

August 25, 2026

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

RE: Rule 12, Rule 15 Annual Emissions Inventory Report for Calendar Year 2021 - Chevron Products Company (Chevron)

Dear Members of the Public and the Regulated Community,

The Chevron Richmond Refinery (Refinery) is subject to the Bay Area Air District's (Air District) Rule 12, Rule 15 "Petroleum Refining Emissions Tracking" (Rule 12-15) and is required to prepare and submit an annual emissions inventory detailing source-level emissions and their supporting calculations. Chevron submitted its Calendar Year 2021 Annual Emissions Inventory Report (Report) on April 18, 2022, following a 3-day extension of the due date. Within 45 days of receiving the Report, on June 2, 2022, the Air District completed its preliminary review of Chevron's Report and notified Chevron in writing of deficiencies in the Report that needed to be corrected, as well as an opportunity to meet and confer, pursuant to Rule 12-15-402.1. On June 23, 2022, Chevron submitted a revised Report. However, the Air District determined that Chevron's revised Report failed to correct all the deficiencies identified by the Air District. Therefore, within 21 days of receiving the revised Report, the Air District notified Chevron in writing that the Air District found Chevron's revised Calendar Year 2021 inventory did not correct all the deficiencies in the Air District's June 2 letter. Rule 12-15-402.3 provides that, for inventories not approved within 21 days, the Air District may either disapprove the inventory or approve the inventory with necessary corrections.

The Air District has reviewed the Report submitted by Chevron and has incorporated necessary corrections. The Air District has made a preliminary determination that, with Air District revisions, the Report meets the requirements set forth under Rule 12-15. Therefore, the Air District intends to approve the Report with those Air District revisions.

This Report is the basis for the Refinery's preliminary Health Risk Assessment (HRA), which the Air District is simultaneously preparing and finalizing pursuant to Rule 11, Rule 18: "Reduction of Risk from Air Toxic Emissions at Existing Facilities" (Rule 11-18). The Preliminary HRA is also being released for public review and comment; the public notice for the preliminary HRA is at <https://www.baaqmd.gov/en/community-health/facility-risk-reduction-program/facility-risk-reduction-list>. If the Air District ultimately approves the Report, it will incorporate any corrections needed to ensure the accuracy and completeness of the Report that arise from public comments during the comment period, and will use the approved Report in its Final HRA for the Chevron Refinery pursuant to Rule 11-18.

You may find the Report, with Air District revisions, on the Air District's website at <https://www.baaqmd.gov/en/Permits/Permitting-Manuals/Refinery-Emissions-Inventory-Guidelines>. The Air District will consider any written comments submitted regarding this Report that are received by the Air District by November 23, 2026, or postmarked by November 23, 2026, and will make any corrections to the Report that are needed to ensure its accuracy and completeness of the Report. The public comment period starts on August 25, 2026, and ends on November 23, 2026.

Public Comment Period

You may submit written comments on Chevron's Revised Calendar Year 2021 Annual Emissions Inventory Report (Report) by e-mail (the preferred method) or via mail. Please use the following contact information if you would like to comment on the Report:

Mailing Address: Rule 12-15 CY21 Inventory Report – Chevron
BAAQMD – Engineering Division
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: Danny Nip

E-mail Address: dnip@baaqmd.gov

In order to have your comments considered before approval of the emissions inventory and before use of the inventory in the Refinery's Final HRA pursuant to Rule 11-18, the Air District must receive your comment by November 23, 2026, or it must be postmarked by November 23, 2026. The Air District welcomes comments that comment on both the Rule 11-18 Preliminary HRA and the Rule 12-15 Report in the same document.

Background:

The Air District's Board of Directors adopted Rule 12-15 on April 20, 2016, to achieve three primary goals:

1. Improve real-time monitoring of emissions at refinery fencelines to address public concerns about localized health impacts;
2. Accurately and fully characterize emissions of air pollutants (criteria, toxic, and greenhouse gas) from all refinery-related emissions sources on an on-going basis to determine if additional rule development is required to further reduce emissions; and
3. Track changes to a refinery's crude slate to assess whether those changes result in increased emissions.

At the time of adoption, each goal was associated with a specific implementation strategy. For the annual emissions inventory, Rule 12-15 requires refineries and their support facilities to prepare and submit an annual emissions inventory detailing source-level emissions and their supporting calculations.

Emissions Inventory:

For the purposes of Rule 12-15, an emissions inventory is a comprehensive and accurate accounting of the types and quantities of criteria pollutants, toxic air contaminants, and greenhouse gases that are released into the atmosphere based on current measurement technologies and estimation methodologies. It is intended to represent the actual emissions to the best precision possible based on those measurement technologies and estimation methodologies. For the purposes of Rule 12-15, emissions inventory data are data that are collected or calculated by the refinery for all continuous, intermittent, predictable, and accidental air releases resulting from refinery processes at stationary sources at the refinery.

Criteria pollutants are defined as an air pollutant for which an ambient air quality standard has been established, or that is an atmospheric precursor to such an air pollutant. For the purposes of Rule 12-15, the criteria pollutants are carbon monoxide (CO), oxides of nitrogen (NO_x), particulate matter with an aerodynamic diameter of 10 micrometers or less (PM₁₀), particulate matter with an aerodynamic diameter of 2.5 micrometers or less (PM_{2.5}), precursor organic compounds (POC), and sulfur dioxide (SO₂).

Greenhouse gases (GHGs) have the same definition as in 40 CFR § 86.1818-12(a), which is a single air pollutant made up of a combination of the following six constituents: carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). For the purposes of Rule 12-15, GHG emissions are calculated in a manner consistent with California Air Resources Board (CARB) requirements, as contained in section 95113 of the Mandatory Greenhouse Gas Emissions Reporting Rule (MRR). Under the MRR program, refineries are required to report GHG emissions directly to CARB. Reported emissions data are subject to independent third-party verification to ensure accuracy, with CARB administering and overseeing the verification program that supports mandatory greenhouse gas reporting. Under Rule 12-15, refineries are required to submit third-party verified GHG emissions to the Air District. The Air District does not conduct additional review on GHG emissions beyond third-party verification.

Emission Estimation Methods

The Air District published a refinery emissions inventory guidelines document: the "*Petroleum Refinery Emissions Inventory Guidelines*" (PREIG) in accordance with Rule 12-15-405. These guidelines are based on emission estimates from the U.S. EPA's *Emission Estimation Protocol for Petroleum Refineries* (2015). As required by Rule 12-15-405, the Air District uses these guidelines to determine whether the emissions inventory for a refinery or support facility meets the requirements of Rule 12-15.

These guidelines outline emission estimation methods per process or process group. The overriding principles of these methods are as follows:

- Direct measurement is preferable to calculated emissions.

- Continuous measurement is preferable to periodic testing.
- Periodic source testing should be representative of typical source operation (unless one is intentionally testing for atypical conditions). If multiple source tests are available for the same source, source tests covering the inventory period should be used whenever available, unless the source test represents atypical operation.
- Emission factors that are based on source testing should be updated as processes change.
- Use default emission factors only when other data is not available. While it is desirable to avoid using default emission factors, it is impractical to directly measure or test all sources for all pollutants under all operating scenarios. However, such factors will not capture emission trends over time, due to changing operations.
- When multiple default emission factors are available for a given criteria pollutant/toxic air contaminant, use the following order of preference:
 1. California Air Toxics Emission Factors
 2. U.S. EPA Emission Estimation Protocol for Petroleum Refineries
 3. U.S. EPA AP 42, Compilation of Air Pollutant Emission Factors

In addition to developing the PREIG, and as a part of the effort to fully characterize fugitive emissions from the refineries, from 2017 to 2021, the Air District conducted a joint study with the then five San Francisco Bay Area petroleum refineries (Chevron Products Company, Marathon Petroleum Company, Martinez Refining Company, Phillips 66 Company, and Valero Refining Company) to understand the average emission rate of organic compounds from leaks of petroleum refinery components (valves, connectors, pumps, and pressure relief devices that relieve to atmosphere) handling "heavy" materials, or materials with an initial boiling point greater than 302 degrees Fahrenheit. The results of this study are summarized in the Heavy Liquids Study report (HLS).

Calendar year 2021 emissions have undergone extensive review by the Air District using the guidance outlined in the PREIG and is the first year in which the results of the HLS were applied to estimate toxic air contaminant emissions resulting from the fugitive release of organic compounds. In addition, in early 2025, the Refinery sampled heavy materials, such as diesel, gas oil, and lube oil, from multiple locations to obtain vapor weight fraction speciation data for benzene, naphthalene, and polycyclic aromatic hydrocarbons (PAHs). These sampling results replace the default vapor phase speciation profile data.