



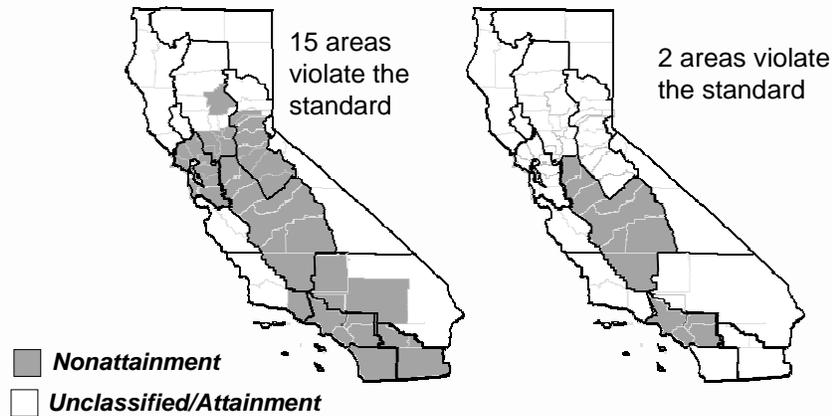
Overview

- Background
- Engine Standards and Diesel Emission Control Strategies
- Overview of Regulations
- Tools for Customer Service
- Seller To Do List

Areas of the State not meeting Federal Air Quality Standards

8-Hour Ozone

PM2.5 Annual



Diesel Particulate Matter Exposure

- 70% of known cancer risk from all air toxics
- Trucks and buses largest source of diesel PM
- Diesel Risk Reduction Plan adopted in 2000
 - Risk reduction goals by 2010 and 2020
 - Stringent New Engine Standards
 - Cleaner Diesel Fuel (< 15 ppm sulfur)
 - Ensure In-Use Emissions Performance
 - Aggressive Reductions from In-Use Engines

Engine Standards and Diesel Emission Control Strategies (DECS)

Controlling Pollutants from Engines

- **New Engine Certification**
 - Vehicle or engine emission standard
 - Engine family name
 - Executive Order issued

 AIR RESOURCES BOARD <small>California Environmental Protection Agency</small>	CUMMINS INC.	EXECUTIVE ORDER A-621-0435 <small>New On-Road Heavy-Duty Engines</small>
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Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	ENGINE SIZES (L)	FUEL TYPE ¹	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS	ECS & SPECIAL FEATURES ²
2007	7CEXH0408BAE	6.7	Diesel	Diesel	MHDD	DDI, ECM, TC, CAC, EGR, OC, PTOX
ENGINE MODELS / CODES (rated power, in hp)						
6.7			ISB305 / 1283;FR91454 (305); ISB 305 / 1265;FR91461 (305)			
*			*			
*			*			
*			*			

¹ not applicable; GVW=gross vehicle weight rating; 13 CFR cycle/15, California Code of Regulations, Section 92; 40 CFR 86.230+Title 40, Code of Federal Regulations, Section 86.230; ² filter; hp=horsepower; km=kilowatt; ³ CHD=compressed/liquefied natural gas; LPG=liquefied petroleum gas; E85=85% ethanol fuel; MF=multi fuel a.k.a. BF=bi fuel, DF=dual fuel, FF=flexible fuel; ⁴ LHM1 HDO=high/medium/heavy heavy-duty diesel; UB=urban bus; HDO=heavy duty Oil; ⁵ ECS=emission control system; TWC=three-way/oxidizing catalyst; WU (pre/fil) =warm-up catalyst; DPF=diesel particulate filter; PTOX=Periodic Trap Outsize Active Diesel Particulate Filter; HOS=O2S=exhaust oxygen sensor; HAF=AF=feedback air-fuel ratio sensor (a.k.a., universal or heated oxygen sensor); TB=throttle body fuel injection; SF=SF=sequential/port fuel injection; DG=direct gasoline injection; OCARB=gaseous carburetor; IDDI=indirect diesel injection; TC=TC=turbocharger; CAC=charge air cooler; EGR=exhaust gas recirculation; PAIR=air/augmented secondary air injection; SF=scrubber/pollutants; ECM=electronic powertrain control module; EM=engine modification; 2 (pre/fil)=pre/fil; (D) (buff)=in series (2006/06/11)

On-Road Engine Emission Standards By Model Year

- Particulate Matter (PM): 2007 and newer model year is the lowest
 - Most federal and CA 2007 and newer model year engines meet standard
 - Some 2007 and newer engines do not have a filter (do not meet the strict standard)
- Nitrogen Oxides (NOx): 2010 and newer model year is the lowest

On-Road Emission Standards

California Emission Standards for New Heavy-Duty Trucks		
Emissions Standards (g/bhp-hr)		
Model Year	Heavy-Duty Engines	
	NOx	PM
1988	6.0	0.6
1990	6.0	--
1991	5.0	0.25
1993	5.0	0.25
1994	5.0	0.10
1996	5.0	0.10
1998	4.0	0.10
Oct. 2002	2.2	0.10
2004	2.2	0.10
2007	1.2	0.01
2010	0.2	--

Aftermarket Parts

Aftermarket Parts Website

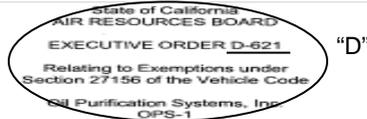
<http://www.arb.ca.gov/msprog/aftermkt/aftermkt.htm#additional>

- Part certified to meet OEM requirements
 - Executive order issued
- Does not increase emissions
- Does not qualify for emission reductions

Aftermarket Parts

Aftermarket Parts Website

<http://www.arb.ca.gov/msprog/aftermkt/aftermkt.htm#additional>



Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That installation of the OPS-1, manufactured by Oil Purification Systems, Inc. of 2176 Thomaston Avenue, Waterbury, Connecticut 06704, has been found not to reduce the effectiveness of the applicable vehicle pollution control systems, and therefore, are exempt from the prohibitions in Section 27156 of the Vehicle Code for installation on 2007 model-year and older heavy-duty diesel engines with pressurized oil systems.

The OPS-1 device is a two-stage oil refining system consisting of a filtration chamber and an evaporation chamber. It is set-up as a closed-loop system with the evaporative emissions from the evaporation chamber vented back into the air intake system.

This Executive Order is based on engineering evaluation which determined that the device when installed on 2007 and older heavy-duty diesel engines with pressurized oil systems will not adversely affect the performance of emission control systems of affected engines.

This Executive Order is valid provided that installation instructions for the OPS-1 do not recommend tuning the vehicles to specifications different from those of the vehicle manufacturer.

Changes made to the design or operating conditions of the OPS-1, as exempt by the Air Resources Board, which adversely affect the performance of the vehicles' emission control system, shall invalidate this Executive Order.

Marketing of the OPS-1 using identification other than that shown in this Executive Order or for an application other than that listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

Diesel Emission Control Strategy

- What is it?
 - Diesel Emission Retrofit
 - Soot Filter
 - DECS
 - VDECS
 - DPF
 - PM BACT
 - “Special muffler that cleans up the air”

ARB Verification Program

- Protects the buyer
 - Ensures reductions are real, durable, and
 - Requires a warranty for DECS and engine
- Verified products based on model year/tier and engine family
- Unique for each engine type
 - On-road, off-road, TRU, stationary, etc.

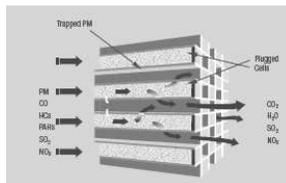
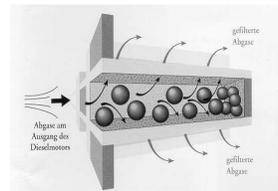
ARB Verification Program (cont'd)

- Executive order issued specifies specific operating condition for each verified system
 - Fuel
 - Engine exhaust temperature
 - Model year, tier, or engine size
 - Associated technology
 - Others

<http://arb.ca.gov/diesel/verdev/verdev.htm>

Verified Technology

**Level 1 (25 - 50% Reduction)
Diesel Oxidation Catalyst,
some with crankcase filter.**



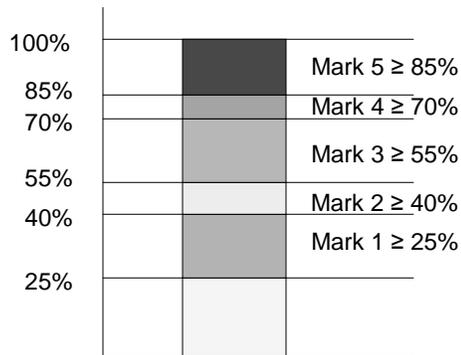
**Level 2 (50 - 85 % Reduction)
Flow-Through-Filter,
Emulsified Diesel Fuel**

**Level 3 (> 85 % Reduction or
 $\leq 0.01\text{g/bhp-hr}$) Active and
Passive Wall Flow Filter**



Verification of NOx Reductions

Allow “NOx only” control under strict conditions, categorized as “Mark”



DECS Executive Order

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER DE-05-010-04 “DE”

Pursuant to the authority vested in the Air Resources Board (ARB) by the Health and Safety Code, Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code section 39515 and 39516 and Executive Order G-02-003;

Relating to Exemptions under section 27156 of the Vehicle Code, and Verification under sections 2700 through 2710 of Title 13 of the California Code of Regulations (CCR)

Cleaire Advanced Emission Controls, LLC (Cleaire)
Horizon™ Electric Particulate Filter (Horizon)

ARB has reviewed Cleaire’s request for verification of the Horizon™ system. Based on an evaluation of the data provided, and pursuant to the terms and conditions specified below, the Executive Officer of ARB hereby finds that the Horizon™ reduces emissions of diesel particulate matter (PM) consistent with a Level 3 device (greater than or equal to 85 percent reductions) (Title 13, CCR, sections 2702 (f) and section 2708) and is compliant with the 2009 nitrogen dioxide emissions limit. Accordingly, the Executive Officer determines that the system merits verification and, subject to the terms and conditions specified below, classifies the Horizon™ as a Level 3 Plus system for heavy-duty on-road vehicles that use heavy-duty diesel engines of all model years up through and including 2006, except those belonging to engine families listed in Attachment 1.

What Truck Owner Needs

- Engine in good repair
- Engine model year
- Engine family name
- Vehicle duty cycle
 - Exhaust temperature
 - Data logging

DECS Supplier Should Supply

- Equipment warranty
- Installation warranty
- User manual
- Reporting information

Maintenance and Cleaning

- Keep engine in good working order
- Operate vehicles within the conditions listed on the DECS executive order
- Check DECS installation and labeling
- Do not operate the vehicle without the filter core or any other DECS component
- Follow DECS manufacturer cleaning directions
- Manage the ash as a California hazardous waste

DECS Installation/Maintenance Page www.arb.ca.gov/msprog/decsinstall/decsinstall.htm

CA.GOV California Environmental Protection Agency
AIR RESOURCES BOARD

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Tuesday, April 26, 2010 This page last reviewed December 2, 2009

Up Links

- ARB Programs
- Diesel Activities
- Mobile Vehicles and Equipment
- Mobile Sources
- **DECS Installation / Maintenance**

PROGRAM LINKS

- Advisories
- Background
- Currently Verified Technologies
- Regulatory Activities
- Other Diesel Fleet Regulations / Programs

RESOURCES

- Contact Us
- Join Any Mobile Source E-mail List(s)
- RSS / Newsfeed

Heavy-Duty DECS Installation/Maintenance

Table of Contents

1. [Why install a heavy-duty diesel exhaust retrofit \(DECS\)?](#)
2. [What is a verified diesel emission control strategy \(DECS\)?](#)
3. [How to select a DECS?](#)
4. [What you need to know about installing a DECS?](#)
5. [How to manage hazardous waste from cleaning a DECS?](#)
6. [Related advisories](#)

This page is intended to provide Diesel Emission Control Strategies (DECS) guidance to operators of diesel vehicles or equipment who are interested in purchasing diesel exhaust retrofits to comply with ARB in-use diesel regulations. This page contains links to documents and general information that will assist owners of diesel vehicles or equipment in this effort. To receive information on advisories, training, or workshops regarding these regulations, please subscribe to any of ARB's Mobile Sources [e-mail lists](#).

♦ **Emissions Retrofit Video Modules** - ARB is designing a series of video modules to assist diesel fleet administrators with what they need know to install diesel emission retrofits.

Video Module 1-1: Program Introduction - provides overview of 1) how diesel retrofits protect health, 2) how diesel retrofits are enforced, 3) diesel retrofit regeneration options, 4) importance of engine maintenance and 5) diesel retrofit ash removal.

(Modules 1-2 through 1-5 are currently under development and will be posted in the future.)



DECS Install/Maintenance Page: What You'll Find Here

- Program background
- Training & videos
- Overview of installations
- List of DECS installers
- Managing hazardous waste from DECS
- Related advisories

In-Use Truck and Bus Regulations

- Heavy-Duty Vehicle Inspection Program
- Periodic Smoke Inspection Program
- Emission Control Labels (ECL)
- Idling
- In-Use Fleet Regulations

In-Use Diesel Regulatory Activity

- | | |
|---|--|
| <ul style="list-style-type: none"> • Urban Buses (2000) • Garbage Trucks (2003) • School Bus Idling (2003) • Stationary Engines (2004) • TRUs (2004) • Truck and Bus Idling (2004) • Portable Engines (2004) • Transit Fleet Vehicles (2005) | <ul style="list-style-type: none"> • Public Fleets & Utilities (2005) • Cargo Handling Equipment at Ports and Rail Yards (2005) • Port Trucks (2007) • Off-Road Vehicles (2007) • Truck and Bus Regulation (2008) • Off-Road Agricultural Vehicles (Planned for 2011) |
|---|--|



Fleet Rule For Public Agencies and Utilities (PAU)

- In effect January 2007
- Vehicles owned, leased, or operated by a municipality or utility
- On-road diesel vehicles over 14,000 manufacturers gross vehicle weight rating (GVWR)
- All heavy-duty engines
- 1960 to 2006 model-year engines*

*applicable to 2007-2009 engines that do not meet the 0.01g/bhp-hr engine emission standard



What is a Municipality or Utility?

- A municipality is a city, county, city and county, special district, or a public agency State of California, any department, division, public corporation, or public agency of this State or two or more entities acting jointly
- A utility is a privately owned company that provides the same or similar services for water, natural gas, or electricity as a public utility operated by a municipality
 - **Not Telecommunications**

Basic Requirements

- Apply Best Available Control Technology (BACT) to each engine
 - PM control
 - No modifications currently planned
- Model year specific implementation schedule
- Keep records
- Label each vehicle
- Remain in compliance

BACT Options

- Retrofit with highest “Level” diesel emission control strategy (DECS)
- Repower
 - 0.01 g/bhp-hr PM standard
- Alternative-fuel engine
 - CNG, LNG, propane, gasoline-electric hybrid
 - Not dual fuel, biodiesel or diesel-electric hybrid
- Retire Vehicle
 - Sell out-of-state except for municipality owned dual-engine street sweeper
 - Scrap
 - Low usage

Implementation Schedule

Group	Engine Model-Years	Percentage of Group to use BACT	Compliance Deadline as of December 31
1 ^a	1960 - 1987	20%	2007
		60%	2009
		100%	2011
2	1988 - 2002	20%	2007
		60%	2009
		100%	2011
3	2003 – 2006 (Includes all dual-fuel and bi-fuel engines)	50%	2009
		100%	2010
4	2007 and newer certified above 0.01g/bhp-hr std.	100 %	2012

^a Level 1 technology not allowed as BACT on Group 1 engines

Record Keeping and Label Requirements

- Fleet vehicle records
 - Information on each vehicle
 - Hard copy or computer records
- Compliance statement
 - Statement certifying that engines are in compliance
 - Signed by agency agent and dated
- Vehicle labeling
 - Install durable and legible labels
 - Driver door jamb or location known to driver

Out-of-State Sale Vehicle Retirement

- Credit toward BACT
- Acquire VIN Stop through ARB
- Third party vehicle seller contract
- Written and signed confirmations

Public Fleets Rule Top Page: Fleet Rule for Public Agencies and Utilities - Mozilla Firefox

http://www.arb.ca.gov/msprog/publicfleets/publicfleets.htm

California Environmental Protection Agency
AIR RESOURCES BOARD

Home Programs Rulemaking Board Meetings Laws & Regulations Data & Statistics Permits, Etc. Events

Tuesday, July 20, 2010

UP LINKS

- ARB Programs
 - Diesel Activities
 - Mobile Vehicles and Equipment
 - Mobile Sources
 - Vehicle / Equipment Operator
 - Fleet Rule for Public Agencies and Utilities

PROGRAM LINKS

- Compliance Tools
- Currently Verified Technologies
- Current Regulation and Advisories
- Diesel Exhaust Retrofit Fact Sheets
- FAQs
- Other Diesel Fleet Regulations / Programs
- Presentations
- The Truck Stop
- What's New Archive

RESOURCES

- Contact Us
- Join the Public Fleets Email List
- RSS / Newsfeed

Fleet Rule for Public Agencies and Utilities

This page last reviewed May 14, 2009

The Rule for On-Road Heavy-Duty Diesel-Fueled Public and Utility Fleets is one of the California Air Resources Board's efforts to reduce both criteria pollutant emissions and exposure to toxic air contaminants. The rule mandates Public Agency and utility vehicle owners reduce diesel PM emissions from their affected vehicles through the application of Best Available Control Technology or BACT on these vehicles by specified implementation dates. Implementation is phased-in by engine model year groups.

If you wish to receive notices regarding the California Air Resources Board Fleet Rule for Public Agencies and Utilities, sign-up to the Public Fleets [listserve](#).

The following [What's New links](#) provides the latest information regarding the Fleet Rule for Public Agencies and Utilities.

What's New...

- 5/14/09: [Lower blanket compliance extension for certain Group 3 vehicles](#) - The Air Resources Board is granting a [lower blanket compliance extension](#) for certain Group 3 vehicles subject to the Fleet Rule for Public Agencies and Utilities. This compliance extension is limited to Group 3 vehicles where a verified diesel emission control strategy (DECS) is not available and a fleet has applied a verified DECS to all remaining Group 3 vehicles where one is available. To qualify for an extension for the remaining Group 3 vehicles, the vehicle must be powered by:
 - any dual or bi-fuel engine not currently retrofitted, or
 - an engine with a displacement of over 15 liters and equipped with exhaust gas recirculation.
 More information is available in [Mail-Out # MSC 09-10](#).
- 4/6/09: [DECS Installation/Maintenance Page](#) - The Air Resources Board's [DECS Installation/Maintenance page](#) is now available. This page is intended to provide guidance to end users of diesel vehicles or equipment who are interested in purchasing verified diesel emission control strategies (DECS) or (VDECs) (aka retrofit devices) to comply with ARB diesel regulations. This [DECS installation page](#) contains links to documents and general information that will assist owners of diesel vehicles or equipment in this effort.
- 3/27/09: [Recently Approved Changes to the Fleet Rule for Public Agencies and Utilities Advisory](#) - At its December meeting, the Air Resources Board approved a number of clarifying and administrative changes to the Fleet Rule for Public Agencies and Utilities. The changes will be effective once they are approved by the Office of Administrative Law. The changes approved by the Board are summarized in this [advisory #MSC 09-10](#).
- 3/23/09: [Update for Auction Houses and Dealerships Selling Fleet Vehicles from Public Agencies and Utilities](#) - The Air Resources Board approved modifications to the Fleet Rule for Public Agencies and Utilities that will affect auction houses, dealers and other third party sellers that sell diesel vehicles with a gross-vehicle weight greater than 14,000 pounds owned or operated by a public agency or utility. Municipalities and utilities must establish a "Third Party Vehicle Seller Contract" with a seller. The contract requirements are illustrated in [Mail-Out #MSC 09-10](#).
- 12/11/08:

Done

www.arb.ca.gov/msprog/publicfleets/publicfleets.htm

Transport Refrigeration Units (TRU) Regulation



Affects TRUs equipped on trucks, trailers, shipping containers, or railcars that operate in California

Status

- Became Law Dec. 2004 – Currently Enforced
- Planned Amendments to Board Fall 2010
 - Change in-use standard for model year 2003 engines that comply by December 31, 2010
 - Dealers shall provide ARBER registration information to end-users at point of sale for new units and engines
 - Bill of sale must disclose to buyer if unit is noncompliant for use in California



Basic Requirements

- Report by July 31, 2009
 - Registered in ARBER/Label TRU with IDN
 - All TRUs based in California
 - Voluntary for TRUs based outside California
 - Operator Reports
 - Affects all California terminals where TRUs are assigned
- Meet in-use performance standards
 - Affects all TRUs that operate in California
 - Phased compliance schedule – seven years after engine model year
 - All TRU engines must eventually meet the Ultra-Low-Emission TRU (ULETRU) in-use standard

Drayage Truck Regulation



Affects class-eight diesel-fueled trucks entering California's ports and intermodal rail yards

Drayage Truck Regulation

Status

- Became law - December 2008
- In effect and enforceable
 - Enforcement crews at ports
- Planned amendments, Fall 2010
 - Moving 2007 requirement back

Compliance Schedule

Truck Engine Model Year	Emission Requirement Schedule	Truck Engine Model Year	Emission Requirement Schedule
1993 and older	Prohibited starting Jan. 1, 2010		
1994	Starting Jan. 1, 2010, Reduce PM emissions by 85% And Starting Jan. 1, 2014, meet 2007 engine emission standards	2004	Starting Jan. 1, 2012, Reduce PM emissions by 85% And Starting Jan. 1, 2014, meet 2007 engine emission standards
1995		2005	Starting Jan. 1, 2013, Reduce PM emissions by 85% And Starting Jan. 1, 2014, meet 2007 engine emission standards
1996		2006	Starting Jan. 1, 2014, meet 2007 engine emission standards
1997		2007 (T&B Rule)	By Jan. 1, 2021, meet 2010 engine emission standards
1998		2008 (T&B Rule)	By Jan. 1, 2022, meet 2010 engine emission standards
1999		2009 (T&B Rule)	By Jan. 1, 2023, meet 2010 engine emission standards
2000			
2001			
2002			
2003			

Drayage Truck Registry (DTR)

- All trucks registered prior to entry
- Required for enforcement
- Optional truck labels available



- Check compliance status online - available to public
- www.arb.ca.gov/drayagetruck

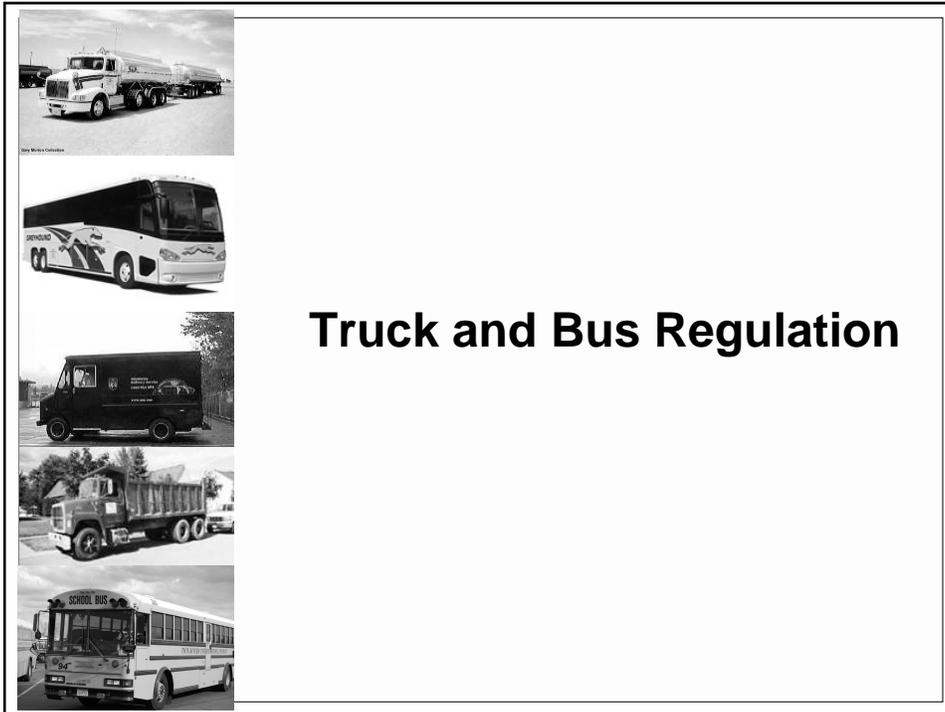
Additional Requirements

- Dispatching broker carriers have a responsibility to must use compliant vehicles and can be held liable

For More Information...

- Drayage Website: www.arb.ca.gov/drayagetruck
- Drayage List Serve:
–http://www.arb.ca.gov/listserv/listserv_ind.php?listname=porttruck
- Drayage Truck Registry: <http://arber.arb.ca.gov>
- Drayage Truck Hotline: (888) 247-4821





Status

- Became Law January 2010
- Planned Amendments, Fall 2010
 - Changes to deadlines
 - Amendments to primary compliance options
 - BACT, Percent of Fleet, Fleet Average
 - Credits
 - Higher usage thresholds
 - Logging truck provision
- Staff Report available in Fall 2010
 - Workshops (June, July)
 - Formal comment period 45-days prior to board hearing

Applicability

- Diesel trucks and buses operating in California
 - Greater than 14,000 GVWR
 - Shuttle buses that frequent transit centers-any GVWR
 - Agricultural use yard trucks with off-road engines
 - Interstate, intrastate, international, and other
- Any person, business, or federal government agency who owns, leases, rents, or sells a vehicle in California
- California based brokers and dispatchers
 - Must verify that each hired or dispatched vehicle is in compliance with the regulation

Current Regulation

- Filter requirements to reduce PM emissions
 - Phased in beginning January 1, 2011
 - Requires filters on all trucks by 2014
- Requirements to reduce NOx emissions
 - Phased in beginning January 1, 2013
 - Requires cleanest available engines by 2023
- Three compliance options
 - Best available control technology (BACT) schedule
 - Percentage of fleet requirements
 - Fleet average
- Special provisions, credits
- Sales disclosure requirement

Special Provisions Summary

- Agricultural vehicles
- Attainment area operation
- Certain cab-over engine truck tractors
- Early PM retrofit credits
- Low usage
- Lower usage
- Hybrid and alternative fueled vehicles credits
- Manufacturer delays
- Motor coaches
- PM retrofit safety
- Retirement credits
- School buses
- Small fleets
- Three day pass
- Two engine sweepers
- Unique vehicles

Sales Disclosure

- Requirement for disclosure on bill of sale
- Disclosure language:

“An on-road heavy-duty diesel or alternative-diesel vehicle operated in California may be subject to the California Air Resources Board Regulation to Reduce Particulate Matter and Criteria Pollutant Emissions from In-Use Heavy-Duty Diesel Vehicles. It therefore could be subject to exhaust 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/dieseltruck>.”

Additional Requirements

- Provision for Vehicle Awaiting Sale
 - For vehicles that you do not intend to operate or offer for hire
- Leased
 - Less than 1 year – vehicle responsibility of Lessor
 - 1 year or more – Lessor or as written in contract
- California based brokers and dispatchers
 - Must verify that each hired or dispatched vehicle is in compliance with the regulation

The screenshot shows a web browser window displaying the California Air Resources Board (ARB) website. The page title is "Truck and Bus Regulation" and the sub-header is "On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation". The navigation menu includes Home, Programs, Rulemaking, Board Meetings, Laws & Regulations, Data & Statistics, Permits, Etc., and Events. The main content area features a "Truck and Bus Regulation" section with a "Fact Sheets" button, a "Regulation" button, "Regulatory Workshops", "Fleet Calculator", "Reporting Forms", and "Training" buttons. A photograph of a white semi-truck is visible on the right. The page footer contains the URL www.arb.ca.gov/dieseltruck.

Heavy Duty Vehicle Greenhouse Gas (Tractor Trailer GHG) Regulation



Early Action Measure
under AB 32 – The
Global Warming
Solutions Act of 2006

Affects 53 foot and longer box-type trailers and
the tractors that pull them.

Reduce Green House Gas Emissions by Improving:

Tractor Trailer GHG Regulation

- Tractor Aerodynamics
 - Streamlined hood, sleeper cab roof fairings, gap fairings, fuel tank fairings, aerodynamic bumper and mirrors
- Trailer Aerodynamics
 - Side skirts, front gap fairings, rear trailer fairings
- Tire Rolling Resistance
 - Low rolling resistance (LRR) tires
- Smartway Program Information: <http://epa.gov/smartway/>

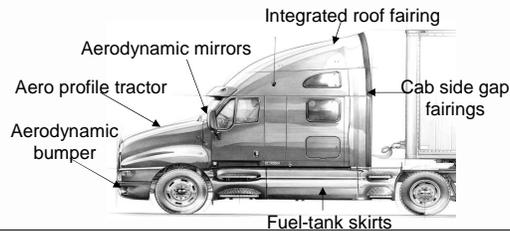
Front Trailer Gap Fairings



Side Skirts



LRR Tires



Status

- Became Law January 1, 2010
- Planned Amendments, Fall 2010
 - Additional phase-in option for large fleets
 - Additional flexibility for fleets to report
 - Additional delayed compliance for certain refrigerated vans
 - Storage trailer exemption
 - Drayage exemption clarified
 - Modifications to verified equipment
 - Other clarifying language

Tractor Requirements

- Tractor Requirements
 - 2011+ model year (MY) sleeper cabs: “SmartWay” certified as of 1/1/2010
 - 2011+ MY day cabs: low rolling resistance tires by 1/1/2010
 - All pre-2011 MY sleeper cabs & day cabs: low rolling resistance tires by 1/1/2012



Trailer Requirements



•Trailer Requirements

- 2011+ MY 53-ft+ box-type: SmartWay certified *or*
 - Retrofitted with SmartWay technologies by 1/1/2010
 - Low rolling resistance tires (1.5%+ fuel efficiency improvement)
 - Aerodynamic devices
 - » 5%+ fuel efficiency improvement for dry van
 - » 4%+ fuel efficiency improvement for reefer van
- Pre-2011 MY 53-ft+ box-type
 - Same requirements as 2011+ MY trailers
 - Must comply by 1/1/2013 or choose delayed compliance option

Sales Disclosure

- Requirement for disclosure on bill of sale
- Disclosure language:

“A heavy-duty tractor and 53-foot or longer box-type trailer operated in California may be subject to the California Air Resources Board Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure. These vehicles may be required to use low-rolling resistance tires and meet aerodynamic equipment requirements to reduce greenhouse gas emissions. For more information, please visit the California Air Resources Board website at www.arb.ca.gov/cc/hdghg/hdghg.htm”

Definition of Owner

The “Owner” is the person registered as the owner by the DMV, except in the following situations:

Situation	Owner
Tractor/trailer under third-party maintenance contract	Person contracted to maintain/install aero/LRR tires
Tractor/trailer owned by Federal government (not registered by DMV)	Federal Government
Leased tractor	Lessee: If lease or contract includes disclosure, otherwise lessor
Leased trailer	Lessee: If lease or contract includes disclosure and allows modification/exchange of trailer for pre 1/1/2013 leases, otherwise lessor is owner

Disclosure Language Leasing of Tractors

“The lessee of this heavy-duty tractor understands that when using a heavy-duty tractor to pull a 53-foot or longer box type trailer on a highway within California compliant with sections 95300-95311, title 17, California Code of Regulations, and that it is the responsibility of the lessee to ensure this heavy-duty tractor is compliant. The regulations may require this heavy-duty tractor to have low rolling resistance tires that are U.S. Environmental Protection Agency (U.S. EPA) Verified SmartWay Technologies prior to current or future use in California, or may entirely prohibit use of this tractor in California if it is a model year 2011 or later tractor and is not a U.S. EPA Certified SmartWay Tractor.”

Disclosure Language

Leasing of Trailers prior to January 1, 2013

“The lessee of this box type trailer understands that when using a heavy-duty tractor to pull a 53-foot or longer box type trailer on a highway within California, the box-type trailer must be compliant with sections 95300-95311, title 17, California Code of Regulations, and that it is the responsibility of the lessee to ensure this box-type trailer is compliant. The regulations may require this trailer to have low rolling resistance tires and aerodynamic technologies that are U.S. Environmental Protection Agency Verified SmartWay Technologies prior to current or future use in California”.

Additional Requirements

- **California Based Shippers and Brokers**
 - Responsible for compliance with rule
 - Taken proactive steps working with ARB, owners, and/or motor carriers to ensure goods are shipped in compliant tractors and trailers.

Tractor-Trailer GHG Regulation Page

CA.GOV California Environmental Protection Agency
AIR RESOURCES BOARD

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Tuesday, February 16, 2010

Up Links

- » ARB Programs
 - » Climate Change
 - » Early Action Items
 - » Transportation Sector
 - » **Heavy-Duty Vehicle Greenhouse Gas Measure**

PROGRAM LINKS

- » AB 32 Overview
- » Fact Sheets
- » Formal Regulatory Documents
- » Overview Presentation
- » [Contacts](#)
- » [Join Email List](#)
- » Truck Regulations Advisory Committee (TRAC)
- » the Truck Stop
- » Workshops / Meetings

Heavy-Duty (Tractor and Trailer) Greenhouse Gas Regulation

This page last reviewed February 10, 2010

Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Regulation

[Fact Sheets](#) | [Regulation](#) | [Regulatory Workshops](#) | [Reporting Forms](#) | [Training](#)

Background:



The California Air Resources Board (ARB) in December 2008 adopted a new regulation to reduce greenhouse gas emissions by improving the fuel efficiency of heavy-duty tractors that pull 53-foot or longer box-type trailers. Fuel efficiency is improved through improvements in tractor and trailer aerodynamics and the use of low rolling resistance tires.

The regulation is expected to reduce greenhouse gas emissions by approximately 1 million metric tons of carbon dioxide-equivalents by 2020, statewide. Over the 11 years between 2010, when the rule goes into effect, and the end of 2020, it is estimated that truckers and trucking companies will save about \$8.6 billion when diesel fuel consumption is reduced by as much as 750 million gallons in California and 5 billion gallons across the nation.

What's New

- **New!** Free Training Seminars on the Truck and Bus Regulation and the Tractor and Trailer Greenhouse Gas Regulation (Posted February 8, 2010). Staff has posted dates for a series of public training seminars to discuss the

www.arb.ca.gov/cc/hdghg/hdghg.htm

Tools For Customer Service



Truck Stop - Online Resource

Truck Stop - Mozilla Firefox
 http://www.arb.ca.gov/msprog/truckstop/truckstop.htm
 California Environmental Protection Agency | AIR RESOURCES BOARD
theTRUCK STOP
 All diesel fueled trucks, buses, trailers and transportation refrigeration units operating in California, including those based out of state, are required by regulations to take steps to reduce air pollution. Please call the California Air Resources Board Diesel Hotline at 866-6DIESEL (866-634-3735) for more information, or click the links below.
 Truckstop en Español
Information About Clean Air Requirements For
 DIESEL VEHICLES TRAILERS TRUs FUNDING USEFUL LINKS
 Regulation Index
 Training
 Funding Resources Index
 Exhaust Retrofit Guidance
 Reporting & Registration
 Printable Materials
Highlighted Links
 Clean Truck, Bus, and Trailer Requirements Brochure
 the Truck Stop Diesel Hotline (866) 6-DIESEL (866-634-3735) E-Mail Us
 The purpose of this website is to assist the user in identifying legal requirements that may apply based on information submitted by the user. This website may not indicate all legal requirements that may apply. The user should not rely on the presentation of statutes or regulations referenced in this website, but should consult the actual text of each statute or regulation. Legal requirements frequently change and the user should seek the advice of counsel to determine what requirements apply to their situation.

www.arb.ca.gov/truckstop or 866-6DIESEL (866-634-3735)

Brochures & Fact Sheets

California Environmental Protection Agency
Air Resources Board

New regulations may affect your vehicle. Fleets that do not comply may be subject to significant fines.
 California Health and Safety Code 39534

All diesel trucks, buses, trailers, and transport refrigeration units, or "vehicles," operating in California, including those based out of state, are required to take steps to reduce air pollution. This document describes requirements that apply to diesel trucks, buses, trailers, and motor units. (Please refer to the 24th Page) Overview of California Requirements: All diesel vehicles and equipment operating in California, even those based out of state, are currently subject to the following emission reduction requirements:

- Heavy-Duty Vehicle Inspection Program:** Heavy-duty vehicles operating in California are subject to annual opacity test requirements that are verified by random roadside inspections of engine smoke emissions and tampering.
- Periodic Smoke Inspection Program:** Applies to California based trucks with one or more heavy-duty diesel vehicles greater than 14,000 GVWR. Requires fleets to perform smoke opacity tests every 15 months for vehicles whose engine model year is four years old or greater and to maintain these records for a minimum of two years for each vehicle.
- Idling Requirements:** Prohibits idling longer than five minutes with limited exceptions. However, shorter idling limits apply when within a school zone.
- Engine Emission Control Label (ECL):** All heavy-duty commercial vehicles must have proof that their engines meet emission requirements at least as stringent as U.S. federal standards for the engine model year. A properly affixed manufacturer emission control information label is required on all proof the engine meets these standards.

Refer to all other ARB REGULATIONS for all vehicles that still further reduce diesel exhaust and greenhouse gas emissions. These reductions apply to retrofit and/or upgrades of existing vehicles and equipment. The following information details these requirements and the vehicles to which they apply.

- 1. Basic Requirements for Trucks that Enter Ports and Other Facilities**
 The following are important compliance dates for diesel fueled trucks with a gross vehicle weight rating (GVWR) greater than 33,000 pounds that enter California ports or intermodal rail yards:
Registration Requirements: Trucks must be registered in the statewide Orange Truck Registry prior to port or rail yard entry. <http://www.arb.ca.gov/ports/registry>
January 1, 2010: Pre-2004 model year engines are no longer allowed. Trucks with 2004-2007 model year engines must meet exhaust opacity to reduce particulate matter (for more information by MS particulate).
January 1, 2012: 2004-2007 model year engines must have exhaust retrofit.
January 1, 2013: 2005-2006 model year engines must have exhaust retrofit.
January 1, 2014: All tractor engines must meet at least 2007 emission standards.
January 1, 2021: Phase-in of 2010 model year engines.
- 2. Basic Requirements for Trucks and Buses that DO NOT Enter Ports and Other Facilities**
 The following are important compliance dates for most other diesel trucks and buses with a GVWR over 14,000 pounds. In addition, these also apply to agricultural and for-hire equipment with off-road certified engines and certain diesel shuttle vehicles.
March 31, 2010: Early reporting for fleets taking advantage of regulatory flexibility for agricultural vehicles and non-engine equipped with Tier 2 auxiliary engines (both require vintage inspection from January 1, 2010).
January 1, 2011: First compliance deadline to reduce acid emissions. Diesel fleets with 3 or fewer vehicles that report one vehicle the performance requirements until January 1, 2014.
January 1, 2013: First compliance deadline to phase-in 2010 model year (antidiesel) engines.
January 1, 2014: First compliance deadline for small fleets to reduce exhaust emissions.
January 1, 2023: All vehicles are required to have a 2010 model year engine or equivalent.
*Fleets have the ability to utilize fleet average or percentage of fleet fleets for compliance. See compliance and testing requirements available for small fleets, which are operating in close or areas, for low use vehicles, and for other vehicles. For more information see <http://www.arb.ca.gov/ports/registry>

For more information on CA diesel regulations and the programs that fund them, please call our diesel hotline at 866-6DIESEL (866-634-3735) or visit the TruckStop website at: <http://www.arb.ca.gov/truckstop>

clean truck, bus, and trailer requirements

DRIVING TOWARDS A CLEANER FUTURE

Important facts for owners and operators

California Environmental Protection Agency
Air Resources Board

Funding Opportunities for Diesel Vehicle and Equipment Owners



Voucher Incentive Program (VIP) Truck Replacement

- Streamlined grant process through participating dealers
- Who Qualifies:
 - Small fleet with 3 or fewer trucks
 - Replace trucks with 2002 MY or older engines w/ 2007 and newer
 - Gross vehicle weight rating over 19,500 lbs
- Up to \$45,000 available for diesel trucks
- Dealer training through participating air districts:
 - Bay Area AQMD - Judy Williams (415) 749-4738
 - North Coast Unified AQMD - Jason Davis (707) 443-3093 ext.114
 - San Joaquin Valley APCD - Stephanie Hitchman (559) 230-5845
 - Sacramento Metro AQMD - Heather Taylor (916) 874-4889
 - South Coast AQMD - Ashkaan Nikravan (909) 396-3260
 - San Diego County APCD - Michael Watt (858) 586-2711

Voucher Incentive Program (VIP) Truck Exhaust Retrofits

- Streamlined process through participating retrofit installers
- Who Qualifies:
 - Small fleet with 3 or fewer trucks
 - 2004 - 2006 MY
 - Gross Vehicle Weight Rating over 19,500 lbs
- Up to \$10,000 available per retrofit

Loan Assistance Programs

- Eligible retrofits, replacements, SmartWay certified trailers and aerodynamic technologies
- Who Qualifies:
 - Small Businesses
 - Average annual revenues of \$10 million or less
 - 100 or fewer employees
 - Fleet has 20 or fewer trucks
- Can be used in combination with VIP/Prop 1B grant

Additional Funding Programs

- Carl Moyer Fleet Modernization
 - Must operate within the following air districts:
 - Sacramento
 - San Luis Obispo
 - Butte County
- Goods Movement Program
 - Replacement and retrofit grants available
- Air Quality Improvement Program
 - Funding for new technologies (hybrid vehicles)
- Local Air District Funds

Vehicle & Equipment Sellers

- Know your sales disclosure requirements
- Direct customers to resources
 - TruckStop
 - 1-866-6DIESEL
 - 8666diesel@arb.ca.gov
- Link “TruckStop” on your website
- Distribute brochures & fact sheets
- Keep up to date by getting on list servers



Truck Stop - Online Resource

The screenshot shows a Mozilla Firefox browser window displaying the 'Truck Stop' website. The address bar shows the URL <http://www.arb.ca.gov/msprog/truckstop/truckstop.htm>. The website header includes 'California Environmental Protection Agency | AIR RESOURCES BOARD' and 'DIESEL HOME | DIESEL OPERATORS'. The main content area features the title 'the TRUCK STOP' and a paragraph stating: 'All diesel fueled trucks, buses, trailers and transportation refrigeration units operating in California, including those based out of state, are required by regulations to take steps to reduce air pollution. Please call the California Air Resources Board Diesel Hotline at 866-6DIESEL (866-634-3735) for more information, or click the links below.' Below this is a link for 'Truckstop en Español'. A section titled 'Information About Clean Air Requirements For' contains five sub-sections: 'DIESEL VEHICLES', 'TRAILERS', 'TRUs', 'FUNDING', and 'USEFUL LINKS'. The 'USEFUL LINKS' section lists: 'Regulation Index', 'Training', 'Funding Resources Index', 'Exhaust Retrofit Guidance', 'Reporting & Registration', and 'Printable Materials'. A 'Highlighted Links' section lists 'Clean Truck, Bus, and Trailer Requirements Brochure'. At the bottom, there is a footer with the text: 'the Truck-Stop Diesel Hotline: (866) 6-DESEL (866-634-3735) E-Mail Us'. A small disclaimer at the very bottom reads: 'The purpose of this website is to assist the user in identifying legal requirements that may apply based on information submitted by the user. This website may not indicate all legal requirements that may apply. The user should not rely on the presentation of statutes or regulations referenced in this website, but should consult the actual text of each statute or regulation. Legal requirements frequently change and the user should seek the advice of counsel to determine what requirements apply to their situation.'

www.arb.ca.gov/truckstop or 866-6DIESEL (866-634-3735)