

In-Use Off-Road Diesel Vehicle Regulation



ARB Off-road Implementation Section July 2009

California Environmental Protection Agency

Air Resources Board



Need for Emission Reductions

- Reduce Diesel Particulate Matter (PM)
 - Cancer risk
 - Heart disease
 - Thousands of deaths per year in California
- Reduce oxides of nitrogen (NO_x)
 - Ozone and PM formation
 - Lung irritant
- Attain ozone and PM standards
 - Federal highway funds at risk

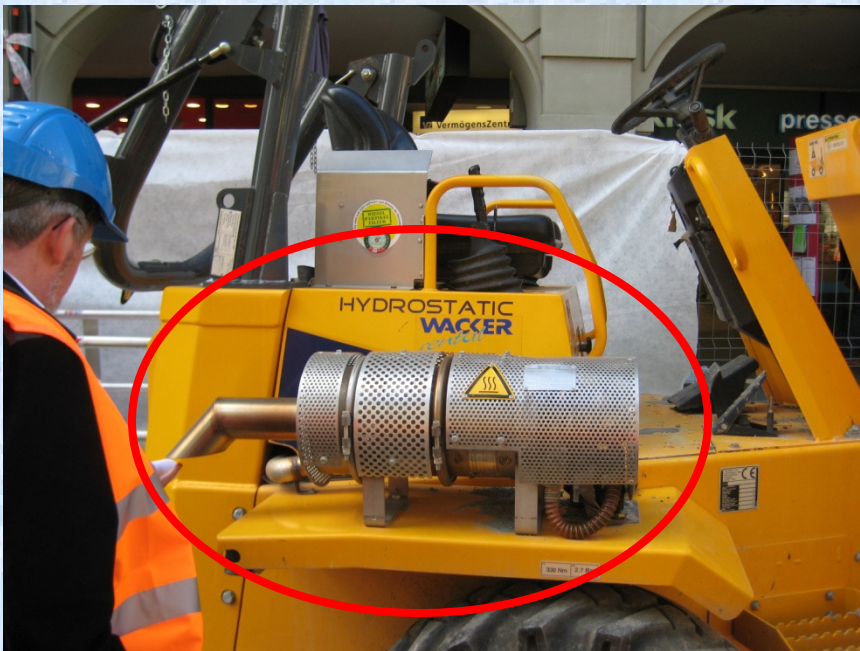
What is Affected?

- Diesel vehicles that are:
 - Off-road
 - Self-propelled (no portable equipment!)
 - 25 horsepower or greater
 - “drive” engines only (no auxiliary engines!)
 - Except a 2 engine crane
 - Operate within California

What is **NOT** Affected?

- Vehicles used only for:
 - Agricultural operations
 - Forest operations
- Personal use vehicles

Requirements



Provisions Currently in Effect

- 5-Minute Limit on Idling
- Disclosure of Applicability
- Can not add Tier 0 engines to fleet
- Written 5 minute idling policy
- Reporting



5 Minute Limit on Idling

- Effective June 15, 2008
- Exemptions :
 - Queuing
 - Verify safe operating condition
 - Testing, servicing, repairing or diagnostic purposes
 - Accomplish work for which the vehicle was designed (such as operating a crane)
 - Bring machine system to operating temperature
 - Ensure safe operation
- Can apply to ARB Executive Officer to idle > 5 min. if reason not covered in exemptions

Disclosure of Applicability

- Disclosure of regulation applicability:
 - Persons selling in California to California buyer
 - Disclosure records must be kept for 3 years
 - Language must be included on the bill of sale, invoice, or price quote that is signed by buyer

Written 5 minute idling policy

- Beginning March 1, 2009
- Established by fleet owner
 - Required for medium and large fleets
 - Make idling policy available to all vehicle operators in fleet
- Enforcement advisory available at:
<http://www.arb.ca.gov/msprog/ordiesel/faq/advwrittenidling.pdf>
- Idling policy guidelines:
<http://www.arb.ca.gov/msprog/ordiesel/guidance/writtenidlingguide.pdf>

Disclosure of Applicability Cont.

“When operated in California, any off-road diesel vehicle may be subject to the California Air Resources Board In-Use Off-road Diesel Vehicle Regulation. It therefore could be subject to retrofit or accelerated turnover requirements to reduce emissions of air pollutants. For more information, please visit the California Air Resources Board website at <http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>”

No Tier 0 vehicles added to fleet

- Beginning March 1, 2009
 - MY 1998 and earlier engines – 25-49 hp
 - MY 1997 and earlier engines – 50-99 hp
 - MY 1996 and earlier engines – 100-174 hp
 - MY 1995 and earlier engines – 175-750 hp
 - MY 1999 and earlier engines – > 750 hp
- Enforcement advisory located at:
<http://www.arb.ca.gov/msprog/ordiesel/faq/advtier0.pdf>

Requirements Vary by Fleet Size

Fleet Size Category	Description
Small	Fleet with $\leq 2,500$ hp
Medium	Fleet with 2,501 to 5,000 hp
Large	Fleet with more than 5,000 hp State or Federal Government fleet

* Low population counties and fleets are listed online at:
<http://www.arb.ca.gov/msprog/ordiesel/lowpopulation.htm>

Initial Reporting

- Varies by fleet size
- Report to ARB by designated reporting date
- **NO COST** to register vehicles with ARB

Fleet Size Category	Initial Reporting Date
Large	April 1, 2009
Medium	June 1, 2009
Small	August 1, 2009

DOORS On-Line Reporting

- Diesel Off-road On-line Reporting System (DOORS)
 - On-line tool to compile and report fleet data
- DOORS website:
https://secure.arb.ca.gov/ssldoors/doors_reporting/reporting.php

Vehicle Information

Explanation of terms

Line #	Veh serial num	Your veh num	Type	Manufacturer
3	<input type="text"/>	<input type="text"/>	Rollers <input type="button" value="v"/>	no vehicle manufacturer

Edit	Delete	Line #	Veh serial num	Your veh num	Type	Manufacturer	Model	MY	Low-use	Low-use outside	Specialty	Emergency	S re
Edit	Delete	2	CFH38923492789	561	Rollers	DEERE	750XL	1994	No	No	No	No	N
Edit	Delete	1	RJS382938998	560	Rubber Tired Loaders	DAEWOO	450	1999	No	No	No	No	N

Hard Copy Forms

- Fleets that do not have a computer or access to the internet can request hard copy forms
- Fleets can call the DOORS hotline, or email doors@arb.ca.gov
- A fleet should leave their name, address, and contact phone number when requesting hard copy forms

DOORS Reporting Help

- For reporting assistance:
 - Call the DOORS toll free hotline
877-59DOORS (877-593-6677)
 - Email the DOORS help team:
doors@arb.ca.gov

Vehicle Labeling

- All vehicles subject to the regulation must be labeled
 - ARB assigns Equipment Identification Number (EIN) after initial reporting period; label stays with vehicle for life
 - Fleets must label vehicles within 30 days of receiving EIN; labels not issued by ARB
 - Label specifications:

<http://www.arb.ca.gov/msprog/ordiesel/faq/faq-labeling.pdf>



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Future Regulatory Requirements



Compliance Requirements

- Compliance requirements must be met by March 1 of each year

Fleet Size Category	Dates and Requirements
Large	2010-2020 PM and NOx
Medium	2013-2020 PM and NOx
Small	2015-2025 PM only

NOx Requirements

Two ways to meet the NOx requirements (the lesser of the two can be done):

- NOx fleet average targets requirements
 - Meet NOx emissions targets set in regulation by any means

or

- Best Available Control Technology (BACT) requirements:
 - Turn over engines at a rate of 8% of total fleet horsepower per year (after 2015, the 8% turnover rate increases to 10%)

NOx BACT Requirements

- Must turn over Tier 0 and Tier 1 (without PM standard) vehicles first
- Turnover is:
 - Replace older vehicles with new or used vehicles
 - Replace diesel vehicles with electric or alternative fuel vehicles
 - Repower older engines with a Tier 2 or higher engines
 - Retire vehicles from fleet
 - Designate vehicles as low use (used < 100 hours per year)
 - Install NOx verified diesel emission control strategy (VDECS)

PM Requirements

Two ways to meet the PM requirements (the lesser of the two can be done):

- PM fleet average targets requirements
 - Meet PM emissions targets set in regulation by any means

or

- Best Available Control Technology (BACT) requirements:
 - Install verified diesel emission control strategy VDECS (also referred to as PM retrofits) on 20% of total fleet horsepower per year

PM BACT Requirements

- Install PM VDECS
 - Must use “highest level” VDECS
 - Level 2s or 3s only
- Convert to alternative fuel
- Replace with Tier 4 vehicle/engine
- Retirement of Tier 0s (shrinking fleet provision)
 - Cannot replace retired Tier 0s
 - Cannot add hp to fleet

What is an Exhaust Retrofit?

- Reduce specific pollutants
 - Controls one or more pollutants
 - PM, NOx, or both
 - Installed on in-use vehicle
- Often resembles, or replaces, mufflers



Verified Devices -

www.arb.ca.gov/diesel/verdev/verdev.htm

Verification Database

<http://www.arb.ca.gov/diesel/verdev/vdb/disclaimer.php>

Search by:

VDECS, Engine Family, or

Manufacturer / Model Year / Displacement

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[Laws & Regulations](#)

[Data & Statistics](#)

RETROFIT DEVICE

4 Results Matching VCP7.0RZDARB

YEAR	ENG MFR	ENG FAMILY	DISP	DEVICE MFR	DEVICE NAME
1997	Caterpillar	VCP7.0RZDARB	7	Caterpillar	Diesel Particulate Filter
1997	Caterpillar	VCP7.0RZDARB	7	Caterpillar	DPF
1997	Caterpillar	VCP7.0RZDARB	7	Engine Control Systems	Purifier
1997	Caterpillar	VCP7.0RZDARB	7	Huss	FS-MK

Additional Information

Proposed Amendments

- Reduced requirements in 2011-2012
 - Made up in 2013
- Credit for reduced activity in 2010 and 2011
- Credit for vehicle retirements that reduce fleet size

Annual Reporting

- Report changes from the previous year
 - Includes VDECS installed, vehicles replaced, etc.
- If final compliance target is not met, reporting must continue beyond last designated reporting date
- Reporting dates vary by fleet size:

Fleet Size Category	Reporting Date
Small	August 1 st : 2014-2026
Medium	June 1 st : 2012-2021
Large	April 1 st : 2010-2021

Exemptions from Engine Turnover (NOx) Requirements

- Small fleets
- Captive area attainment fleets
- Vehicles less than 10 years old (vehicle age)
- Specialty vehicles
- Vehicles retrofit in past 6 years
- Tier 4 or Tier 4 Interim vehicles

Exemptions from Retrofit (PM) Requirements

- Engines in vehicles less than 5 years old
- No retrofit available
- Retrofit cannot be safely installed
- New engines with OEM filter
- Engines already retrofit with the highest level VDECS at time of installation

Rental and Leased Vehicles

- Rented/leased < 1 year
 - Owner's responsibility
- Rented/leased ≥ 1 year
 - Owner's responsibility, unless stated otherwise in contract
- Leases occurring before June 15, 2008
 - If in a year "lease" starting on or before June 15, 2007, vehicle must be included in the lessee's fleet (not owner)

Fines for Non-Compliance

- Violation of the NO_x provisions
 - Up to \$1,000 per vehicle per day of non-compliance
- Violation of the PM provisions
 - Up to \$10,000 per vehicle per day of non-compliance
 - If a citation is given, and the violation is not corrected, the fines can go up to \$40,000 per vehicle per day of non-compliance

Off-Road Contacts

General Off-Road Regulation Questions:

Diesel vehicle information hot line:

(866) 6-DIESEL

(866) 634-3735

Off-Road Reporting (DOORS) Questions:

DOORS hot line:

(877) 59-DOORS

(866) 593-6677

Websites:

Off-Road Regulation - www.arb.ca.gov/ordiesel

DOORS Reporting -

https://secure.arb.ca.gov/ssldoors/doors_reporting/reporting.php