

RULE 4460 PETROLEUM REFINERY FENCE-LINE AIR MONITORING (Adopted December 19, 2019; Amended October 20, 2022)

1.0 Purpose

The purpose of this rule is to require petroleum refineries to implement real-time fence-line air monitoring systems that provide useful air quality information to the public regarding concentrations of refinery-related air pollutants, which could include criteria air pollutants and toxic air contaminants, at or adjacent to property boundaries of petroleum refineries.

2.0 Applicability

This rule applies to petroleum refineries.

3.0 Definitions

3.1 Air Pollution Control Officer (APCO): as defined in Rule 1020 (Definitions).

3.2 District: as defined in Rule 1020 (Definitions).

3.3 Fence-line Air Monitoring System: a combination of equipment that measures and records air pollutant concentrations at or adjacent to the property boundary of a petroleum refinery.

3.4 Petroleum Refinery, or Refinery: a facility permitted to engage in the activities described in the Standard Industrial Classification Code under 2911 (Petroleum Refining).

3.5 Real-Time: the actual or near actual time during which pollutant levels are measured.

3.6 Rule 4460 Petroleum Refinery Fence-line Air Monitoring Plan Guidelines: the written framework to be used by the APCO to evaluate a refinery fence-line air monitoring plan.

4.0 Requirements

Petroleum refineries shall install, operate, and maintain a fence-line air monitoring system, and shall collect monitoring data in real-time, make such 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 as required by Section 5.0.

## 5.0 Fence-line Air Monitoring Plan

- 5.1 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 for establishing and operating a real-time fence-line air monitoring system.
- 5.2 The fence-line air monitoring plan shall provide the following detailed information:
  - 5.2.1 Equipment to be used to continuously monitor, record, and report air pollutant concentrations for the pollutants specified in Table 1 – Air Pollutants to be Addressed in Air Monitoring Plan in real-time, at or adjacent to the property boundary of the petroleum refinery;
  - 5.2.2 Siting and equipment specifications;
  - 5.2.3 Equipment to be used to measure and continuously record wind speed and wind direction data within the boundaries of the petroleum refinery;
  - 5.2.4 Procedures for addressing air monitoring equipment maintenance and failures, including:
    - 5.2.4.1 Routine maintenance requirements and timelines for performing required periodic maintenance on the fence-line air monitoring system;
    - 5.2.4.2 Length of time that fence-line air monitoring equipment will not be operating during routine maintenance activities; and
    - 5.2.4.3 Temporary air monitoring measures that will be implemented in the event of an equipment failure or during routine maintenance activities and used until the fence-line air monitoring system is restored to normal operating conditions.
  - 5.2.5 Procedures for implementing quality assurance by a qualified independent party, including quality control and audits of the fence-line air monitoring systems;
  - 5.2.6 Procedures for implementing the fence-line air monitoring plan, including, information pertaining to the installation, operation, maintenance, and quality assurance, for the fence-line air monitoring system;

5.2.7 Methods and timeframe for dissemination of data collected by the equipment specified in Subsections 5.2.1 and 5.2.3 to the public, local response agencies, and the District.

5.3 The fence-line air monitoring plan required by Section 5.1 shall address real-time air monitoring for pollutants released due to petroleum refinery-related processes, and should reference the most recent refinery-related monitoring guidance from California Air Resources Board and California Air Pollution Control Officers Association and refinery-related monitoring report from the Office of Environmental Health Hazard Assessment. Pollutants required to be monitored in the fence-line air monitoring system shall include pollutants specified in Table 1. Should owner or operator of a petroleum refinery propose to not monitor one or more of the specified pollutants in Table 1, sufficient justification shall be included in the proposed fence-line air monitoring plan in accordance with Rule 4460 Petroleum Refinery Fence-line Air Monitoring Plan Guidelines. The owner or operator of a petroleum refinery should also consider monitoring additional pollutants beyond Table 1 that are produced through the facility's specific activities and processes. At minimum, a refinery shall monitor benzene, toluene, ethylbenzene, xylene, hydrogen sulfide, and sulfur dioxide.

Table 1: Air Pollutants to be Addressed in Fence-line Air Monitoring Plan

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

- 5.4 The owner or operator of a petroleum refinery shall submit an updated fence-line air monitoring plan to the APCO as follows:
- 5.4.1 Thirty (30) calendar days after the date of any unplanned facility, equipment, process or administrative modification that could result in permanent changes to an approved fence-line air monitoring plan.
  - 5.4.2 Forty-five (45) calendar days before the date of implementation of any planned facility, equipment, process or administrative modification that could result in permanent changes to an approved fence-line air monitoring plan.
  - 5.4.3 Sixty (60) calendar days after the date of receiving information that an approved fence-line air monitoring plan does not adequately measure one or more pollutant(s) identified in Table 1 that are emitted from the petroleum refinery.
  - 5.4.4 Failure to comply with the requirements of Subsections 5.4.1 through 5.4.3 shall result in revocation of an approved fence-line air monitoring plan. Thirty (30) calendar days after revocation of an approved fence-line air monitoring plan, the owner or operator of a petroleum refinery shall submit a new fence-line air monitoring plan to the APCO pursuant to Sections 5.2 and 5.3. The updated fence-line air monitoring plan shall not be subject to the implementation schedule in Section 6.0. An updated implementation schedule subject to approval by the APCO shall be included in the new fence-line air monitoring plan but in no case shall implementation exceed 180 calendar days.
- 5.5 The owner or operator of a petroleum refinery may include the use of emerging technologies in a fence-line air monitoring plan that is compliant with the requirements of this rule.
- 5.6 All fence-line air monitoring plans shall be consistent with the Rule 4460 Petroleum Refinery Fence-line Air Monitoring Plan Guidelines.

## 6.0 Fence-line Air Monitoring Implementation Timeline Requirements

The owner or operator of an existing petroleum refinery shall 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.

## 7.0 Refinery Fence-line Air Monitoring Plan Review Process

- 7.1 The APCO shall notify the owner or operator in writing whether the fence-line air monitoring plan is approved or disapproved. Determination of approval

status for the fence-line air monitoring plan shall be based on, at a minimum, submittal of information that satisfies the criteria in Section 5.0.

7.1.1 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. The resubmitted plan shall include any information necessary to address deficiencies identified in the disapproval letter.

7.1.2 The APCO shall either approve the revised and resubmitted fence-line air monitoring plan or modify the plan and approve it as modified.

7.2 A fence-line air monitoring plan that is submitted pursuant to the requirements of Section 5.0 shall be made available, by the APCO, for public review and comment no less than thirty (30) calendar days prior to approval.

## 8.0 Reporting

8.1 Owners or operators subject to Section 4.0 shall submit a written report for each calendar quarter to the District. The quarterly report shall 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. The report is due by the 45th calendar day following the end of the calendar quarter.

8.2 Following a monitoring system's detection of a pollutant exceeding its threshold defined in the approved air monitoring plan, owners or operators subject to Section 4.0 shall submit a Follow-up Report to the APCO within ten calendar days. The Report shall include:

8.2.1 The pollutant detected,

8.2.2 The pollutant's notification threshold,

8.2.3 The initial date and time the exceedance was detected,

8.2.4 The date and time the exceedance ended or if it is ongoing,

8.2.5 The predominant wind speed and direction throughout the exceedance period, and

8.2.6 Indication whether or not the suspected source of the exceedance is located within the refinery's fence-line.

8.2.7 If the suspected source of the exceedance identified per Section 8.2.6 is located within the refinery's fence-line, the Follow-up Report shall also include:

8.2.7.1 The specific processes or equipment from where the release is suspected to have originated, and

8.2.7.2 All corrective actions taken.

8.3 Should a monitoring system detect multiple exceedances within the ten day Report period, only one Follow-up Report will be required if the processes or units from where the releases are suspected to have originated are identical. This consolidated report must include the information required in Section 8.2 for each exceedance detected. This consolidated report must be submitted ten days following the initial exceedance.

## 9.0 Recordkeeping

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.

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