

Proposed Amended Rule 1180 (PAR 1180)

**Major Petroleum Refinery Fenceline and
Community Air Monitoring**

Proposed Rule 1180.1 (PR 1180.1)

**Other Refinery Fenceline and
Community Air Monitoring**

**Working Group Meeting #4
July 11, 2023, 10:00 AM (PDT)**



Join Zoom Webinar Meeting:

<https://scaqmd.zoom.us/j/96956378405>

Webinar Meeting ID: 969 5637 8405



Agenda

Background

Summary of the WGM#3

Stakeholder Comments

Stakeholder Meetings and Site visits

Establishing Notification Thresholds

Exclusion Criteria for Metals

Community Monitoring QA/QC

Rule Proposal Update

Fenceline Monitoring Guidelines Update

Next Steps

Progress of Rule Development

Summary of Working Group Meeting #3 (05/30/2023) included:

- Overview of Stakeholders Comments in WGM#2
- Summary of staff meetings and site visits
- Monitoring Technologies for PAHs
- QA/QC and Monitoring Systems Performance
- Pollutants without Established Notification Thresholds
- Proposed Rule Updates

Since the last working group meeting

- Staff has continued meetings with existing and new potential facilities



Stakeholder Comments



Stakeholder Comments



Stakeholders provided the following comments on contents discussed in Working Group Meeting #3

#1 Necessity of Monitoring Metals and PM

#2 Number of 1180 Related NOVs and NCs

#3 Community Monitoring QA/QC and Audit

#4 Audit Protocol and Public Review Process

#5 Historical-Data Based Notification Threshold

#6 Acute vs Chronic Notification Thresholds

#7 Request for Data Accessibility Improvements

#8 Fenceline Air Monitoring System Downtime

#9 Method Detection Limit for Acrolein



Comment #1: Monitoring Metals and Particulate Matter (PM)



Stakeholder Request/Comment

- Justification for monitoring recently added pollutants, namely Metals and PM
- The need to monitor additional pollutants may vary by location based on OEHHA

Staff Response

- Proposed new compounds, including metals and PM are identified by OEHHA as the top candidates for refinery air monitoring
 - “Air monitoring of these chemicals may inform decisions that could reduce exposure”¹
- Both PM_{2.5} and PM₁₀ are identified by OEHHA as the most emitted pollutants by California refineries
- PM emissions from potential facilities subject to PR 1180.1 is 1-17 tons per year
- Exclusion criteria will be included in the Refinery Fenceline Air Monitoring Guidelines for Metal monitoring
- Further information for metal exclusion criteria will be provided in this presentation

¹California EPA, “Analysis of Refinery Chemical Emissions and Health Effects,” March 2019



Comment #2: Number of 1180 Related NOVs and NCs



Stakeholder Request

- Number of Notice of Violations (NOVs) and Notices to Comply (NCs) issued based on 1180 notification system

Staff Response

- Notifications from refinery fenceline air monitoring resulted in follow up inspections where six NOVs and one NC were issued
 - All related to Benzene or H2S exceedance
 - Five NOVs and one NC issued to the refineries and one NOV is pending for a non-refinery notification
 - NOVs and NCs were issued in 2021 and 2022
- There were other cases where the facility conducted its own investigation and initiated repairs that did not result in the issuance of a violation
 - In these cases, the Rule 1180 detection and notification resulted in rapid resolution of the problem



Comment #3: Community Monitoring QA/QC and audit



Stakeholder Comment

- Are the community air monitoring sites subject to QA/QC and independent audits?

Staff Response

- Yes, the community air monitoring are subject to QA/QC requirements and independent audits will be conducted at those sites
- Staff will share the community air monitoring systems Quality Assurance Project Plan (QAPP) document, which includes QA/QC requirements
 - More details of the QAPP are provided in a later slide
- Staff is planning to have an independent audit and protocol development for community monitoring systems in 2024



Comment #4: Audit Protocol and Public Process



Stakeholder Comment

- When will the audit protocol for independent audits of fenceline monitoring systems be available?
- Is there a public review process for the audit protocol?

Staff Response

- National Physical Laboratory (NPL) has been selected in a request for proposal process (RFP #P2022-13) to conduct the independent audit and develop an audit protocol for fenceline monitoring systems
- Timeline to developing the protocol will be included in the contract with NPL
- Audit protocol is anticipated to go under a public review in the second quarter of 2024



Comment #5: Historical-data Based Notification Threshold



Stakeholder Comment

- Notification thresholds should not be based on historical data when a health standard-based notification threshold is not available

Staff Response

- Staff acknowledges the importance of establishing health standard-based notifications using OEHHA, State, or National standards
- There are no existing short-term health standard-based REL, national or state standards for Total VOCs, Black Carbon, and Ethylbenzene
 - No notifications currently provided to community
- Historical data can be used to establish a notification threshold to trigger community notifications and require further evaluation by the refinery when emissions are above normal operations
- Staff will provide more analysis and information in later slides





Stakeholder Comment

- Chronic RELs should not be used as notification thresholds
- Fenceline concentrations are indications of short time exposure

Staff Response

- Staff agrees that using chronic RELs, which are based on long-term exposure, are not a good indicator of real-time, short-term exposure
- Staff removed chronic RELs for notification thresholds from preliminary rule language



Stakeholder Request

- Stakeholders highlighted the importance of data accessibility for communities and asked for improvements for community air monitoring data and availability of fenceline air monitoring data

Staff Response

- Staff is considering a method to integrate community monitoring and fenceline data and improve data accessibility
- Will provide update in future meetings

Comment #8 Fenceline Air Monitoring System Downtime



Stakeholder Request

- Exempting fenceline monitoring at system downtime due to the installation of new monitoring technologies to comply with PAR 1180

Staff Response

- Existing Rule 1180 requires facilities to take temporary air monitoring measures during equipment failure or routine maintenance (subparagraph (d)(2)(D))
- Some facilities provided information on back-up air monitoring system approaches in their existing FAMP
- Staff may consider allowing temporary downtime if refinery has alternative monitoring during downtime



Comment #9 Method Detection Limit for Acrolein



Stakeholder Comment

- Method Detection Limit (MDL) lower than the 1.1 ppb notification threshold could be achieved for Acrolein using Open Path FTIR monitoring system

Staff Response

- Staff is not aware of an open path monitoring technology with this capability
- Would review any feasibility data and methodology for a technology with the potential to meet the criteria



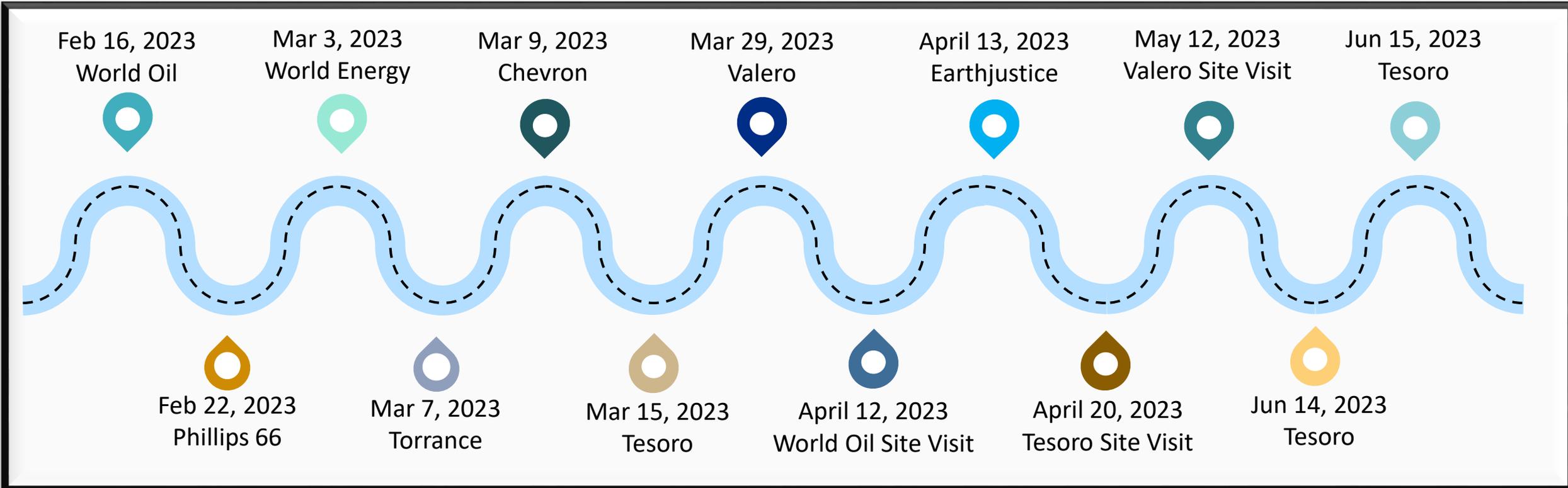
Stakeholder Meetings and Site Visits



Stakeholder Meetings



- Staff is meeting and conducting site visits with PAR 1180 and PR 1180.1 stakeholders including existing and new potential facilities and environmental organizations



Establishing Notification Thresholds



Air Pollutants without Existing Health Standard-Based Thresholds



- Six air pollutants in Table 1 of PAR 1180 and PR 1180.1 do not have health standard-based notification thresholds
 - No acute Reference Exposure Levels (RELs), or National/California Ambient Air Quality Standards (NAAQS/CAAQS)
- Historical data is available for three required air pollutants
- Some of the newly proposed air pollutants for fenceline monitoring do not have historical data
 - May consider establishing notification threshold in the future when historical data become available
- Establishing notification thresholds based on historical data for those air pollutants would:
 - Alert community if higher than typical pollutant concentrations are present
 - Alert facilities to conduct investigation and ensure normal operation

	Historical Data Available?	New Compound?
Total VOCs	Yes	No
Ethylbenzene	Yes	No
Black Carbon	Yes	No
Naphthalene	No	Yes
PAHs	No	Yes
Cadmium	No	Yes





Establishing Statistical-Based Notification Thresholds Using Historical Data

Volatile Organic Compounds (VOCs)



- There are no acute REL or state/national standards available to establish a health standard-based notification threshold for Total VOCs
- Historical data shows VOC levels can fluctuate and spike to a level when an evaluation on the facility operation might be needed
- The table below shows the quarterly maximum VOC concentrations for some refineries reported for 2022
- **Staff proposes to:**
 - Set a notification threshold based on 1-hour quarterly maximum concentrations reported on quarterly reports and;
 - Require a notification to the public when measured total VOC concentrations exceed the threshold

		P66 Carson	P66 Wilmington	Torrance Refining	Valero Refinery
Total VOCs - Maximum 1-Hour Concentration (ppb)	Q1 2022	700	450	737	1,290
	Q2 2022	15,000	300	423	322
	Q3 2022	14,000	Below MDL	601	505
	Q4 2022	230	120	610	483

Ethylbenzene



- There are no acute REL or state/national standards available to establish a health standard-based notification threshold for Ethylbenzene
- Historical data taken from most recent publicly available Quarterly Reports Q1 2022 – Q1 2023
 - Table below shows a few of the data points
- Nearly all reports reported 0 ppb for all quarters, which are below the method detection limit (MDL)
 - MDLs for Ethylbenzene range from 0.3 – 17.0 ppb
- **Staff proposes not to** establish a notification threshold for Ethylbenzene
 - Concentrations are mostly below MDL
 - There is no available health standard-based notification threshold
 - A release of Ethylbenzene would likely occur at same time as other BTEX pollutant release
 - Other BTEX pollutants have notification thresholds

		Tesoro Carson	P66 Carson	P66 Wilmington	Valero Refinery
Maximum Quarterly Ethylbenzene Concentration (ppb)	Q1 2022	0	0	0	Below MDL
	Q2 2022	0	0	0	Below MDL
	Q3 2022	5.0	0	0	Below MDL
	Q4 2022	0	2.2	0	Below MDL



Black Carbon



- There are no acute REL or state/national standards available to establish a health standard-based notification threshold for Black Carbon
- Historical data taken from most recent publicly available Quarterly Reports Q1 2022 – Q1 2023
 - Table below shows a few of the data points
- Highest recorded Black Carbon concentration = 96.9 $\mu\text{g}/\text{m}^3$
- **Staff proposes to:**
 - Set a notification threshold based on quarterly maximum concentrations reported on quarterly reports; and
 - Require a notification to the public when measured total Black Carbon concentrations exceed the threshold

		Tesoro Carson	P66 Carson	P66 Wilmington	Torrance Refining	Valero Refinery
Maximum Quarterly Black Carbon ($\mu\text{g}/\text{m}^3$)	Q1 2022	96.9	N/A	N/A	8.4	34.6
	Q2 2022	27.3	32.0	18.3	7.7	6
	Q3 2022	32.5	27.6	16.9	2.9	53
	Q4 2022	29.8	33.5	16.7	7.7	11.2



Health Standard-based Notification Thresholds

Notification Thresholds Averaging Time for Particulate Matter and Manganese



There are no 1-hour REL or state (CAAQS)/national (NAAQS) standards available for Manganese and Particulate Matter (PM)

However, current standards include:

- An 8-hour REL for Manganese; and
- 24-hour NAAQS and CAAQS Standards for PM

Staff proposes to:

- Establish a notification threshold for Manganese and PM based on the 8-hour and 24-hour standards respectively
- Allow facilities to use the averages with a rolling period consistent with the corresponding standard for notifications
 - Manganese: 8-hour rolling average exceeding the threshold
 - PM: 24-hour rolling average exceeding the threshold



Particulate Matter Notification Threshold



- National Ambient Air Quality Standards for PM has been most recently revised in 2012 and retained in the most recent review in 2020
- Table shows National and California 24-hour standard for PM_{2.5} and PM₁₀
- **Staff proposes to:**
 - Set 24-hour rolling average thresholds for PM_{2.5} and PM₁₀ as 35 µg/m³ and 50 µg/m³ respectively
 - Require a notification to the public when measured PM_{2.5} and PM₁₀ concentration level of 24-hour rolling average exceeds the threshold

	PM _{2.5}	PM ₁₀
National Ambient Air Quality Standard (24-hour) (µg/m ³)	35	150
California Ambient Air Quality Standard (24-hour) (µg/m ³)	N/A	50

Manganese Notification Threshold



Manganese has an 8-hour
OEHHA REL at $0.17 \mu\text{g}/\text{m}^3$

Last 8-hour OEHHA REL
revision was in 2008

Staff proposes to:

- Set an 8-hour rolling average threshold for Manganese as $0.17 \mu\text{g}/\text{m}^3$
- Require a notification sent to the public when measured Manganese concentration level of 8-hour rolling average exceeds the threshold



Summary of Table 1 Notification Thresholds



- Staff proposes not to include Diethanolamine and Sulfuric Acid in Table 1 since they would not remain in gas phase to be detected at fenceline for real-time monitoring
- No real-time monitoring technologies currently available for PAHs, other than Naphthalene
 - Staff will consider monitoring for PAHs when the technology become available
- No notification threshold could be defined for Cadmium and Naphthalene during current rule amendment without health standards or historical data
- Staff is proposing statistical-based notification thresholds for Total VOCs and Black Carbon

Table 1– Air Pollutants and Notification Thresholds to be Addressed by

Air Pollutants	FAMPs	
	Health Standard-Based Notification Threshold	Statistical-Based Notification Threshold*
Criteria Air Pollutants		
Sulfur Dioxide	75 ppb	N/A
Nitrogen Oxides	100 ppb	N/A
PM2.5	35 µg/m ³ (24-hour)	N/A
PM10	50 µg/m ³ (24-hour)	N/A
Volatile Organic Compounds		
Total VOCs (Non-Methane Hydrocarbons)	N/A	TBD
Formaldehyde	44 ppb	N/A
Acetaldehyde	260 ppb	N/A
Acrolein	1.1 ppb	N/A
1,3 Butadiene	297 ppb	N/A
Naphthalene	N/A	N/A
Diethanolamine**	N/A	N/A
Polycyclic aromatic hydrocarbons (PAHs)	N/A	N/A
Styrene	5000 ppb	N/A
Benzene	8 ppb	N/A
Toluene	1300 ppb	N/A
Ethylbenzene	N/A	N/A
Xylenes	5000 ppb	N/A
Metals ***		
Cadmium	N/A	N/A
Manganese	0.17 µg/m ³ (8-hour)	N/A
Nickel	0.2 µg/m ³	N/A
Other Compounds		
Hydrogen Sulfide	30 ppb	N/A
Carbonyl Sulfide	270 ppb	N/A
Ammonia	4507 ppb	N/A
Black Carbon	N/A	TBD
Hydrogen Cyanide	309 ppb	N/A
Hydrogen Fluoride+	289 ppb	N/A
Sulfuric Acid**	29	N/A

+ If the facility uses hydrogen fluoride.

* Staff intends to develop threshold based on historical/statistical data.
 ** Compounds have short lifetimes in gas phase, therefore, will not remain airborne long enough to reach fenceline. Staff proposing to delete these compounds.
 *** Considering establishing criteria to exclude.

Exclusion Criteria for Metals

Annual Emission Report (AER) data for Metal Emissions



- Currently, there is no fenceline emission data for Cadmium, Manganese, and Nickel
- Table shows range of 3-year (2019-2021) average of annual emissions for each metal reported by facilities subject to PAR 1180 and PR 1180.1
- 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 AER

Annual Emissions 3-Year Average (2019-2021) (lbs/Year/Facility)		
	1180 Facilities	1180.1 Facilities
Cadmium	1 – 44	0.01 – 0.04
Manganese	24 – 719	0.00 – 6.39
Nickel	4 – 205	0.02 – 0.41



Facilities Operating FCCU and ESP



- The Fluid Catalytic Cracking Unit (FCCU) is the only unit capable of emitting high concentrations of metals 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 with high PM and metal emissions
 - In November 2022, there was an incident at PBF Martinez refinery in Bay Area where over 20 tons of spent FCCU catalyst being released into the neighborhood due to ESP failure
 - In February 2015, an explosion occurred in the ExxonMobil Torrance refinery's ESP, which scattered catalyst dust up to a mile away into the nearby community
- Chart shows FCCU and ESP are operated by most of PAR 1180 facilities but not by any PR 1180.1 facility

PAR 1180		
	FCCU	ESP
Tesoro – Carson	YES	YES
Tesoro – Wilmington	Inactive	Inactive
P66 – Carson	NO	NO
P66 – Wilmington	YES	YES
Chevron	YES	YES
Torrance	YES	YES
Valero	YES	YES
PR 1180.1		
AltAir	NO	NO
Lunday-Thagard	NO	NO
Valero Asphalt Plant	NO	NO

Exclusion Criteria for Metals



Staff proposes an exclusion criteria for metal monitoring for a facility if:

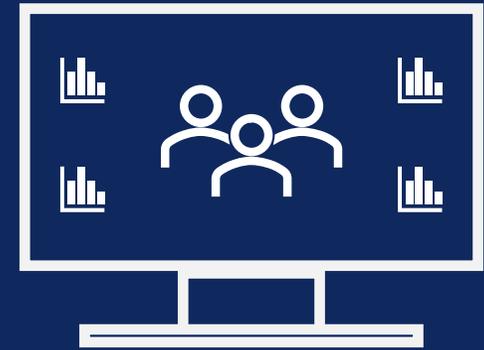
- The metal emissions are de minimis; and
- Does not operate a FCCU or ESP

For facilities with FCCU or ESP:

- Staff is considering to require adequate coverage including at least one metal monitor near each FCCU or ESP



Community Monitoring QA/QC



QA/QC for Community Air Monitors



Stakeholder inquired about the QA/QC procedures for community air monitors

Quality Assurance Project Plan (QAPP) for Rule 1180 Community Air Monitoring Network has been developed and will be shared with community and stakeholders soon

Major elements of QAPP include

- 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

Proposed Rule Language





- A facility shall revise and submit the existing Facility Air Monitoring Plan (FAMP) no later than six months after the Executive Officer provides notice to the Facility that the Executive Officer determined the Real-Time monitoring of an air pollutant in Table 1 is feasible

- (2) No later than six months after [Date of Rule Adoption], the owner or operator of a Facility with an existing Fenceline Air Monitoring Plan (FAMP) shall submit a revised FAMP to include:
- (A) Any Facilities with Operations Related to Petroleum Refineries;
 - (B) Any air pollutant in Table 1 that was not addressed in the Facility's previous FAMP; or
 - (C) Any air pollutant in Table 1 that the Executive Officer provides determined the Real-Time monitoring of an air pollutant is feasible.

Rule 1180 and 1180.1
Section (d) – Plan
Requirements
(d)(2)(C)



- The FAMP shall include the following information:

- (G) Notification Thresholds for each air pollutant listed in Table 1, unless the air pollutant was excluded in the approved or partially approved FAMP. Health standard-based Notification Thresholds shall be based on one of the following, whichever is lower:
- (i) Office of Environmental Health Hazard Assessment (OEHHA) Acute or 8-hour Reference Exposure Level (REL);
 - (ii) The National Ambient Air Quality Standard (NAAQS); or
 - (iii) The California Ambient Air Quality Standard (CAAQS);

Rule 1180 and 1180.1

Section (d) – Plan Requirements

(d)(3)(G)



- The owner or operator of a Facility shall submit an updated Fenceline Air Monitoring Plan to the Executive Officer
 - Thirty (30) days after any health-based standard used as the Notification Threshold has been revised or developed for an air pollutant included in FAMP

Rule 1180 and 1180.1
Section (d) – Plan
Requirements
(d)(5)(D)

(D) Thirty (30) days after any health standard used as the Notification Threshold has been revised or developed for an air pollutant included in a FAMP.



Rule 1180

Section (e) – Fenceline Air Monitoring Compliance Schedule

- The owner or operator of a Facility shall complete the installation and begin operation of a Real-Time Fenceline Air Monitoring System or modify the operation of the Fenceline Air Monitoring System
 - No later than six months after Executive Officer approves or partially approves and updated FAMP
 - Prior to commencing operations

(e) Fenceline Air Monitoring ~~System Requirements-Compliance Schedule~~

(1) The owner or operator of a ~~petroleum-refinery~~ 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, ~~fenceline air monitoring plan~~FAMP:

(A) Beginning no later than one year after a ~~fenceline air monitoring plan~~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.



Rule 1180.1

Section (e) – Fenceline Air Monitoring Compliance Schedule

- Facilities without existing FAMP:
 - No later than two years after a FAMP submitted is approved or partially approved
- Facilities with existing FAMP
 - No later than one year after a FAMP submitted

(e) Fenceline Air Monitoring Compliance Schedule

- (1) The owner or operator of an existing Refinery shall complete installation and begin operation of 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 two years after a FAMP submitted pursuant to paragraph (d)(1) is approved, or partially approved, by the Executive Officer;
 - (B) Beginning no later than one year after a FAMP submitted pursuant to paragraph (d)(2) is approved, or partially approved, by the Executive Officer;
 - (C) No later than six months after the Executive Officer approves, or partially approves, an updated FAMP required pursuant to paragraph (d)(5); and
 - (D) Prior to commencing operations at a new Refinery.



- If a facility does not submit the revised FAMP within 30 calendar days after notification of disapproval, the Executive Officer will modify the plan and approve it as modified.

Rule 1180 and 1180.1

Section (f) – Plan Review Process

(f)(3)

(B3) The Executive Officer will either approve the revised ~~and resubmitted fence line air monitoring plan~~ FAMP submitted pursuant to (f)(2) or modify the plan and approve it as modified. If the facility does not submit the revised FAMP within 30 calendar days after notification of disapproval of the plan as required in paragraph (f)(2), the Executive Officer will modify the plan and approve it as modified. The owner or operator of a Facility may appeal the ~~fence line air monitoring plan~~ FAMP modified by the Executive Officer to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 – Plans.



Rule 1180 and 1180.1

Section (g) – Web-Based Fenceline Data Display and Notification Program

(g) Web-based Fenceline Data Display and Notification Program

- (1) 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 to display, store, which includes at least five years of data as required pursuant to paragraph (j)(1), and make, at a minimum, the following information publicly available:
 - (A) Description of all pollutants measured and measurement techniques;
 - (B) Real-Time and historic concentrations of all air pollutants measured on the Fenceline Air Monitoring System including Data Quality Flags;
 - (C) Real-Time and historic wind speed and wind direction data;
 - (D) Definition of Data Quality Flags;
 - (E) The most recently approved, or partially approved, FAMP and QAPP;
 - (F) Report(s) generated from Independent Audit conducted pursuant to subdivision (i);
 - (G) Root Cause Analysis as required pursuant to paragraph (j)(2);
 - (H) Quarterly report as required pursuant to paragraph (j)(3);
 - (I) Corrective Action Plans or revised Corrective Action Plans, if applicable, as required pursuant to [TBD – Rule or Guidelines]; and
 - (J) A mechanism for the public to provide comments and feedback and



Rule 1180 and 1180.1
Section (g) – Web-Based
Fenceline Data Display and
Notification Program
(g)(2)

- (2) The web-based fenceline notification system operated by the owner or operator of a Facility shall, at a minimum:
- (A) Integrate all the data collected by the Fenceline Air Monitoring System pursuant to the requirements in the Refinery Fenceline Air Monitoring Plan Guidelines;
 - (B) Automatically generate and issue a notification as soon as technologically feasible, but no longer than 15 minutes after any air pollutant listed in Table 1 is detected at a level that exceeds the applicable Notification Thresholds in the approved, or partially, approved FAMP;
 - (C) Include a mechanism for public to opt-in to receive fenceline notifications; and
 - (D) Send the fenceline notifications, by email and/or text message, to members of the public who opted-in to receive notifications.



Rule 1180 and 1180.1 Section (i) – Independent Audit

Staff may include the Independent Audit requirements in rule or have it in the Refinery Fenceline Air Monitoring Plan Guidelines

Included here for discussion purpose

- (i) Independent Audits
 - (1) The owner or operator of a Facility shall initiate an Independent Audit according to a protocol approved by the Executive Officer to:
 - (A) Identify any deficiencies in the Fenceline Air Monitoring System and quality assurance procedures; and
 - (B) Generate an audit report, signed by the qualified independent-party verifying the information contained within, that will be submitted to the South Coast AQMD, the owner or operator of a Facility, and made available to the web-based fenceline notification system within 90 days after the audit has been performed.
 - (2) The owner or operator of a Petroleum Refinery shall conduct an Independent Audit according to the following schedule:
 - (A) For a Fenceline Monitoring System installed before [*Date of Rule Adoption*]:
 - (i) The initial audit shall be completed no later than July 1, 2025, and that Independent Audit will be established as the initial audit; and
 - (ii) Once every three years after completing the initial audit.
 - (B) For a Fenceline Monitoring System installed on or after [*Date of Rule Adoption*]:
 - (i) The initial audit shall be completed within one year after the installation and operation of the Fenceline Air Monitoring System and that audit will be established as the initial audit; and
 - (ii) Once every three years after completing the initial audit.



Rule 1180 and 1180.1

Section (i) – Independent Audit

(i)(3) – Corrective Action Plan

(3) Corrective Action Plan

If the independent audit report includes recommendations or identifies deficiencies in a Fenceline Air Monitoring System, the owner or operator of the Facility shall:

- (A) Develop a Corrective Action Plan and submit it to the Executive Officer for review within one month of the audit report describing:
 - (i) All actions that will be taken to address all recommendations and deficiencies; and
 - (ii) Any action or recommendation included in the independent audit report that the owner or operator of the Facility considers a safety concern and is proposing to except from corrective action;
- (B) Make corrective actions within six months of receiving notice that the Corrective Action Plan has been approved; and
- (C) Conduct a follow-up performance audit within one month of completing the corrective actions included in the approval Corrective Action Plan to document the resolution of the recommendations and deficiencies identified in the Independent Audit.



Rule 1180 and 1180.1

Section (i) – Independent Audit

(i)(3) – Corrective Action Plan Approval Process

- (4) **Corrective Action Plan Approval Process**

The Executive Officer shall notify the owner or operator of a Facility in writing whether the Corrective Action Plan submitted pursuant to paragraphs (i)(3) is approved or disapproved.

 - (A) If the Corrective Action Plan is disapproved, the owner or operator of a Facility shall submit a revised Corrective Action Plan within 30 calendar days after notification of disapproval of the plan. The updated plan shall include any information necessary to address deficiencies identified in the disapproval letter.
 - (B) The Executive Officer will either approve the revised Corrective Action Plan or modify the plan and approve it as modified. If the facility does not submit the revised Corrective Action Plan within 30 calendar days after notification of disapproval of the plan as required in subparagraph (i)(4)(A), the Executive Officer will modify the plan and approve it as modified. The owner or operator of a Facility may appeal the Corrective Action Plan modified by the Executive Officer to the Hearing Board pursuant to Rule 216 – Appeals and Rule 221 – Plans.
- (5) The audit protocol, Corrective Action Plan submitted pursuant to paragraph (i)(3) or a revised Corrective Action Plan submitted pursuant to paragraph (i)(4) shall be made available, by the Executive Officer, for public review no less than fourteen (14) days prior to approval.
- (6) The review and approval of the Corrective Action Plan or revised Corrective Action Plan shall be subject to plan fees as specified in Rule 306 – Plan Fees.



Rule 1180 and 1180.1

Section (j) – Recordkeeping and Reporting

(j)(2) Root Cause Analysis

(2) Root Cause Analysis

When an air pollutant listed in Table 1 is measured above the Notification Threshold on a Facility Fenceline Air Monitoring System, any Facility that relies on the Fenceline Air Monitoring System that measured the air pollutant shall:

(A) Initiate a Root Cause Analysis within 24 hours;

(B) Submit a Root Cause Analysis report to the South Coast AQMD and make it available on the web-based program within 14 days;

(C) Include, at a minimum, the following in the Root Cause Analysis:

(i) Cause and duration of the air pollutant emissions;

(ii) Determination of the source(s) of air pollutant emissions and methodology used to determine the source, including:

(A) Visual inspection;

(B) Optical gas imaging;

(C) Leak inspection using EPA Method 21; or

(D) Other test or monitoring method approved by the Executive Officer;

(iii) Any mitigation and corrective actions taken to stop the exceedance or to be taken to prevent a similar recurrence;

(iv) An explanation of the reason(s) why the amount of time required for the corrective actions if it is more than 14 days; and

(v) Any monitoring data requested by the Executive Officer.

(D) If the Root Cause Analysis requires corrective action, the owner or operator of a Facility shall conduct a reinspection of the source within 14 days of the corrective action and submit a report to the Executive Officer and make the report available on the refinery fenceline monitoring webpage.



Rule 1180 and 1180.1

Table 1 – Notification Thresholds to be Addressed by FAMPs

Table 1– Air Pollutants and Notification Thresholds to be Addressed by FAMPs

Air Pollutants	Health Standard-Based Notification Threshold	Statistical-Based Notification Threshold*
Criteria Air Pollutants		
Sulfur Dioxide	75 ppb	N/A
Nitrogen Oxides	100 ppb	N/A
PM2.5	35 µg/m ³ (24-hour)	N/A
PM10	50 µg/m ³ (24-hour)	N/A
Volatile Organic Compounds		
Total VOCs (Non-Methane Hydrocarbons)	N/A	TBD
Formaldehyde	44 ppb	N/A
Acetaldehyde	260 ppb	N/A
Acrolein	1.1 ppb	N/A
1,3 Butadiene	297 ppb	N/A
Naphthalene	N/A	N/A
Diethanolamine**	N/A	N/A
Polycyclic aromatic hydrocarbons (PAHs)	N/A	N/A
Styrene	5000 ppb	N/A
Benzene	8 ppb	N/A
Toluene	1300 ppb	N/A
Ethylbenzene	N/A	N/A
Xylenes	5000 ppb	N/A
Metals ***		
Cadmium	N/A	N/A
Manganese	0.17 µg/m ³ (8-hour)	N/A
Nickel	0.2 µg/m ³	N/A
Other Compounds		
Hydrogen Sulfide	30 ppb	N/A
Carbonyl Sulfide	270 ppb	N/A
Ammonia	4507 ppb	N/A
Black Carbon	N/A	TBD
Hydrogen Cyanide	309 ppb	N/A
Hydrogen Fluoride+	289 ppb	N/A
Sulfuric Acid**	29	N/A

+ If the facility uses hydrogen fluoride.

* Staff intends to develop threshold based on historical/statistical data.

** Compounds have short lifetimes in gas phase, therefore, will not remain airborne long enough to reach fence line. Staff proposing to delete these compounds.

*** Considering establishing criteria to exclude.

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Table 2 – Refinery Related Community Air Monitoring System Fees

- Minor Changes to the table including:
 - Adding Facility ID
 - Removing AltAir from list of facilities subject to PAR 1180
 - Considering to change the table header from dates to three implementation phases
 - Combining Tesoro Refineries (Carson and Wilmington) and contiguous facilities
 - All with the same ownership under Marathon Petroleum

Table 2 – Refinery-Related Community Air Monitoring System Fees

Facility ID	Facility Name* and Location	Effective Dates and Fee Requirements		
		No later than July 1, 2018, petroleum refineries shall make the following initial minimum payment required by paragraph (j)(2) Phase One Implementation	No later than January 30, 2019, petroleum refineries shall make the following final payment required by paragraph (j)(3) Phase Two Implementation	Phase Three Implementation
<u>Tesoro Refining & Marketing Company LLC**</u>				
174655	Tesoro Carson Adeavor Corporation (Carson)	\$429,078	\$1,001,181	TBD
800436	Tesoro Wilmington Adeavor Corporation (Wilmington)	\$214,539	\$500,591	TBD
800030	Chevron U.S.A, Inc. (El Segundo)	\$429,078	\$1,001,181	TBD
	Delek U.S. Holdings, Inc. (Paramount)***	\$107,269	\$250,295	TBD
171109	Phillips 66 Company (Carson)	\$214,539	\$500,591	TBD
171107	Phillips 66 Company (Wilmington)	\$214,539	\$500,591	TBD
181667	PBF Energy, Torrance Refining Company (Torrance)	\$429,078	\$1,001,181	TBD
800026	Valero Energy (Wilmington)	\$214,539	\$500,591	TBD

* Based on the current facility names. Any subsequent owner(s) or operator(s) of the above listed facilities shall be subject to this rule unless exempted pursuant to its terms.

** Includes Tesoro Carson (Facility ID: 174655), Tesoro Wilmington (Facility ID: 800436), Tesoro SRP (Facility ID: 151798), Tesoro Logistics Carson Crude Terminal (Facility ID: 174694), Tesoro Logistics Carson Product Terminal (Facility ID: 174703), Tesoro Logistics Wilmington Terminal Truck Loading Rack (Facility ID: 167981)

*** AltAir transitioned to alternative feedstock so is not applicable to Rule 1180



Rule 1180.1

Table 2 – Refinery Related Community Air Monitoring System Fees

Table 2 – Refinery-Related Community Air Monitoring System Fees

Facility ID	Refinery Name* and Location	Effective Dates and Fee Requirements	
		Phase One Implementation	Phase Two Implementation
187165	AltAir Paramount	TBD	TBD
800080	Lunday-Thagard (World Oil Refining)	TBD	TBD
800393	Valero Wilmington Asphalt Plant	TBD	TBD

* Based on the current Refinery names. Any subsequent owner(s) or operator(s) of the above listed facilities shall be subject to this rule unless exempted pursuant to its terms.

Proposed Revisions to
Refinery Fenceline Air Monitoring Guidelines



Fenceline Monitoring Guidelines Update



- Guidelines will be amended to address the proposed rule requirements
 - Applicable to both PAR 1180 and PR 1180.1
 - Include the new compounds
 - Address the selection of monitoring systems for the new compounds
 - Specify the criteria of excluding any compound from monitoring
 - Specify the notification thresholds for new compounds
 - Independent audits one year after installing monitoring system and every three years after the first year

Rule 1180

Refinery Fenceline Air Monitoring Plan Guidelines

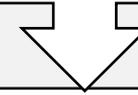


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Diamond Bar, California
December 2017

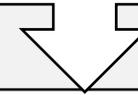
Next Steps

dates subject to change

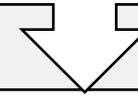
Released Initial Draft of PAR 1180 and PR 1180.1 – June 16, 2023



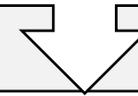
Preliminary Draft Rule and Staff Report – August 2023



Public Workshop – August 2023



Stationary Source Committee – September 15, 2023



Public Hearing – November 3, 2023

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