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Compliance Guide to Construction Vehicles and Equipment

January 2019



Metro

Off-Road

off-road equipment	effective compliance date	requirement
Idling	June 15, 2008	ARB's regulation, Title 13, CCR, Section 2449, General Requirements for In-Use Off-Road Diesel-Fueled fleets, states that vehicles with a diesel-fueled or alternative diesel fueled off-road compression-ignition engine with 25 horsepower or greater may not idle for more than 5 consecutive minutes. Beginning on March 1, 2009, medium and large fleets must also have a written idling policy available to the operators.
Reporting and Labeling	August 1, 2009	ARB requires the reporting of fleet information via their online report tool - DOORS. Off-road vehicles are required to be labeled with ARB's ID number within 30 days of receiving it, effective August 1, 2009.
	January 1, 2013	ARB requires both sides of the off-road vehicle to be labeled by January 1, 2013.
Adding Vehicles to Fleet	January 1, 2013	Large and medium fleets, no vehicles with a Tier 1 engine may be added to fleet.
	January 1, 2016	Small fleets, no vehicles with a Tier 1 engine may be added to fleet.
	January 1, 2018	Large and medium fleets, no vehicles with a Tier 2 engine may be added to fleet.
	January 1, 2023	Small fleets, no vehicles with a Tier 2 engine may be added to fleet.
		<p>Off-road engine emission standards are established by horsepower groups called Tiers:</p> <ul style="list-style-type: none"> > Engine Model Years 1900 - 1999 <ul style="list-style-type: none"> - Dirtiest engines are Tier 0, uncontrolled emissions. > Engine Model Years 1996 - 2005 <ul style="list-style-type: none"> - Tier 1 Engines depending on horsepower. > Engine Model Years 2001 - 2010 <ul style="list-style-type: none"> - Tier 2 Engines depending on horsepower. > Engine Model Years 2006 - 2011 <ul style="list-style-type: none"> - Tier 3 Engines depending on horsepower. > Engine Model Years 2008 & later <ul style="list-style-type: none"> - Tier 4i and Tier 4 engines depending on horsepower. - Tier 4 engines are the cleanest.

Off-Road continued

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Emissions and Performance Requirements	January 1, 2014 January 1, 2017 January 1, 2019	ARB's regulation, Title 13, CCR, Section 2449, General Requirements for In-Use Off-Road Diesel-Fueled fleets establishes performance requirements that must be met by January 1st of each compliance year (effective January 1, 2014) and requires the fleet to either meet the fleet average target based on the fleet's NOx emissions or the Best Available Control Technology (BACT). The fleet must retire, re-power, designate low-use, or retrofit a certain % of equipment (varies from 4.8% to 10% per year).																		
	January 1, 2019 - 2029 (see table to right)	<table border="1"> <thead> <tr> <th>fleet size</th> <th>compliance dates</th> </tr> </thead> <tbody> <tr> <td>Large (>5000 HP)</td> <td>2014-2023</td> </tr> <tr> <td>Medium (2501-5000 HP)</td> <td>2017-2023</td> </tr> <tr> <td>Small (<2500 HP)</td> <td>2019-2028</td> </tr> </tbody> </table> <p>The regulation also includes an alternative option for small fleets (equipment <500 horsepower):</p> <table border="1"> <thead> <tr> <th>Compliance date: January 1, of year</th> <th>% of fleet (by hp) which must have a tier 2 or higher engine</th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>25</td> </tr> <tr> <td>2022</td> <td>50</td> </tr> <tr> <td>2026</td> <td>75</td> </tr> <tr> <td>2029</td> <td>100</td> </tr> </tbody> </table>	fleet size	compliance dates	Large (>5000 HP)	2014-2023	Medium (2501-5000 HP)	2017-2023	Small (<2500 HP)	2019-2028	Compliance date: January 1, of year	% of fleet (by hp) which must have a tier 2 or higher engine	2019	25	2022	50	2026	75	2029	100
	fleet size	compliance dates																		
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2022	50																			
2026	75																			
2029	100																			
January 1, 2029	All fleet vehicles must have Tier 2 or higher engines.																			

Large fleet: A fleet with a total max hp greater than 5,000 hp. A fleet must meet large fleet requirements if the total vehicles under common ownership or control would be defined as a large fleet.

Medium fleet: A fleet that is not a small or large fleet.

Small fleet: A fleet with total max hp of less than or equal to 2,500 hp that is owned by a business, non-profit organization, or local municipality, or a local municipality fleet in a low population county irrespective of total max hp, a non-profit training center irrespective of total max hp, or a captive attainment area fleet irrespective of total max hp.



Generators

generators	effective compliance date	requirement																														
Emissions and Performance Requirements	November 30, 2018	<p>ARB's regulation, Title 17, CCR Section 93116, Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater, establishes a regulation to reduce diesel particulate matter (PM) emissions from portable diesel-fueled engines having a rated brake horsepower of 50 and greater. All portable diesel-fueled engines must be certified to meet a Federal or California diesel PM emission standard for newly manufactured engines pursuant to 40 CFR Part 89, Part 86, or the equivalent categories in Title 13 of the California Code of Regulations.</p> <p>Engines may not operate in California on or after the dates listed in the following schedule:</p> <table border="1"> <thead> <tr> <th rowspan="2">engine certification</th> <th colspan="2">50 to 750 bhp</th> <th rowspan="2">>750 bhp</th> </tr> <tr> <th>large fleet</th> <th>small fleet</th> </tr> </thead> <tbody> <tr> <td>Tier 1</td> <td>2020</td> <td>2020</td> <td>2022</td> </tr> <tr> <td>Tier 2 built before 2009</td> <td>2022</td> <td>2023</td> <td>2025</td> </tr> <tr> <td>Tier 2 built on or after 2009</td> <td>N/A</td> <td>N/A</td> <td>2027</td> </tr> <tr> <td>Tier 3 built before 2009</td> <td>2025</td> <td>2027</td> <td>N/A</td> </tr> <tr> <td>Tier 3 built on or after 2009</td> <td>2027</td> <td>2029</td> <td>N/A</td> </tr> <tr> <td>Tier 1, 2, and 3 flex</td> <td colspan="3">17 years after date of manufacture</td> </tr> </tbody> </table>	engine certification	50 to 750 bhp		>750 bhp	large fleet	small fleet	Tier 1	2020	2020	2022	Tier 2 built before 2009	2022	2023	2025	Tier 2 built on or after 2009	N/A	N/A	2027	Tier 3 built before 2009	2025	2027	N/A	Tier 3 built on or after 2009	2027	2029	N/A	Tier 1, 2, and 3 flex	17 years after date of manufacture		
engine certification	50 to 750 bhp			>750 bhp																												
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Tier 1	2020	2020	2022																													
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	June 3, 2016	<p>SCAQMD's Rule 1110.2, Emissions from Gaseous and Liquid Fueled Engines, establishes requirements to reduce NOx, VOCs and CO emissions from all gaseous and liquid fueled stationary and portable engines having a rated brake horsepower of 50 or greater. The operator of any portable diesel engine is required to comply with the applicable requirements of Title 17, CCR Section 93116, Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater. The operator of any portable spark-ignited engine is required to comply with the applicable requirements of Title 13CCR, Division 3, Chapter 15, Article 2, Large Spark Ignition Engine Fleet Requirements.</p>																														
	November 30, 2018	<p>ARB's regulation, Title 13, CCR Section 2450, Regulation to Establish a Statewide Portable Equipment Registration Program, establishes a statewide program for the registration and regulation of portable engines (>50 horsepower) and engine-associated equipment (PERP). Portable engines and equipment units registered under the ARB program may operate throughout California without authorization or permits from air quality management or air pollution control districts. These regulations preempt districts from permitting, registering, or regulating portable engines and equipment units, including equipment necessary for the operation of a portable engine (e.g. fuel tanks), registered with ARB. Each compression-ignition engine or certified spark-ignition engine is required by ARB to be certified and meet the most stringent emissions standard in effect for the applicable horsepower range at the time the application for initial registration is submitted.</p>																														

Large fleet: A fleet with a total max hp greater than 750 bhp under common ownership or control.

Small fleet: A fleet with total max hp of less than or equal 750 bhp under common ownership or control.

On-Road



on-road equipment	effective compliance date	requirement																		
Idling	February 1, 2005	ARB's regulation, Title 13, CCR Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, states that diesel-fueled commercial motor vehicles that operate in California with gross vehicular weight ratings of greater than 10,000 pounds may not idle for more than 5 minutes at any one location.																		
Emission Control Labels	February 15, 2007	Labels must be affixed to engines of all commercial heavy-duty diesel vehicles, and must be legible as proof the engine, at minimum, meets U.S. federal emissions standards for the engine model year.																		
Periodic Smoke Inspection	January 1, 2010	Owners of California based fleets of two or more diesel vehicles are required to perform annual smoke opacity tests and to keep records for at least two years for each vehicle.																		
Reporting	December 31, 2014	Reporting to Truck Regulation Upload, Compliance and Reporting System (TRUCRS) is optional unless owners plan to take advantage of flexibility options for heavy-duty diesel powered vehicles subject to the Truck and Bus regulation.																		
Automatic Enforcement	January 1, 2020	Department of Motor Vehicles (DMV) will not register any vehicle that does not meet the requirements of the Truck and Bus Regulation.																		
Emissions and Performance Requirements		<p>ARB's regulation, Title 13, CCR Section 2025, Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles, states that vehicles that operate on diesel-fuel, dual-fuel, or alternative diesel-fuel that are registered to be driven on public highways, were originally designed to be driven on public highways, yard trucks with on-road engines or yard trucks with off-road engines used for agricultural operations, both engines of two-engine sweepers, school buses, and have a GVWR greater than 14,000 lbs, must comply with the following:</p> <p>All Light vehicles (GVWR 14,001-26,000 lbs) must be equipped with a 2010 model year emission equivalent engine pursuant to the following schedule:</p> <table border="1"> <thead> <tr> <th>January 1 compliance date</th> <th>existing engine model year</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>1995 & older</td> </tr> <tr> <td>2016</td> <td>1996</td> </tr> <tr> <td>2017</td> <td>1997</td> </tr> <tr> <td>2018</td> <td>1998</td> </tr> <tr> <td>2019</td> <td>1999</td> </tr> <tr> <td>2020</td> <td>2003 & older</td> </tr> <tr> <td>2021</td> <td>2004-2006</td> </tr> <tr> <td>2023</td> <td>All engines</td> </tr> </tbody> </table>	January 1 compliance date	existing engine model year	2015	1995 & older	2016	1996	2017	1997	2018	1998	2019	1999	2020	2003 & older	2021	2004-2006	2023	All engines
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2020	2003 & older																			
2021	2004-2006																			
2023	All engines																			
	January 1, 2015 - 2023 (light vehicles - see table to the right)																			

On-Road continued

On-road equipment	effective compliance date	requirement
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Emissions and Performance Requirements

January 1, 2012-2023 (heavy vehicles-see table to right)

Starting January 1, 2012, all Heavy vehicles (GVWR 26,001 or greater) in the fleet must meet PM BACT and upgrade to a 2010 model year emissions equivalent engine pursuant to the schedule below:

engine model year	compliance date install pm filter by	compliance date 2010 engine by
Pre-1994	N/A	January 1, 2015
1994-1995	N/A	January 1, 2016
1996-1999	January 1, 2012	January 1, 2020
2000-2004	January 1, 2013	January 1, 2021
2005 - 2006	January 1, 2014	January 1, 2022
2007 or newer	January 1, 2014 if not OEM equipped	January 1, 2023

The EPA has established the following on-road emission standards for heavy-duty highway engines (California ARB adopted virtually identical standards):

California emission standards for new heavy duty trucks		
emissions standards (g/bhp-hr)		
model year	heavy duty vehicles	
	NOx	PM
1998	6	0.6
1990	6	-
1991	5	0.25
1993	5	0.25
1994	5	0.1
1996	5	0.1
1998	4	0.1
2002	2.2	0.1
2004	2.2	0.1
2007	1.2	0.01
2010	0.2	-



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For additional details:
 CA Air Resources Board (ARB)
arb.ca.gov/diesel/diesel.htm
 South Coast Air Quality Management District (SCAQMD)
aqmd.gov/rules/rulesreg.htm