine the level of particulate matter caused by truck traffic to and from refineries, monitoring the concentration of black carbon is vital.

## COMMENT LETTER #7



November 9, 2023

VIA: ELECTRONIC MAIL ONLY (cob@aqmd.gov)

Attn: Faye Thomas, Clerk of the Boards  
South Coast Air Quality Management District

**Re: Letter in Support of Proposed Amended Rule 1180 (Fenceline and Community Air Monitoring and Related Facilities) and Proposed Rule 1180.1 (Fenceline and Community Air Monitoring for Other Facilities)**

Dear Governing Board Members:

East Yard Communities for Environmental Justice and Earthjustice write in support of Proposed Amended Rule 1180 and Proposed Rule 1180.1 and urge the Governing Board's approval of the rules as currently proposed by air district staff. The Governing Board must reject oil industry efforts to weaken these proposed rules or delay the air district's consideration of these rules pending action by the legislature.

The proposed rules will bring additional refineries into compliance with state-mandated refinery fenceline and community air monitoring requirements under Health and Safety Code section 42705.6. For years, these refineries have been out of compliance with these monitoring mandates, thereby depriving surrounding communities of near real-time information to protect their health and safety when excess emissions cross the fenceline and enter their communities. Moreover, the proposed rules would close air monitoring gaps by requiring that contiguous or adjacent related facilities supporting refinery processes—such as storage tank farms and other inherently dangerous operations—install fenceline air monitoring and support community air monitoring efforts.

The proposed rules also implement critical updates to achieve the Legislature's intended goals in creating a state-wide refinery fenceline air monitoring program, including to identify sources of emissions at refineries; inform options to mitigate emissions; and notify surrounding communities when pollution levels become hazardous. Among several other critical updates, the proposed rules would require monitoring of toxic pollutants recommended by the Office of Environmental Health Hazard Assessment for monitoring at the fenceline; conducting root cause analysis and corrective action to address excess

7-1

emissions; routine auditing to ensure data quality and monitoring system reliability; and providing access to historical monitoring data and pollution trends, among other important updates.

For these reasons, the Governing Board must ensure that these critical updates are implemented. The South Coast AQMD must exercise its regulatory authority to implement best monitoring practices and address deficiencies in its existing refinery fence-line and community air monitoring program. The air district should not wait on the Legislature to take action to address these issues.

7-1

Respectfully submitted,

Oscar Espino-Padron, Senior Attorney  
Byron Chan, Senior Attorney  
**Earthjustice**

Cindy Donis, Community Organizer  
Jan Victor Andasan, Community Organizer  
**East Yard Communities for Environmental Justice**

cc: Michael Krause, Assistant DEO ([mkrause@aqmd.gov](mailto:mkrause@aqmd.gov))  
Heather Farr, Planning and Rules Manager ([hfarr@aqmd.gov](mailto:hfarr@aqmd.gov))  
Yanrong Zhu, Program Supervisor ([yzhu1@aqmd.gov](mailto:yzhu1@aqmd.gov))  
Mojtaba Moghani, Ph.D., AQ Specialist ([mmoghani@aqmd.gov](mailto:mmoghani@aqmd.gov))  
Jennifer Vinh, AQ Specialist ([jvinh@aqmd.gov](mailto:jvinh@aqmd.gov))

## Response to Comment Letter #7

### *Response to Comment 7-1:*

Staff appreciates the support voiced by East Yard Communities for Environmental Justice and Earthjustice in favor of Proposed Amended Rule 1180 and Proposed Rule 1180.1 and look forward to continuing this important work and collaborating with all stakeholders.



## COMMENT LETTER #8

Air Products and Chemicals, Inc.  
 4000 Mac Arthur Boulevard  
 Suite 420 East Tower  
 Newport Beach, CA 92660  
 T 949-474-1860  
 www.airproducts.com



November 10, 2023

Dr. Olga Pikelnaya  
 Program Supervisor  
 SCAQMD  
[opikelnaya@aqmd.gov](mailto:opikelnaya@aqmd.gov)

Heather Farr  
 Planning & Rules Manager  
 SCAQMD  
[Hfarr@aqmd.gov](mailto:Hfarr@aqmd.gov)

**RE: Rule 1180 - Applicability of Hydrogen facilities**

Dear Olga & Heather,

Air Products is the only U.S.-based global industrial gas company and the world's largest hydrogen producer. Within California, the company safely operates 9 hydrogen production facilities, about 30 miles of hydrogen pipeline and currently supplies and operates a network of light-duty and heavy-duty hydrogen fueling stations. Air Products has committed to invest more than \$15 billion to develop clean hydrogen supplies around the world, including in California. Air Products supports California's decarbonization efforts and has been selected to be part of the California ARCHES LLC Hydrogen Hub Project.

The proposed update to Rule 1180 makes several changes to the community fence line monitoring system program for communities and refineries, including expanding the program to include hydrogen facilities. The rationale for the inclusion of the two Air Products hydrogen facilities is unclear given they are not large toxic emitters.

While we appreciate the stated purpose of the rule is to, *"provide air quality information to the public about levels of various criteria air pollutants, volatile organic compounds, metals, and other compounds air pollutants, at or near the property boundaries of petroleum refineries and in nearby communities,"* our facilities are not large emitters of toxics as recognized by our reporting under AB2588, the Air Toxics **"Hot Spots"** Information and Assessment Act, that requires us to report the types and quantities of certain substances routinely released into the air. When Air Products reports its AB2588 emissions, SCAQMD has notified us that we are not a large emitter and therefore are not required to perform an AB2588 Health Risk Assessment.

As proposed, it is estimated that Rule 1180 would require Air Products to spend more than \$10 million initially, and at least \$2 million annually, to install and maintain fence

8-1

line monitors when most of the pollutants listed in Rule 1180 are not expected to be present or emitted at our facilities.

We are captured in the proposed rule because we are adjacent to a refinery and provide more than 50 percent of our output to a refinery, not because we are a high emitter of toxics. The refineries use hydrogen to clean up gasoline, to remove sulfur and other impurities. Our facilities also provide hydrogen to automobiles and buses who use it as a zero emissions fuel.

The two Air Products' facilities that would be impacted by Proposed Rule 1180 – Carson and Wilmington, are already subject to robust requirements per our Title V permit and conditions. All the criteria pollutants that are subject to reporting and made public are a magnitude less than many industries from the [OEHAA report of March 2019](#) and the individual criteria pollutants subject to this rule as reported on [CARB](#).

We propose that the District consider adding an exemption in the rule for facilities that are not considered large toxic emitters under AB2588. This would create a rule that is focused on the problem of emissions by capturing facilities that are high toxic emitters on AB2588's Prioritization Score Threshold (i.e. [Prioritization Score Threshold](#)) without penalizing other facilities.

We appreciate your consideration of this request.

Sincerely,



JP Gunn  
HyCO Business Director, California

8-1

## Response to Comment Letter #8

### *Response to Comment 8-1:*

The primary goal of the Rule 1180 fence line and community monitoring requirements is to keep the community informed about refinery and refinery-related emissions. The intent is to monitor the full impacts of the petroleum refineries. Hydrogen plants are integral to petroleum refinery processes and in many cases, the hydrogen plants are within the boundary of the petroleum refinery; therefore, the air pollutant concentrations are captured by the existing petroleum refinery

fenceline monitors. In the case of the two Air Product facilities in the Carson and Wilmington area, the air pollutant concentrations from those facilities are not captured by the existing petroleum refineries fenceline monitors.

One concern regarding the fenceline monitoring regulations is that the petroleum refineries tend to sell off parts of the refinery to other entities and therefore the full impact of potential air pollutant concentrations that cross the facilities fenceline are not being measured, reported, or addressed. This is the case for the Air Products facility adjacent to the Valero refinery. That hydrogen plant was at one time owned by the refinery. Requiring the fenceline and community monitoring requirements to encompass the petroleum refineries and the related facilities such as hydrogen plants will address this inequity between the different refineries and provided a comprehensive fenceline and community monitoring systems to help inform the community of potential air pollutant concentrations.

Regarding the cost, staff recognizes there is a high cost to install and operate fenceline monitoring system; however, fenceline air monitoring systems are an important tool to provide the public with essential information. Fenceline monitoring systems at related facilities are not required to monitor for metals and black carbon, and according to staff's 2023 cost estimation for fenceline monitoring stations, the cost for two Air Products facilities in Carson and Wilmington with one open path, considering the size of the facilities, falls considerably below the \$10 million mark. The staff estimated cost per facility per open path is around \$710,000. Staff further notes that Air Products' most recent AER report indicates higher emissions at both facilities compared to terminals that will be subject to the rule. In addition, all facilities have the option to propose excluding certain air pollutants from their FAMP if they provide sufficient justification. Thus, if Air Products can demonstrate in their FAMP that specific air pollutants are not emitted from the facility, that will be considered when the FAMP is evaluated which could help reduce the cost of the fenceline monitoring system installation and operation.

## COMMENT LETTER #9



December 4, 2023

**VIA: ELECTRONIC MAIL ONLY**

**Attn:** Michael Krause, Assistant DEO (mkrause@aqmd.gov)  
Heather Farr, Planning and Rules Manager (hfarr@aqmd.gov)

**Re: Comments on Proposed Amended Rule 1180 and Proposed Rule 1180.1**

Dear Mr. Krause and Ms. Farr,

East Yard Communities for Environmental Justice and Earthjustice submit these comments on Proposed Amended Rule 1180 and Proposed Rule 1180.1. The proposed rules implement critical updates to monitoring practices and address deficiencies in the existing refinery fenceline and community air monitoring program. But the Air District's eleventh-hour proposal to exempt certain tank terminals from the proposed rules undermines both the fundamental purpose of the proposed rules and community trust in the Air District.

Over the past year, East Yard Communities for Environmental Justice and Earthjustice have diligently worked with Air District staff to advocate for significant improvements to the current refinery fenceline and community air monitoring program. Staff adopted many of these improvements in the most recent versions of the proposed rules posted on October 6, 2023. Based on those versions of the proposed rules, East Yard Communities for Environmental Justice and Earthjustice submitted a letter to the Governing Board on November 9, 2023, in support of the proposed rules.

Given this year-long collaboration and dialogue with Air District staff on the proposed rules, we were surprised and disappointed when staff proposed a new exemption in its presentation to the Stationary Source Committee on November 17, 2023. Staff had never introduced this "low emission-based capacity exemption" in previous meetings and working groups. Staff's decision to introduce the exemption in the final stages of the rulemaking contradicts any sincere commitment to transparency and meaningful public engagement.

In addition to undermining community confidence in the Air District, the "low emission-based capacity exemption" also undermines a driving force behind the proposed rules to close air monitoring gaps. Instead, the "low emission-based capacity exemption" creates air monitoring gaps that deny communities critical information that can impact their health and

9-1

safety. The three facilities that currently fall under the exemption pollute in communities already overburdened with multiple sources of pollution. In this setting, the Air District should aggressively push for comprehensive monitoring requirements rather than exemptions.

For these reasons, we ask the Air District to remove the “low emission-based capacity exemption” and advance strong proposed rules without delay that center the input and concerns that community members have consistently shared with staff throughout the rulemaking process.

9-1

Respectfully submitted,

Byron Chan, Senior Attorney  
**Earthjustice**

Cindy Donis, Community Organizer  
Jan Victor Andasan, Community Organizer  
**East Yard Communities for Environmental Justice**

cc: Yanrong Zhu, Program Supervisor ([yzhu1@aqmd.gov](mailto:yzhu1@aqmd.gov))  
Mojtaba Moghani, Ph.D., AQ Specialist ([mmoghani@aqmd.gov](mailto:mmoghani@aqmd.gov))  
Jennifer Vinh, AQ Specialist ([jvinh@aqmd.gov](mailto:jvinh@aqmd.gov))

## Response to Comment Letter #9

### *Response to Comment 9-1:*

Staff included an exemption for low-emission based tank terminals which was not explicitly discussed in the last Working Group Meeting, held on October 12, 2023; however, at that meeting, staff did discuss that several sites were still being evaluated for applicability particularly for refinery-related. By way of background, staff initially proposed to only include related facilities under common ownership to address the Marathon Petroleum Refinery, who did not include their related tank terminals and the sulfur recover plant in their fenceline air monitoring plan. However, to better align with proposed Senate Bill 674, staff adjusted the applicability to include related facilities regardless of the ownership just prior to the release of the preliminary draft rule and staff report on August 18<sup>th</sup>. Senate Bill 674 was moved to inactive status on September 14<sup>th</sup>; however, staff did not return to the original applicability, instead focused on making the applicability align with the original intent of the Senate Bill 1647 by including facilities whose primary operations are largely to support the petroleum refineries.

Staff reviewed all potential related facilities adjacent to the petroleum refineries and several new facilities were initially included, and some were subsequently removed, as discussed in the public workshop, the preliminary draft staff report, and working group meeting held in October. Staff found that several tank terminals located adjacent to the petroleum refineries do not have operations that primarily relate to the refineries. The Long Beach port is located near the refineries in the Wilmington/Carson and some terminals receive the majority of their product from the port. That led staff to the change in definition for related facilities to include 50 percent of product direct or indirect input or output must be from the Rule 1180 petroleum refineries. In addition, staff identified some small terminals that have some related operations with the Rule 1180 refineries, which varies from year to year, but have low capacities, low emissions, and a small footprint. One such facility is Torrance Meters, staff included that facility in the preliminary draft staff report but excluded and discussed the reasons for excluding the facility in the October Working Group meeting. That facility is located on a contiguous property; however, they do not have above ground storage tanks and have a low potential for emissions. Another example of a small terminal is Rancho Holdings, which is a facility staff had not identified or presented until the October 12<sup>th</sup> Working Group Meeting. That facility emits a fraction of the emissions of a petroleum refinery. The other two small terminals are both owned by Marathon. One is Tesoro Logistics Terminal Truck Loading Rack, a small truck loading facility with existing fenceline monitors on the entire east side of the facility. Staff discussed this facility in previous Working Group Meetings and in the preliminary draft staff report that the facility likely can demonstrate adequate coverage with the existing monitors. The last one is Tesoro Logistics Product Terminal, another very small terminal where product finished product is received via a pipeline from the refinery. Staff proposed the low-emission exemption based on the low emission of these facilities. Further, many of the smaller terminals already have monitors in place on several sides of their fenceline, which provide coverage to detect any potential air pollutant emissions from the terminals. There are also community monitoring systems in place.

While staff is proposing to exempt these facilities from the fenceline requirement in Rule 1180, these facilities are subject to the most stringent regulations in the nation. VOC emissions from tank terminals are regulated by South Coast AQMD Rule 1178 – Further Reductions of VOC

Emissions from Storage Tanks at Petroleum Facilities (Rule 1178) and Rule 463 – Organic Liquid Storage (Rule 463). Rule 1178 applies to the storage tanks at petroleum refineries and was just amended September 1, 2023, to enhance the requirements to include optical gas imaging (OGI) sensing for leak detection that must be conducted on a weekly basis for tank farms. Prior to this amendment, facilities were only required to use handheld analyzers to monitor for leaks on a quarterly or semi-annual basis. OGI cameras can find larger leaks more efficiently, resulting in faster repair timelines and reduced emissions. The OGI requirements take effect beginning July 1, 2024, well before fenceline monitoring could be installed. In addition, staff is in the process of amending Rule 463, which applies to the non-petroleum refinery tank terminals. Staff is proposing to include similar OGI requirements for those tanks which will significantly improve the ability to detect and mitigate any potential leak. Both rules contain control measures including best available rim seal systems and covers or sleeves on all roof components that are gasketed, bolted, or equipped with wipers to reduce emissions from openings. Fixed roofs are required to be converted to an internal or external floating roof tank or vented to a fuel gas system or an emission control system with at least 95 percent control efficiency. External floating roof tanks at facilities subject to Rule 1178 were required to be retrofit with domes if storing material with true vapor pressure of 3 psia or greater.