

# Air Quality Update

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## January 27, 2023 – SCAQMD

### CARB OFF-ROAD DIESEL AMENDMENTS: APPROVED

On November 17, 2022, the California Air Resources Board (CARB) Off-Road Diesel amendments were approved. The amendments do not alter current requirements, but add additional obligations. The regulation applies to off-road diesel vehicles with engines rated at 25 horsepower (HP) or larger, with fleet sizes based on cumulative HP under common ownership in California. Fleets are required to clean up 10% of the fleet HP each year until meeting the final fleet average target (FAT), with excess cleanup points carrying over until 2023 for Medium or Large fleets and 2028 for Small fleets (see Table 1).

**Table 1: Fleet Sizes and Credit Expiry Dates**

Size	HP	Carryover Expires
Small	25-2500	1/1/2028
Medium	2501-5000	1/1/2023
Large	Over 5000	1/1/2023

### Carryover Credits Restart

After the initial expiry dates in Table 1, carryover will restart and have no expiration.

### Renewable Diesel

Starting January 1, 2024, fleets will need to demonstrate via annual fueling records (contracts/receipts) that the fleet and rental off-road vehicles solely use renewable diesel (RD) (R99 or R100). If RD is unavailable, the fleet must maintain quarterly records of attempts to obtain R99 or R100. Fleets will affirm compliance with the RD requirements during each annual report. Captive attainment fleets or fleets solely comprised of Tier 4-Final (T4-F)

(or cleaner) engines are exempt from RD requirements.

### Tier Phase-Outs

Even if meeting its final FAT, every fleet must “phase out” Tiers 0-2 engines by the January 1<sup>st</sup> deadlines in Table 2, via conversion to permanent low use (200 hours per year) or engine removal from California operations. Only Tier 0 (T0) engines have a “backstop” that will ban all California operations starting in 2036.

**Table 2: January 1<sup>st</sup> Phase-Out Deadlines**

Fleet Size	2024	2026	2028	2030	2032	2036
Large	T0	T1	T2			T0 Backstop
Medium		T0	T1	T2		
Small			T0	T1	T2	

### Minimum Tier for Adding Vehicles

Starting January 1, 2024, there will be new minimum tier requirements for adding vehicles to a fleet, as shown in Table 3.

**Table 3: Minimum Tier for Adding Vehicles**

Minimum Tier for Adding Vehicles (Applicable January 1 <sup>st</sup> of Each Calendar Year)						
Fleet	2023	2024	2025	2026	2027	2028
Med/Lrg	Tier 3	Tier 4-Final (T4-F)				
Small*	Tier 3	Tier 4-Interim (T4-I)				T4-F

\*Fleets following the Optional Compliance Schedule for fleets with 500 HP or less may add T4-I through 2034 and must be T4-F or cleaner starting in 2035.

### Final Rule Language

Final rule language is anticipated to be adopted in 2023 and can be monitored at: <https://ww2.arb.ca.gov/rulemaking/2022/off-roaddiesel>

More information on incentives can be found on the following websites:

- <https://ww2.arb.ca.gov/guidelines-carl-moyer>
- <https://californiahvip.org>
- <https://californiacore.org>
- <https://www.energizee.org>

### Air Quality Tip

*As California transitions to zero-emission technologies, companies may want to investigate incentive programs for on-road and off-road vehicle purchases, vehicle replacements, and infrastructure projects. Specific information about funding is available on the local air district websites. Also, plan ahead to source biodiesel.*

### Upcoming Online EH&S Training Offered by Yorke Engineering (3-Hour Sessions)

- Southern California Air Quality Regulations, Permitting, and Compliance Seminar: March 21, 24, 28, 29, 30, 2023  
Class Info at: <http://yorkeengr.com/classes>

### Upcoming Due Dates for 2023\*

- RECLAIM Quarterly (Cycle 2) ..... 1/30
- CARB On-Road TRUCRS Reporting for Flexibility Options..... 1/31
- Title V – 500-SAM ..... 2/28
- RECLAIM APEP (Cycle 1)..... 3/1
- Title V – 500-ACC..... 3/1 (Except RECLAIM Cycle 2..... 8/29)
- CARB Off-Road DOORS Reporting for All Fleets ..... 3/1
- CARB PERP Reporting: Equip. Units, Low-Use, Large Fleet Avg..... 3/1
- CARB Refrigerant Reporting for Medium/Large Systems (≥ 200 lbs) ..... 3/1
- CARB GHG Semiconductor Report ..... 3/1
- U.S. EPA GHG Report ..... 3/31
- CARB LCFS Q4 Fuel Report ..... 3/31
- CARB GHG > 25K Metric Tons ..... 4/10
- SCAQMD 1110.2 Quarterly ..... 4/15
- RECLAIM Quarterly (Cycles 1 & 2).... 4/30
- CARB LCFS Annual Fuel Report..... 4/30
- SCAQMD AER ..... 5/1
- CARB GHG 10-25K Metric Tons and All Electric Retailers ..... 6/1
- CARB Gas-Insulated Equipment GHG Report..... 6/1
- CARB LSI DOORS Reporting for Medium and Large Fleets ..... 6/30
- CARB LCFS Q1 Fuel Report ..... 6/30
- 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.

## TRANSPORT REFRIGERATION UNIT AMENDMENTS

For full details on changes below, go to: <https://ww2.arb.ca.gov/rulemaking/2021/tru2021>

In February 2022, CARB adopted amendments to the Transport Refrigerated Unit (TRU) Airborne Toxic Control Measure (ATCM). Owners of TRUs will be required to report their California-operated TRU inventory, label TRU Trucks, pay fees, and annually turn over at least 15% of TRU Trucks to Zero-Emission (ZE) TRU Trucks (see Table 4 for compliance dates).

**Table 4: TRU Compliance Dates**

Due Date	Percent ZE in Fleet
12/31/2023	15%
12/31/2024	30%
12/31/2025	45%
12/31/2026	60%
12/31/2027	75%
12/31/2028	90%
12/31/2029	100%

Refrigerated warehouses/distribution centers of at least 20,000 square feet (sq.ft.), grocery stores of at least 15,000 sq.ft., seaports, and intermodal railyards with TRU activity must register all TRUs that operate at their facility and pay fees every 3 years.

Beginning December 31, 2022, newly manufactured TRUs must use refrigerant with a global warming potential (GWP) not exceeding 2,200. Beginning in 2023, newly manufactured TRUs must not exceed the particulate matter standard of 0.02 gram per brake horsepower-hour (Tier 4 for 25-50 HP engines). Manufacturers must also provide a comprehensive warranty for ZE TRU Trucks.

Trailer TRUs must continue to meet the Ultra-Low Emission TRU (ULETRU) standards every 7 years.

CARB is assessing ZE options for non-truck TRUs and plans to propose a second rulemaking for potential adoption in 2025.

## SMOKE TEST PROGRAMS FOR HEAVY-DUTY VEHICLES

### CARB's Periodic Smoke Inspection Program (PSIP)

The PSIP requires fleets with at least two diesel vehicles with a gross vehicle weight rating (GVWR) over 6,000 pounds (lbs) to conduct annual smoke tests when the engine is over 3 years old, if driven on California public roads and registered with the California Department of Motor Vehicles (DMV).

### CARB's Heavy-Duty Inspection and Maintenance (HD I/M) Program

In October 2022, CARB adopted the HD I/M Program. Starting in 2023, private and public fleets will be required to report their non-gasoline combustion vehicles with a GVWR over 14,000 lbs that operate on California public roads (regardless of which DMV state they are registered). This expands the smoke test requirements to other fuel types, such as compressed

natural gas (CNG) and propane heavy-duty vehicles.

Starting in 2024, there will be a \$30 fee per applicable vehicle and smoke tests will be required twice per year. Vehicles with 2013 engine model years and newer can opt for quarterly on-board diagnostic (OBD) reports in lieu of smoke tests.

Diesel vehicles 6,001-14,000 lbs will either continue PSIP smoke tests or conduct smog checks every other year, if designated as such.

### Smoke Tester Credentials

The smoke testing must be performed by a certified tester, and testers must renew their credentials every 2 years. The free HD I/M tester training course, exam, and associated info can be found at:

<https://ww2.arb.ca.gov/our-work/programs/inspection-and-maintenance-program/hd-im-tester-training-course-and-exam>

Certified testers can also have their name included on the public list that is linked on the above website.

**Table 5: CARB Smoke Test Programs Compliance Summary**

Program Elements		PSIP	HD I/M Program	Notes
Applicability	Fuel Type	Diesel Vehicles	Non-Gasoline, Non-ZE Vehicles	-
	GVWR	Over 6,000 lbs	Over 14,000 lbs	GVWR 6,001-14,000 lbs continue PSIP or biennial smog checks.
	DMV	California Registered	Any State	-
	Age	Engine > 3 Years Old	All Ages	-
	Operations	Public Roads	Public Roads	Vehicles operated solely on private property are exempt.
Smoke Testing		Annually	Starting 2024, twice a year if older than 2013 model year. Newer vehicles switch to OBD reports.	-
In-House Testing		Free Online Certification/Training	Renew credentials every 2 years.	-
Reporting		N/A	Starts 2023. Annual reports twice/year starting 2024.	Initial reporting Q1-Q2 2023 (TBD).
Fees		N/A	\$30/Vehicle	-

*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 1,600 customers, including a wide variety of industrial facilities and government organizations throughout California.*

## SCAQMD ADOPTED RULE CHANGES

For full details on changes below, go to: <http://www.aqmd.gov/home/regulations/rules/recent-actions>

### ■ Rule 1147.2: NO<sub>x</sub> Reductions from Metal Melting and Heating Furnaces

Rule 1147.2 is a new rule that was adopted by the South Coast Air Quality Management District (SCAQMD) on April 1, 2022, that applies to natural gas-fired metal melting furnaces, metal heat treating furnaces, metal heating furnaces, and metal forging furnaces that require an SCAQMD permit. **Immediate impacts include an application deadline of July 1, 2023, for units greater than 40 million British thermal units per hour (MMBtu/hr) and periodic source testing.**

These devices were previously regulated under Rule 1147 as metal melting/heat treating furnaces with a nitrogen oxides (NO<sub>x</sub>) limit of 60 parts per million (ppm). The initial NO<sub>x</sub> limits of the new Rule 1147.2 are 60 ppm NO<sub>x</sub> for non-Regional Clean Air Incentives Market (RECLAIM) devices and 102 ppm for RECLAIM devices. These limits apply until a unit becomes subject to the concentration limits in Table 1 or the alternative concentration limits in Table 2 of the rule (Rule 1147.2 allows operators to meet an alternative NO<sub>x</sub> limit that is 10 ppm greater than the NO<sub>x</sub> limits until the

compliance date for new NO<sub>x</sub> limits). All existing units will ultimately be subject to the in-use concentration limits in Table 1 of Rule 1147.2, except for units that can demonstrate NO<sub>x</sub> emissions of less than 1 lb per day. New units are subject to the concentration limits in Table 3 of the rule. A carbon monoxide (CO) concentration limit of 1,000 ppm by volume (ppmv) applies for all equipment categories. Table 6 below summarizes the emission limits for in-use units and new units.

Permit application submittals to meet these concentration limits are required for all units. Units with a rated heat input capacity less than 40 MMBtu/hr are required to meet either a 12-year or 32-year implementation schedule, depending on whether the unit can demonstrate compliance with the alternative concentration limits in Table 2 of Rule 1147.2.

Compliance with the alternative concentration limits is a prerequisite condition to allow for a unit to comply with the NO<sub>x</sub> limits in Table 1 on an extended implementation schedule of 32 years in lieu of the default 12-year implementation schedule. For example, a metal melting furnace at a non-RECLAIM facility with a permit condition meeting the existing limit of 60 ppmv must submit an application on or before July 1<sup>st</sup> of the year when the burner age reaches 12 years, to meet the new limit of 40 ppmv by the time the unit becomes 12 years old, and a

metal melting furnace at a non-RECLAIM facility with a permit condition meeting the alternative limit of 50 ppmv must submit an application on or before July 1<sup>st</sup> of the year when the burner age reaches 32 years, to meet the new limit of 40 ppmv by the time the unit becomes 32 years old.

Units greater than 40 MMBtu/hr are required to submit permit applications on or before **July 1, 2023**, to meet the concentration limits in Table 1 of the rule.



Facilities that have more than two devices subject to the same Rule 1147.2 compliance deadline may submit a permit application to comply with a multiple-unit implementation schedule based on minimum percentages of total heat input. Units subject to Rule 1147.2 may also be decommissioned instead of complying with applicable new emission limits within 30 months after the applicable application submittal deadline by disconnecting all fuel, air, and electricity to the unit and having the SCAQMD permit inactivated.

**Lastly, periodic source tests are now also required.** Units less than 10 MMBtu/hr are required to be tested every 5 calendar years and units greater than 10 MMBtu/hr every 3 calendar years, unless the annual heat input is of less than or equal to 23 billion Btu per year, then testing is only required every 5 years.

Table 6: Rule 1147.2 NO<sub>x</sub> Limits

Furnace Type	Unit Size (MMBtu/hr)	Process Temp.	In-Use Units NO <sub>x</sub> Limits (@ 3% O <sub>2</sub> )	In-Use Alternative NO <sub>x</sub> Limit (@ 3% O <sub>2</sub> )	New Units NO <sub>x</sub> Limits (@ 3% O <sub>2</sub> )
Metal Melting	< 40	All	40 ppmv	50 ppmv	40 ppmv
Metal Heat Treating, Metal Heating, and Metal Forging	< 40	< 1,200°F	40 ppmv	50 ppmv	30 ppmv
		≥ 1,200°F	50 ppmv	60 ppmv	40 ppmv
Units with Radiant-Tube Burners	< 40	All	50 ppmv	60 ppmv	40 ppmv
All Units	≥ 40	All	15 ppmv	N/A	15 ppmv