



# Guide to Off-Road Vehicle & Equipment Regulations

The California Air Resources Board (CARB) is actively enforcing off-road diesel regulations in support of California's clean air goals. Enforcement of clean off-road vehicle rules provides a level playing field for those who have already done their part and are in compliance. If your fleet does not meet state clean air laws, you could be subject to fines.

This booklet provides basic information and resources to help take the guesswork out of California's clean off-road vehicle and equipment requirements. This booklet is not comprehensive of all CARB regulations that an off-road fleet may be subject to, but provides basic information specific to the following:

- Regulation for In-Use Off-Road Diesel-Fueled Fleets
- Portable Equipment Registration Program

# DISCLAIMER

While this booklet is intended to assist vehicle owners with their compliance efforts, it is the sole responsibility of fleets to ensure compliance with applicable regulations.

For more information or assistance with compliance options, visit [arb.ca.gov/offroadzone](http://arb.ca.gov/offroadzone), call the toll-free hotline at (877) 59DOORS (877-593-6677), or email at [doors@arb.ca.gov](mailto:doors@arb.ca.gov).

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# What off-road vehicle and equipment rules may apply to you?

Check all that apply:

- Are your off-road vehicles or equipment self-propelled and have diesel engines?  
See the Regulation for In-Use Off-Road Diesel-Fueled Fleets: Page 2
  
- Do you operate a diesel off-road fleet with a combined horsepower (hp) of 500 or less?  
See the Optional Compliance Schedule overview: Page 9
  
- Does a vehicle pull your equipment?  
See the Portable Equipment Registration Program: Page 12
  
- Do you own or operate two-engine cranes, water-well drilling rigs, or other two-engine diesel vehicles?  
See the Two-Engine Vehicle overview: Page 14

# Regulation for In-Use Off-Road Diesel-Fueled Fleets

All self-propelled off-road diesel vehicles 25 horsepower (hp) or greater used in California and most two-engine vehicles (except on-road two-engine sweepers) are subject to the Regulation for In-Use Off-Road Diesel-Fueled Fleets (Off-Road Diesel Regulation). This includes rented and leased vehicles. The overall purpose of the Off-Road Diesel Regulation is to reduce emissions of oxides of nitrogen (NO<sub>x</sub>) and particulate matter (PM) from off-road diesel vehicles operating within California. The Off-Road Diesel Regulation does the following:

- Requires all vehicles be reported to CARB (online reporting tool, DOORS) and labeled;
- Restricts the addition of older vehicles to an off-road fleet;
- Requires fleets to phase-out older vehicles starting January 1, 2024;
- Requires the use of R99 or R100 renewable diesel in off-road diesel vehicles;
- Requires fleet owners to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS), i.e., exhaust retrofits;
- Imposes new contracting requirements to ensure fleets hired are compliant;
- Imposes limits on idling and requires a written idling policy; and
- Requires a disclosure when selling vehicles.

**Table 1: Fleet Size**

Category	Total fleet hp
Small	< 2,500 hp
Medium	2,501 to 5,000 hp
Large	> 5,000 hp

The requirements and compliance dates of the Off-Road Diesel Regulation vary by fleet size. For a fleet owner to determine their fleet size, it must add up all of the off-road diesel horsepower under common ownership or control in the fleet.

## Basic Reporting

### Reporting - Initial & Annual

Fleet owners must report the vehicle and engine information for all vehicles within their fleets operating in California. Fleet owners must also report owner information. Fleet owners should report using DOORS, which is CARB's free online reporting tool. For more information on how to report and what information is required, visit [arb.ca.gov/offroadzone](http://arb.ca.gov/offroadzone).

New California fleet owners must report their vehicle and engine information within 30 days of the date of purchase or bringing the vehicles into the state. Fleet owners must report new vehicles, sold vehicles, and retired vehicles within 30 days.

All fleet owners must review and update their information by March 1<sup>st</sup> of each year. For each annual reporting date, a fleet owner must report any changes to the fleet, hour meter readings (for low-use vehicles and vehicles used a majority of the time, but not solely, for agricultural operations), and submit the Responsible Official Affirmation of Reporting (ROAR) form. Fleet owners submit this information using DOORS or forms available on CARB's website.

### Labeling

After fleet owners report vehicles to CARB, a unique Equipment Identification Number (EIN) is assigned to each vehicle. The fleet owner must label their vehicles within 30 days of receiving EINs. CARB does not issue EIN labels; it is the fleet owner's responsibility to follow CARB's label specification and to make or purchase the labels or placards, or paint the EINs on their vehicles. Off-road diesel vehicles must have two labels, one on each side of the vehicle.



## Emission Performance Compliance Options

By each annual compliance deadline, a fleet owner must demonstrate that their fleet has met the fleet average target for that year, or completed the Best Available Control Technology (BACT) requirements.

### Meeting the Fleet Average Target

The fleet average index is an indicator of a fleet's overall emissions rate determined by the horsepower and model year of each engine in the fleet. If the fleet average index is equal to or less than the fleet average target for a given year, the fleet owner is not required to take further action to reduce emissions from their vehicles.

### Complying with BACT Requirements

If a fleet owner cannot, or chooses not to, meet the fleet average target in a given year, it may instead comply with the BACT requirements. A fleet owner may meet the BACT requirements each year by turning over or installing VDECS on a certain percentage (referred to as the BACT rate) of the fleet's total horsepower.

**Table 2: Compliance Dates for Annual Reporting and Emission Performance Requirements by Fleet Size**

Fleet Size	Annual Reporting <sup>1</sup>	Fleet Average Target or BACT Dates <sup>2</sup>
Large	2012 - 2023	2014 - 2023
Medium	2016 - 2023	2017 - 2023
Small	2018 - 2028	2019 - 2028

### Low-Use Changes

Rather than phasing out an older tier, fleets may designate a vehicle as permanent low-use. Permanent low-use vehicles are allowed to operate less than 600 hours over three consecutive years. Fleets are required to maintain records through dated photos and written logs of vehicle usage hours to verify low-use status.

### Renewable Diesel Requirements

All fleets are required to procure and use R99 or R100 renewable diesel fuel in all vehicles that are owned or operated in California and that are subject to the Off-Road Regulation, with some limited exceptions, including for lack of availability and locations

<sup>1</sup> A fleet using BACT to comply may have requirements beyond these dates if the fleet average target is not achieved.

<sup>2</sup> A fleet using BACT to comply may have requirements beyond these dates if the fleet average target is not achieved.

surrounded by cold weather. Fleets must document and retain records related to the fleet's procurement of renewable diesel.

## **Ban on Adding Vehicles**

Since the mid-1990s, the engines in off-road diesel vehicles have been subject to increasingly stringent, cleaner emission standards. The oldest, dirtiest uncontrolled engines are called Tier 0, while the newest, cleanest engines are called Tier 4 final. The Off-Road Diesel Regulation includes the following bans on adding vehicles to fleets:

- **Ban on adding Tier 0 Vehicles:** Effective January 1, 2014, a fleet owner may not add a vehicle with a Tier 0 engine to their fleet.
- **Ban on adding Tier 1 Vehicles:** Effective January 1, 2014, for large and medium fleets, and January 1, 2016, for small fleets, a fleet owner may not add any vehicle with a Tier 1 engine.
- **Ban on adding Tier 2 Vehicles:** Effective January 1, 2018, for large and medium fleets, and January 1, 2023, for small fleets, a fleet owner may not add a vehicle with a Tier 2 engine to their fleet. The engine must be Tier 3 or higher.
- **Ban on adding Tier 3 Vehicles:** Effective January 1, 2024, for large, medium, and small fleets, a fleet may not add a vehicle with a Tier 3 engine to their fleet. The engine must be Tier 4 interim or higher.
- **Ban on adding Tier 4 interim Vehicles:** Effective January 1, 2024, for large and medium fleets, and January 1, 2028, for small fleets, a fleet may not add a vehicle with a Tier 4 interim engine to their fleet. The engine must be Tier 4 final or higher.
- **Ban on adding model year (MY) 2006 or earlier on-road engines:** Effective January 1, 2024, for large and medium fleets, and January 1, 2028, for small fleets, a fleet may not add a vehicle with a MY 2006 or earlier on-road engine. Engine must be MY 2007 or newer.



**Table 3: Adding Vehicles Requirements by Fleet Size & Calendar Year<sup>3</sup>**

Fleet Size	2024	2025	2026	2027	2028
Medium/ Large	T4F				
Small	T4i			T4F	

**Tier Phase-Out**

The Off-Road Diesel Regulation requires that fleets phase out vehicles with Tier 0, 1, or 2 off-road engines and comparable on-road vehicles over a 12-year period, between 2024 and 2036. Vehicle operation is phased-out on a progressive schedule, allowing additional time for smaller fleets to comply. Table 4 lists the engine Tier and on-road MY that are prohibited from operation in California starting January 1 of the year listed in the table below.

<sup>3</sup> Minimum engine tier allowed to be added to a fleet starting January 1, 2024, and beyond.

**Table 4: Phase-Out Schedule - Engines Prohibited from Operation in California by Compliance Date and Fleet Size**

Year	Large Fleets	Medium Fleets	Small Fleets	Optional for Ultra-Small Fleets
2024	<ul style="list-style-type: none"> <li>• Tier 0 On-road ≤1994</li> </ul>			
2026	<ul style="list-style-type: none"> <li>• Tier 1 On-road ≤1999</li> </ul>	<ul style="list-style-type: none"> <li>• Tier 0 On-road ≤1994</li> </ul>		
2028	<ul style="list-style-type: none"> <li>• Tier 2 On-road ≤2003</li> </ul>	<ul style="list-style-type: none"> <li>• Tier 1 On-road ≤1999</li> </ul>	<ul style="list-style-type: none"> <li>• Tier 0 On-road ≤1994</li> </ul>	<ul style="list-style-type: none"> <li>• Tier 0 On-road ≤1994</li> </ul>
2030		<ul style="list-style-type: none"> <li>• Tier 2 On-road ≤2003</li> </ul>	<ul style="list-style-type: none"> <li>• Tier 1 On-road ≤1999</li> </ul>	<ul style="list-style-type: none"> <li>• Tier 1 On-road ≤1999</li> </ul>
2032			<ul style="list-style-type: none"> <li>• Tier 2 On-road ≤2003</li> </ul>	
2036				<ul style="list-style-type: none"> <li>• Tier 2 On-road ≤2003</li> </ul>

**Contracting Requirements**

Prime contractors and public works awarding bodies are required to obtain and retain copies of the valid Certificate of Reported Compliance (Certificate) for the fleet selected for the contract and their listed subcontractors, if applicable. Neither contracting entity may award a contract or hire a fleet without a valid Certificate.

Fleets are issued a Certificate by CARB through the DOORS database if the fleet is in compliance with all regulation requirements. Fleets may download this Certificate from their DOORS profile.

**Prime Contractor Requirements**

Additional requirements for prime contractors include:

- Collecting valid Certificates from subcontracted fleets for the current compliance year,
- Allowing only fleets with valid Certificates on the prime

- contractor's job sites,
- Reporting observed noncompliance to CARB,
- Displaying informative signs at job sites, and
- Disclosing responsible parties upon request.

## **Optional Zero-Emission Compliance**

The Proposed Amendments also introduce two compliance flexibility provisions as incentives to promote the adoption of zero-emission off-road vehicles.

## **Disclosure for Selling Vehicles**

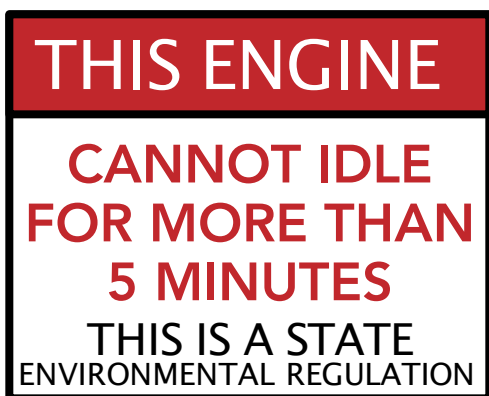
The seller (whether a dealer or a contractor with just one vehicle) must provide disclosure of the Off-Road Diesel Regulation (exact language provided in the regulation) on the bill of sale or invoice, and must keep records that the disclosure was provided for three years after the sale. The seller must also report the vehicle sale to CARB within 30 days of the sale.

## **Idling Limited to 5 Minutes**

Fleet owners must limit their unnecessary idling to five minutes; there are exceptions for vehicles that need to idle to perform work (such as a crane providing hydraulic power to the boom), vehicles being serviced, or in a queue waiting for work.

## **Written Idling Policy**

Medium and large fleet owners must have a written idling policy.



## **Optional Compliance Schedule for Fleets with 500 hp or Less**

Small fleets with 500 hp or less may comply with the small fleet requirements or may comply with an optional compliance schedule. The optional compliance schedule allows the fleet owner to phase out Tier 0 and Tier 1 vehicles by 2029 by demonstrating, through annual reporting, that the fleet has a minimum percentage

of vehicles with a Tier 2 engine. The optional compliance schedule is shown in the table below.

**Table 5: Optional Compliance Schedule for Fleets with 500 hp or Less**

Compliance Date: January 1 of Year	Percent of Fleet (by hp)
2019	25
2022	50
2026	75
2029	100

By 2029, fleet vehicles must have Tier 2 or higher engines. Fleets that choose to comply with these requirements are not subject to the small fleet Tier 2 engine phase-out requirements and shall not operate a vehicle with a Tier 2 engine or a MY 2003 or earlier on-road engine in California beginning January 1, 2036. If small fleet owners with 500 hp or less choose not to pursue this compliance path, they must meet the small fleet requirements.



## Portable Equipment Registration Program (PERP)

If you own or operate a portable auxiliary engine 50 hp or greater, you may need a permit or registration to legally operate in California. California has 35 local air districts that are responsible for taking enforcement action against individuals who own or operate portable equipment without a registration or permit.

PERP is a statewide program, established in 1997 with the PERP Regulation that provides an alternative path to registration for portable equipment owners who operate in multiple air districts. Without the uniform statewide program, equipment owners would have to obtain an operating permit from each air district where the engine or equipment unit operates, potentially leading to multiple permits for one piece of equipment. Portable equipment registered in PERP may operate throughout the state without obtaining multiple local air district permits.



## Portable Engine Examples

Examples of portable engines include those used in well drilling, service rigs, power generation (excluding cogeneration), pumps, compressors, diesel pile-driving hammers, welding, cranes, woodchippers, dredges, and military tactical support equipment applications. Equipment units are pieces of portable equipment that emit non-combustion-related particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and are used in activities that include, but are not limited to, confined and unconfined abrasive blasting, concrete batch plants, sand and gravel screening, rock crushing, wood chipping, and unheated pavement recycling and crushing.

## Why Regulate Portable Engines?

The Portable Diesel Engine Airborne Toxic Control Measure (ATCM) is a regulation adopted in 2004 that sets emissions requirements for portable engines to reduce exposure to toxic diesel particulate matter and protect public health. The ATCM works in concert with PERP to allow fleets to voluntarily register portable equipment used across California with the state rather than permitting or registering the equipment with each local air district individually.

Learn more about your specific requirements by emailing [portable@arb.ca.gov](mailto:portable@arb.ca.gov), visiting [arb.ca.gov/portable/portable.htm](http://arb.ca.gov/portable/portable.htm)



## Two-Engine Vehicles

### Two-Engine Vehicles May Be Subject to Two Regulations

CARB has tried to limit the situations in which the engines of a two-engine vehicle are subject to different regulations. In most cases, both engines of a two-engine vehicle are subject to the Off-Road Diesel Regulation. However, there are exceptions to this rule. In certain cases, a two-engine vehicle may be subject to two of the following regulations:

- Truck and Bus Regulation
- Off-Road Diesel Regulation
- Fleet Rule for Public Agencies and Utilities
- Portable Diesel Engine Airborne Toxic Control Measure

CARB has defined two-engine vehicles in the Off-Road Diesel Regulation as “a specially constructed on-road or off-road mobile diesel-powered vehicle that was designed by the original equipment manufacturer to be equipped with two diesel engines: one engine provides the primary source of motive power of the vehicle while the second engine is an auxiliary engine 50 brake horsepower (bhp) or greater that is permanently attached and integrated into the design of the vehicle to perform a specific function, which may include providing auxiliary power to attachments, performing special job functions, or providing additional motive power.”

If a vehicle was originally designed to be able to accommodate an auxiliary engine, but someone other than the original equipment manufacturer installed that engine, the vehicle still qualifies as a two-engine vehicle.

Examples of two-engine vehicles include augers, boom trucks, concrete mixers, concrete pump trucks, cranes, drill rigs, guardrail fence installers, and vacuum pump trucks.

## Funding Assistance

Grant funding may be available to help fleets and individuals comply with California regulations earlier or beyond regulatory requirements.

### **The Carl Moyer Memorial Air Quality Standards Attainment Program**

One of the most popular assistance options is the Carl Moyer Program (Moyer program). This grant program funds the incremental cost of cleaner-than-required engines, equipment and other sources of air pollution. The Moyer program complements California's regulatory programs by providing incentives to obtain early or extra emission reductions beyond what is required by regulation.

Implementation of the Moyer program is a partnership between CARB and California's 35 local air districts. Over the Moyer program's history, more than half of the total program funding has gone towards off-road projects.

Funding is available for vehicle replacements, retrofits, zero-emission technologies, and infrastructure. Equipment owners are encouraged to apply as early as possible to maximize potential funding options. Please contact the local air district where you are based to determine if you are eligible for funding or if an opportunity may become available in the future.

### **FARMER Program**

The "Funding Agricultural Replacement Measures for Emission Reductions" (FARMER) Program provides funding for cleaner heavy-duty trucks, tractors, harvesting equipment, agricultural pump engines, utility terrain vehicles, and other equipment used in agricultural operations.

FARMER Program incentive funding is available for participants to purchase cleaner agricultural equipment to help reduce their exposure to harmful diesel emissions, improve local air quality, and lower greenhouse gas emissions. Similar to the Carl Moyer Program, FARMER is administered through California's local air districts.

To learn more about the FARMER program and funding eligibility requirements, potential participants are encouraged to visit CARB's FARMER website at [arb.ca.gov/farmer](http://arb.ca.gov/farmer), or contact their local air district.

## **CORE Voucher Program**

The Clean Off-Road Equipment Voucher Incentive Project (CORE) is intended to accelerate deployment of advanced technology in the off-road sector by providing a streamlined way for fleets to access funding that helps offset the incremental cost of such technology. CORE targets commercial-ready products that have not yet achieved a significant market foothold. By promoting the purchase of clean technology over internal combustion options, the project is expected to reduce emissions, particularly in areas that are most impacted; help build confidence in zero-emission technology; and provide other sector-wide benefits, such as technology transferability, reductions in advanced-technology component costs, and larger infrastructure investments.

For more information, visit [californiacore.org](http://californiacore.org) or [arb.ca.gov/calcore](http://arb.ca.gov/calcore).

## **Quick Tips**

- All fleet owners must report and label their off-road diesel vehicles with two Equipment Identification Numbers (EIN).
- Remember to update DOORS after you sell a diesel vehicle within 30 days. Once you do so, the new owner can enter the vehicle/equipment into their fleet.
- The Responsible Official Affirmation Report (ROAR) for the Off-Road Diesel Regulation can be completed electronically using the e-ROAR in DOORS – saving time, money, and trees.
- Off-road diesel vehicles used 100% of the time in agricultural operations are exempt from the Off-Road Diesel Regulation.
- Small off-road diesel fleets with 500 horsepower or less may comply with an optional compliance schedule requiring a percentage of Tier 2 engines in the fleet.
- CARB frequently sends out regulatory reminders to fleets; make sure your contact information is up to date in DOORS so you don't miss this important information.

## How do I get assistance with CARB regulations?

For more information or help with the Off-Road Diesel Regulation, call CARB's toll-free DOORS hotline at (877) 59DOORS (877-593-6677) or email at [doors@arb.ca.gov](mailto:doors@arb.ca.gov). DOORS may be accessed at: [ssl.arb.ca.gov/ssldoors/doors\\_reporting/doors\\_login.html](https://ssl.arb.ca.gov/ssldoors/doors_reporting/doors_login.html).

For more information or assistance with the Portable Equipment Registration Program (PERP), email [portable@arb.ca.gov](mailto:portable@arb.ca.gov).

Visit the Off-Road Zone at [arb.ca.gov/offroadzone](http://arb.ca.gov/offroadzone) to access vital information including program pages for each regulation. These pages contain detailed documents meant to help fleets with their compliance efforts, such as Frequently Asked Questions, User Guides, and compliance forms.

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### Contact Information

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