

Air Quality Update

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CARB ZERO-EMISSION FORKLIFT REGULATION

On June 27, 2024, the California Air Resources Board (CARB) approved the Zero-Emission Forklift (ZEF) Regulation. The ZEF Regulation will reduce criteria pollutants, such as oxides of nitrogen (NO_x), fine particulate matter (PM_{2.5}), and greenhouse gas (GHG) emissions, from in-use large spark-ignited (LSI) forklifts. The regulation restricts the sale of most LSI forklifts starting in 2026 and establishes phase-out requirements between the years 2028 and 2038.

This regulation applies to forklifts and engine manufacturers, as well as any person, public utility, special district, or government agency that operates, permits the operation of, owns, leases, rents, sells, or offers forklifts or engines for lease or rent within California. Forklifts not subject to the ZEF Regulation include rough terrain forklifts, vehicle-mounted forklifts, combat and tactical support equipment, pallet jacks, forklifts equipped with a telescoping boom, forklifts subject to the Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards Regulation, and forklifts owned and operated by an individual for personal, non-commercial, and non-governmental purposes.

The phase-out schedule, outlined in Table 1 in the next column, is dependent on model year and forklift classification and is designed so that no forklift is required to be phased out before it is 10 years old. Small fleets may follow an alternative phase-out schedule that allows for Class IV forklifts to be held onto for longer.

Table 1: Phase-Out Schedule

Forklift Class	Rated Capacity	Phase-Out ¹
Class IV	≤ 12,000 lbs	1/1/2028
Class IV	> 12,000 lbs	1/1/2035
Class V	≤ 12,000 lbs	1/1/2030
Class V	> 12,000 lbs	No Phase-Out Req.

1. Identifies the first phase-out deadlines.

Fleets can utilize a phase-out percentage cap to their first compliance deadline. Forklifts shall be phased out in the order of oldest to newest. All applicable LSI forklifts not phased out due to utilization of a phase-out percentage cap shall be phased out by the next applicable compliance date.

Similar to the LSI Engine Fleet Requirements Regulation, forklifts that operate less than 200 hours per year can be designated as low-use forklifts and are exempt from the ZEF phase-out requirements. However, the regulation will prohibit the operation of low-use LSI forklifts after December 31, 2030. Government agencies operating forklifts that support emergency operations can utilize the Dedicated Emergency Forklift Exemption, which exempts these forklifts from the ZEF phase-out requirements. Fleet operators can also apply for a number of available extensions to the compliance deadlines.

Fleet operators of large fleets must submit an initial report to CARB by April 30, 2026, and then submit an annual report documenting any changes to their fleet by April 30th each year thereafter. Small fleets must submit their report by September 30, 2026, and then submit an annual report by September 30th each year thereafter.

For more information, visit: <https://ww2.arb.ca.gov/our-work/programs/zero-emission-forklifts>

Air Quality Tip

Due to recent delays in permit application processing at the Bay Area Air Quality Management District (BAAQMD), it may take up to (or even over) a year for your application to be processed. To expedite the process, submit a thorough and detailed application. Also, check if you qualify for accelerated permitting, which can allow operation while your permit is being processed, provided your project meets specific criteria.

Upcoming Online EH&S Training Offered by Yorke Engineering

- Northern California Air Quality Regulations, Permitting, and Compliance Seminar (3-Hour Sessions):
November 12, 13, 19, 20, and 21, 2024
- California Multi-Media Environmental Regulations: Permitting, Compliance, and Reporting Seminar (4-Hour Sessions):
October 15, 17, 22, and 24, 2024
- California Industrial Hygiene and OSHA Safety Regulations Seminar (4-Hour Sessions):
October 29 and 30, November 5 and 6, 2024
Class Info at: <http://yorkeengr.com/classes>

Upcoming Due Dates for 2024/2025*

- CARB LCFS Verification Statement.. 8/31/24
- CARB LCFS Q2 Fuel Report..... 9/30/24
- CARB GHG Cap-and-Trade Annual Compliance Surrender 11/1/24
- CARB LCFS Q3 Fuel Report..... 12/31/24
- CARB Off-Road Diesel Compliance by Fleet Average or BACT (All Fleets) .. 1/1/25
- CARB ACF Compliance by Fleet Milestone or MUL Pathway 1/1/25
- CARB On-Road TRUCRS Reporting for Flexibility Options ... 1/31/25
- CARB ACF Report for HPF Fleets .. 2/1/25
- Semi-Annual Title V Report .. Semi-Annually
- Annual Title V Compliance Certification Annually
- Title V – Application for Permit Renewal – Due 180 Days Prior to Permit Expiration

*Due dates listed are statutory dates; sometimes dates are extended when on a weekend/holiday.

CTR REGULATION REMINDER – ADDITIONAL FACILITIES REQUIRED TO REPORT

CARB’s Criteria and Toxics Reporting (CTR) Regulation will begin to be implemented at additional facilities in 2025 depending upon Permitted Process types and Activity Levels. These additional applicable facilities will be required to report annual emissions data for 2024 emissions. Specifically, facilities will provide emissions data for the first time if certain Activity Levels are exceeded for the specified Permitted Processes at a facility.

This initial round of reporting will be required in 2025 for data year 2024 (DY2024), for all applicable facility emissions. Facilities in Sector Phase 2 that are located in District Group A¹ will be affected. Similarly, facilities classified under Sector Phase 1 located in District Group B² will also be required to comply.

Table 2 to the right contains a summary of the District Group A, Sector Phase 2 facility categories required to report DY2024 emissions data for the first time in 2025. Table 3 to the right contains a summary of the District Group B, Sector Phase 1 facility categories required to report DY2024 emissions data for the first time in 2025.

Each local air district will implement these CTR requirements through their annual emissions reporting or emissions inventory program, such as the South Coast Air Quality Management District’s (SCAQMD’s) Annual Emissions Report (AER) that is due May 1, 2025, for DY2024.

¹ Includes major air quality management/air pollution control districts (AQMDs/APCDs): SCAQMD, BAAQMD, Sacramento Metropolitan AQMD, San Diego County APCD, Imperial County APCD, and San Joaquin Valley APCD.

² Encompasses all other California air districts: Mojave Desert AQMD, Ventura County APCD, and Santa Barbara County APCD.

Table 2: District Group A, Sector Phase 2 Facilities with First-Time Reporting for DY2024

Permitted Process	Activity Level Reporting Threshold for Permitted Process
Isocyanate compound use	Use of materials containing 3 lbs of isocyanates per year
Printing and publishing, including print shops and miscellaneous commercial printing	Use of materials with no isocyanates: average of 2 gal/day; use of materials with isocyanates: average of 0.5 gal/day
Hazardous waste treatment, storage, disposal, and recycling at a hazardous waste treatment, storage, disposal, and recycling facility	Any activity level
Welding, laser cutting, and plasma cutting of metal materials	Any activity level
Construction aggregate processing, if asphalt products are also used or produced	Any activity level
Chemicals and allied products manufacturing	Any activity level
Bulk petroleum storage and loading, bulk benzene storage and loading, and wholesalers	Any activity level
Polybrominated biphenyl compounds and any brominated diphenyl ethers use	Any activity level
Use of ethylene oxide for sterilization	Any activity level
Leather and hide tanning and finishing	Any activity level
Retail sale of gasoline	25,000 gal/yr of gasoline sold
Auto body repair and coating operations	50 gal/yr of paint used
Medical services, hospitals, and related facilities	110 lbs/yr of formaldehyde or glutaraldehyde emitted, or any ethylene oxide, or 30 gal/yr of diesel use or 5 hrs/yr of non-emergency operation
Flat glass manufacturing	100 lbs of glass production
Pressed and blown glassware manufacturing	100 lbs of glass production
Clay ceramics manufacturing	1 ton of product manufactured

Table 3: District Group B, Sector Phase 1 Facilities with First-Time Reporting for DY2024

Permitted Process	Activity Level Reporting Threshold for Permitted Process
Metal plating, anodizing, or grinding using cadmium or chromium	Any activity level
Plating, polishing, coating, engraving, using chromium, cadmium, or nickel	Any activity level
Petroleum refining and industries related to refining	Any activity level
Industrial machinery manufacturing	Any activity level
Release of fumigant or fumigation of crops	Any activity level
Rubber and misc. plastics products manufacturing if styrene, butadiene, phthalates, carcinogenic solvents, or isocyanates are used	Any activity level
Processes emitting 1,4-dioxane	10 lbs of 1,4-dioxane emitted per year
Combustion of crude, residual, distillate, or diesel oil, except for the agricultural operations and medical-related industry sectors	Tier 4: 100 gal/yr, or 5 hrs/yr non-emergency use; Tier 0-3 diesel engines: 30 gal/yr or 5 hrs/yr of non-emergency use; other combustion devices: 100 gal/yr fuel use
Processes emitting styrene	1 lb of styrene emitted per year
Methylene chloride use	1 gal of methylene chloride used per year
Paint stripping and varnish stripping	Any activity level
Use of N-methyl pyrrolidone	1 gal of N-methyl pyrrolidone per year
Dry cleaning facilities, except facilities that only use water or CO ₂ systems	Any activity level
Tert-butyl acetate use	20 lbs of tert-butyl acetate used per year
Use of parachlorobenzotrifluoride (PCBTF)	5 lbs or 0.5 gal of PCBTF used per year
Solvent cleaning and degreasing	Use of solvents listed as a human carcinogen or potential human carcinogen: any activity level; annual average of 55 gal per month

PROPOSED AMENDMENTS TO REGULATION 8, RULE 18: EQUIPMENT LEAKS

For full details on other upcoming BAAQMD regulations, go to:

<http://www.baaqmd.gov/rules-and-compliance/rule-development/rules-under-development>

What Are the Goals and Background of Proposed Rulemaking Regarding Equipment Leaks?

The BAAQMD is proposing amendments to Rule 8-18, which would require that certain components in heavy liquid service be included in a Leak Detection and Repair (LDAR) program. Heavy liquids, defined as organic liquids with an initial boiling point above 302 degrees Fahrenheit (°F), are currently exempt from most BAAQMD monitoring. Examples of heavy liquids include diesel fuel, kerosene, turbine fuel, gas oils, and residuals.

The most efficient way to reduce emissions from fugitive leaks is a robust implementation of an LDAR program at subject facilities. When a leak above a detection threshold is discovered through monitoring, it must be repaired within a specified frequency.

As part of the rule development, the BAAQMD worked in conjunction with local refineries to conduct a Heavy Liquids Study, released in April 2022. This report determined appropriate emission factors for components in heavy liquid service and served as the basis for potential reductions via Best Available Retrofit Control Technology (BARCT).

What Facilities Are Impacted by the Proposed Amendment?

The BAAQMD anticipates that the proposed amendments will affect five refineries and seven non-refinery facilities, such as bulk loading plants and terminals, with an estimated magnitude of reduction of 146 tons per year of precursor organic compounds (POCs). The majority of anticipated emission reduction

comes from reduced fugitive emissions from steam-quenched pumps and pressure relief valves at petroleum refineries.



Process streams handled by this equipment (e.g., joints, connections, valves, pressure relief devices, pumps, and compressors) have historically been categorized by phase, vapor pressure, and/or boiling point – i.e., as gaseous or vapor phase, light liquid (initial boiling point equal to or below 302°F), or heavy liquid (initial boiling point greater than 302°F).

The likelihood of equipment having leaks/fugitive emissions is in part influenced by properties inherent to the types of material processed. Generally, fugitive emissions to the atmosphere are most likely to occur in components in gaseous or vapor service, while components handling the heaviest liquids are least prone to fugitive leak emissions.

What Actions Are Required for Affected Facilities?

Fugitive components in heavy liquid

service will need to be included in each facility's existing LDAR program. This will include monitoring of each component on a frequency determined by the component type, repair of any leaks detected, and providing the BAAQMD with piping and instrumentation diagrams (P&IDs) or technical drawings detailing which components are in heavy liquid service at each facility.

A public hearing will be held on September 4, 2024. Regulatory updates will go into effect 1 year after approval of this amendment.

REGULATION 11, RULE 18 – HEALTH RISK ASSESSMENT UPDATE

Under Rule 11-18, the BAAQMD conducts health risk assessments (HRAs) for facilities whose emissions pose potentially high health risks. Facilities were ranked into two phases for evaluation – Phase I (36 total facilities) and Phase II. If a facility is found to exceed health risks, a Risk Reduction Plan (RRP) will be required. After approval by the District, this RRP will require implementation within 5 years.

As of December 2023, the BAAQMD has calculated Prioritization Scores for all Phase I facilities and re-ranked each Phase I facility as either Top Priority (nine facilities), Medium Priority (13 facilities), or Low Priority (11 facilities). An additional 12 facilities were removed from Phase I and moved to Phase II consideration.

The BAAQMD is considering rule-making in fiscal year 2024 and beyond to amend Rule 11-18 to streamline and expedite regulatory implementation.

Yorke Engineering, LLC specializes in air quality and environmental consulting for stationary and mobile sources, including dispersion modeling, health risk assessments, permitting, emission inventories, air quality compliance systems, etc. Yorke Engineering has assisted over 1,950 customers, including a wide variety of industrial facilities and government organizations throughout California.