Pacific Maritime Association

Accident Prevention Department

555 Market 3rd Floor

San Francisco, California 94105

SAFETY BULLETIN # 04-09 Change # 3
Revised October, 2009
Compilation of the Air Resource Board's Emission Regulations for the Longshore Industry

NOTE: This Change Supersedes Safety Bulletin 04-09 Revised

Overview: Over the last several years California Air Resource Board has pass a group of "Diesel Emission Regulations" affecting the Longshore Cargo Handling Industry. In order to assist in keeping track of these requirements PMA has consolidated these Regulations to give a brief overview of these standards and required compliance timelines. Below are brief overviews of:

- ***Transportation Refrigeration Unit (Tru) Atcm In-Use Performance Standards***
- ***Regulation On Fuel Sulfur And Other Operational Requirements For Ocean Going Vessels Within California Waters And 24 Nautical Miles Of The California Baseline***
- ***Regulation For Mobile Cargo Handling Equipment At Ports And Intermodal Rail Yards***
- ***Regulation For In-Use Off-Road Diesel Vehicles***
- ***Regulation For In-Use On-Road Diesel Fuel – Heavy-duty Drayage Trucks***
- ***Fleet Requirements For Off-Road Large Spark-Ignition (Lsi) Engine-Powered Forklifts And Other Industrial Equipment***
- ***Airborne Toxic Control Measure For Auxiliary Diesel Engines Operated On Ocean-Going Vessels At- Berth In A California Port***
- ***Regulation To Establish A Statewide Portable Equipment Registration Program***
- ***Truck And Bus Regulation Reducing Emissions From Existing Diesel Vehicles***
- ***Stationary Diesel Engines And Portable Diesel Equipment***

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- ***Contact Information for the various CARB regulations***

TRANSPORTATION REFRIGERATION UNIT (TRU) ATCM IN-USE PERFORMANCE STANDARDS

ARB delayed the enforcement of the Transportation Refrigeration Unit (TRU) ATCM In-Use Performance Standards until six months after U.S. Environmental Protection Agency (U.S. EPA) published their authorization notice in the Federal Register on January 16, 2009. ARB will begin enforcing the In-Use Performance Standards on July 17, 2009, for TRU engine model years 2001 and older. The six-month grace period addresses some of the uncertainty caused by the U.S. EPA's delay in issuing authorization and will allow carriers time to pursue compliance in good faith. In addition, the submittal deadlines for the ARB Identification Number (IDN) applications and Operator Reports was also delayed. The previous compliance deadline. for these submittals was January 31, 2009

CARB has delayed two compliance deadlines as of July 1, 2009 (updates dates have been underscored & italicized)

January 6, 2009	ARB began accepting electronic registration applications (IDN applications) and electronic Operator Reports to ARBER. IDNs are issued instantaneously with a complete electronic IDN application. Manual form IDN applications, Operator Reports, and batch upload permission forms are also accepted through the mail. Using manual IDN applications may cause delays in your ability to submit Operator Reports because it may take up to 60 days for ARB to issue IDNs through the manual mail-in process. IDNs are required for submitting Operator Reports. Electronic IDN applications are encouraged.
February 15, 2009	ARB begins accepting Batch Uploads for IDN applications to ARBER. Batch uploads can only be performed by those who have submitted a Batch Upload Application and test file.
April 16, 2009	Deadline for affixing or painting ARB IDNs to both sides of the TRU housing. Enforcement for IDNs and Operator Reports begins.
July 31, 2009	Deadline for California-based TRU registrations and Operator Reports to ARBER for existing TRUs and TRU generator sets. *Enforcement will begin on August 2009*
December 31, 2009	Enforcement begins for in-use performance standards for TRU engine model years 2001 and older.
January 2010	In-Use Performance Standard compliance date for TRU engine model year 2002.

For further information go to: http://www.arb.ca.gov/diesel/tru.htm#mozTocId728447

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Regulation On Fuel Sulfur And Other Operational Requirements For Ocean Going Vessels Within California Waters And 24 Nautical Miles Of The California Baseline

The purpose of this regulation is to require the use of low sulfur marine distillate fuels in order to reduce emissions of particulate matter (PM), diesel particulate matter, nitrogen oxides, and sulfur oxides from the use of auxiliary diesel and diesel-electric engines, main propulsion diesel engines, and auxiliary boilers on ocean-going vessels within any of the waters subject to this regulation ("Regulated California Waters").

Except as provided in subsection (c), this section applies to any person who owns, operates, charters, rents, or leases any ocean-going vessel that operates in any of the Regulated California Waters, which include all of the following:

(A) all California internal waters;
(B) all California estuarine waters;
(C) all California ports, roadsteads, and terminal facilities (collectively "ports");
(D) all waters within 3 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
(E) all waters within 12 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
(F) all waters within 24 nautical miles of the California baseline, starting at the California-Oregon border to 34.43 degrees North, 121.12 degrees West, inclusive; and
(G) all waters within the area, not including islands, between the California baseline and a line starting at 34.43 degrees North, 121.12 degrees West; thence to 33.50 degrees North, 118.58 degrees West; thence to 32.65 degrees North, 117.81 degrees West, and ending at the California-Mexico border at the Pacific Ocean, inclusive.

Exemptions

(1) The requirements of this section do not apply to ocean-going vessel voyages that are comprised of continuous and expeditious navigation through any Regulated California Waters for the purpose of traversing such bodies of water without entering California internal or estuarine waters or calling at a port, roadstead, or terminal facility. "Continuous and expeditious navigation" includes stopping and anchoring only to the extent such stopping and anchoring are required by the U.S. Coast Guard; rendered necessary by force majeure or distress; or made for the purpose of rendering assistance to persons, ships, or aircraft in danger or distress. This exemption does not apply to the passage of an ocean-going vessel that engages in any of the prejudicial activities specified in United Nations Convention on the Law of the Seas (UNCLOS) 1982, Article 19, subpart 2. Further, notwithstanding any Coast Guard mandated stops or stops due to force majeure or the rendering of assistance, this exemption does not apply to a vessel that was otherwise scheduled or intended to enter California internal or estuarine waters or call at a port, roadstead or terminal facility.

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(2) The requirements of this section do not apply to emergency generators.
(3) The requirements of this section do not apply to auxiliary engines, main engines or auxiliary boilers onboard ocean-going vessels owned or operated by any branch of local, state, or federal government, or by a foreign government, when such vessels are operated within Regulated California Waters on government non-commercial service. However, such vessels are encouraged to act in a manner consistent, so far as is reasonable and practicable, with this section.
(4) The requirements of this section do not apply to auxiliary engines, main engines, and auxiliary boilers while such engines and boilers are operating on alternative fuel in Regulated California Waters
(5) The requirements of this section, including the payment of Noncompliance Fees as provided in subsection (h), do not apply if the master reasonably and actually determines that compliance with this section would endanger the safety of the vessel, its crew, its cargo or its passengers because of severe weather conditions, equipment failure, fuel contamination, or other extraordinary reasons beyond the master's reasonable control. This exemption applies only as long as and to the extent necessary to secure the safety of the vessel, its crew, its cargo, or its passengers and provided that;
(A) the master takes all reasonable precautions after the conditions necessitating the exemption have ended to avoid or minimize repeated claims of exemption under this subsection;
(B) the master notifies the Executive Officer of a safety exemption claim within 24 hours after the end of each such episode (i.e., the period of time during which the emergency conditions exist that necessitate the safety exemption claim, as provided in paragraph (5) above); and
(C) the master submits to the Executive Officer, within 4 working days after the notification in paragraph (B) above, all documentation necessary to establish the conditions necessitating the safety exemption and the date(s), local time, and position of the vessel (longitude and latitude) in Regulated California Waters at the beginning and end of the time period during which a safety exemption is claimed under this subsection. All documentation required under this paragraph shall be provided in English.

Operational Requirements

Fuel Sulfur Content Limits

(A) Auxiliary Diesel Engines
i. Except as provided in subsections (c) and (h), upon the effective date of this regulation as approved by the Office of Administrative Law, a person subject to this section shall operate any auxiliary diesel engine, while the vessel is operating in Regulated California Waters, with either marine gas oil (MGO), with a maximum of 1.5 percent sulfur by weight, or marine diesel oil (MDO), with a maximum of 0.5 percent sulfur by weight,

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rounded as specified in subsection (i)(3); ii. Except as provided in subsections (c) and (h), beginning January 1, 2012, a person subject to this section shall operate any auxiliary diesel engine, while the vessel is operating in Regulated California Waters, with marine gas oil (MGO) with a maximum of 0.1% sulfur by weight or marine diesel oil (MDO) with a maximum of 0.1% sulfur by weight, rounded as specified in subsection (i)(3).
(B) Main Engines and Auxiliary Boilers
i. Except as provided in subsections (c) and (h), beginning July 1, 2009, a person subject to this section shall operate any main engine or auxiliary boiler, while the vessel is operating in Regulated California Waters, with either marine gas oil (MGO), with a maximum of 1.5 percent sulfur by weight, or marine diesel oil (MDO), with a maximum of 0.5 percent sulfur by weight, rounded as specified in subsection (i)(3);
ii. Except as provided in subsections (c) and (h), beginning January 1, 2012, a person subject to this section shall operate any main engine or auxiliary boiler, while the vessel is operating in Regulated California Waters, with marine gas oil (MGO) with a maximum of 0.1% sulfur by weight or marine diesel oil (MDO) with a maximum of 0.1% sulfur by weight, rounded as specified in subsection (i)(3).

Noncompliance Based on Infrequent Visits and Need for Vessel Modifications

If a person cannot meet the requirements of subsection (e)(1) without modifications for the vessel at issue, and elects not to comply under section (g), and that vessel will make no more than two California voyages per calendar year, and no more than 4 California voyages after the effective date of the regulation, during the life of the vessel, the Executive Officer may permit the person to pay the fees as specified in this subsection. This provision terminates on December 31, 2014.

Note: As of October 19, 2009 this Regulation (which is in force) is being challenge in Federal Court by Pacific Merchant Shipping Association

For further information concern noncompliance please go to:
http://www.arb.ca.gov/ports/marinevess/ogv/ogvrules.htm

REGULATION FOR MOBILE CARGO HANDLING EQUIPMENT AT PORTS AND INTERMODAL RAIL YARDS

In accordance with the schedule set forth below no owner or operator shall operate an in-use yard truck at a port or intermodal rail yard unless the engine meets the performance standards set forth below:

1. **Is certified to 2007 or later on-road emission standards for the model year of the year purchased as specified in title 13, California Code of Regulations, section 1956.8; or**

2. Is certified to final Tier 4 off-road emission standards for the rated horsepower; or

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3. is equipped with a VDECS that results in emissions less than or equal to the diesel PM and NOx emission standards for a certified final Tier 4 off-road diesel engine of the same horsepower rating.

Compliance Schedules for In-Use Yard Trucks

1. All owners or operators of three or fewer yard trucks shall comply with according to the schedule in Table 1:

Table 2: Compliance Schedule for In-Use Yard Truck Fleets of Four or More

Off-road without VDECS Installed by December 31, 2006

Model Year	% of Model Year	Compliance Deadline
Pre-2003	Greater of 3 or 50%	Dec. 31, 2007
	100%	Dec. 31, 2008
2003	Greater of 3 or 25%	Dec. 31, 2010
	50%	Dec. 31, 2011
	100%	Dec. 31, 2012
2004	Greater of 3 or 25%	Dec. 31, 2001
	50%	Dec. 31, 2012
	100%	Dec. 31, 2013
2005	Greater of 3 or 25%	Dec. 31, 2012
	50%	Dec. 31, 2013
	100%	Dec. 31, 2014
2006	Greater of 3 or 25%	Dec. 31, 2013
	50%	Dec. 31, 2014
	100%	Dec. 31, 2015

Off-road without VDECS December 31, 2006

Model Year	% of Model Year	Compliance Deadline
Pre-2003	Greater of 3 or 50%	Dec. 31, 2008
	100%	Dec. 31, 2009
2003	Greater of 3 or 25%	Dec. 31, 2011
	50%	Dec. 31, 2012
	100%	Dec. 31, 2013
2004	Greater of 3 or 25%	Dec. 31, 2012
	50%	Dec. 31, 2013
	100%	Dec. 31, 2014
2005	Greater of 3 or 25%	Dec. 31, 2013
	50%	Dec. 31, 2014
	100%	Dec. 31, 2015
2006	Greater of 3 or 25%	Dec. 31, 2014
	50%	Dec. 31, 2015
	100%	Dec. 31, 2016

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Table 2: Compliance Schedule for In-Use Yard Truck Fleets of Four or More (continued)

Model Year	% of Model Year	Compliance Deadline		Model Year	% of Model Year	Compliance Deadline
Pre-2003	Greater of 3 or 50%	Dec. 31, 2007		Pre-2003	Greater of 3 or 50%	Dec. 31, 2008
	100%	Dec. 31, 2008			100%	Dec. 31, 2009
2003	Greater of 3 or 25%	Dec. 31, 2010		2003	Greater of 3 or 25%	Dec. 31, 2011
	50%	Dec. 31, 2011			50%	Dec. 31, 2012
	100%	Dec. 31, 2012			100%	Dec. 31, 2013
2004	Greater of 3 or 25%	Dec. 31, 2001		2004	Greater of 3 or 25%	Dec. 31, 2012
	50%	Dec. 31, 2012			50%	Dec. 31, 2013
	100%	Dec. 31, 2013			100%	Dec. 31, 2014
2005	Greater of 3 or 25%	Dec. 31, 2012		2005	Greater of 3 or 25%	Dec. 31, 2013
	50%	Dec. 31, 2013			50%	Dec. 31, 2014
	100%	Dec. 31, 2014			100%	Dec. 31, 2015
2006	Greater of 3 or 25%	Dec. 31, 2013		2006	Greater of 3 or 25%	Dec. 31, 2014
	50%	Dec. 31, 2014			50%	Dec. 31, 2015
	100%	Dec. 31, 2015			100%	Dec. 31, 2016

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Table 2: Compliance Schedule for In-Use Yard Truck Fleets of Four or More (continued)

On-road without VDECS			On-road with VDECS		
December 31, 2006			**December 31, 2006**		
Model Year	**% of Model Year**	**Compliance Deadline**	**Model Year**	**% of Model Year**	**Compliance Deadline**
Pre-2000	**Greater of 3 or 25%**	**Dec. 31, 2007**	**Pre-2000**	**Greater of 3 or 25%**	**Dec. 31, 2008**
	50%	**Dec. 31, 2008**		**50%**	**Dec. 31, 2009**
	100%	**Dec. 31, 2009**		**100%**	**Dec. 31, 2010**
2000	**Greater of 3 or 25%**	**Dec. 31, 2008**	**2000**	**Greater of 3 or 25%**	**Dec. 31, 2009**
	50%	**Dec. 31, 2009**		**50%**	**Dec. 31, 2010**
	100%	**Dec. 31, 2010**		**100%**	**Dec. 31, 2011**
2001	**Greater of 3 or 25%**	**Dec. 31, 2009**	**2001**	**Greater of 3 or 25%**	**Dec. 31, 2010**
	50%	**Dec. 31, 2010**		**50%**	**Dec. 31, 2011**
	100%	**Dec. 31, 2011**		**100%**	**Dec. 31, 2012**
2002	**Greater of 3 or 25%**	**Dec. 31, 2010**	**2002**	**Greater of 3 or 25%**	**Dec. 31, 2011**
	50%	**Dec. 31, 2011**		**50%**	**Dec. 31, 2012**
	100%	**Dec. 31, 2012**		**100%**	**Dec. 31, 2013**

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Table 2: Compliance Schedule for In-Use Yard Truck Fleets of Four or More

	On-road without VDECS				On-road with VDECS	
	December 31, 2006				**December 31, 2006**	
2003	**Greater of 3 or 25%**	**2011**			**Greater of 3 or 25%**	**2012**
	50%	**2012**			**50%**	**2013**
	100%	**2013**			**100%**	**2014**
2004	**Greater of 3 or 25%**	**2012**			**Greater of 3 or 25%**	**2013**
	50%	**2013**			**50%**	**2014**
	100%	**2014**			**100%**	**2015**
2005	**Greater of 3 or 25%**	**2013**			**Greater of 3 or 25%**	**2014**
	50%	**2014**			**50%**	**2015**
	100%	**2015**			**100%**	**2016**
2006	**Greater of 3 or 25%**	**2014**			**Greater of 3 or 25%**	**2015**
	50%	**2015**			**50%**	**2016**
	100%	**2016**			**100%**	**2017**

a. for each compliance deadline, the percentage of yard trucks (25 percent, 50 percent, or 100 percent) that must meet the requirements of subsection (e)(2) is determined based on the total population of yard trucks for a specific model year or model year group (i.e., pre-2000 or pre-2003, depending upon whether the equipment is characterized as on- or off-road) that exist in the owner's or operator's yard truck fleet as of January 1 of the first compliance deadline year for that model year or model year group;
And

b. If the number of yard trucks is not a whole number, conventional rounding practices apply (i.e., if less 0.5, round down; if 0.5 or greater, round up).

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In-Use Performance Standards for Non-Yard Truck Mobile Cargo Handling Equipment

(A) In accordance with the schedule set forth in subsection (e)(3)(C), no owner or operator shall operate non-yard truck mobile cargo handling equipment unless they meet all of the following:
1. Use one of the Compliance Options for each vehicle or equipment in the active fleet as specified in paragraph (e)(3)(B) per the compliance schedule listed in Table 3 in subsection (e)(3)(C); and
2. Adherence to any special circumstances that may apply when a diesel emission control strategy is used as a Compliance Option as specified in subsection (g); and
3. Maintenance of all records as specified in subsection (i); and
4. Continuous Compliance. An owner or operator is required to keep all mobile cargo handling equipment operating in California in compliance with the requirements of this regulation at all times.

(B) Compliance Option. Each owner or operator shall use one of the following Compliance Options on each engine or vehicle in his fleet as required by the implementation schedule listed in Table 3 in subsection (e)(3)(C):

1. Basic Container Handling Equipment:

a. An engine or power system, including a diesel, alternative fuel, or heavy-duty pilot ignition engine, certified to either the 2007 or later model year on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or the Tier 4 off-road emission standards for the rated horsepower and model year of the year manufactured; or

b. An engine or power system certified to the on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or certified to the Tier 2 or Tier 3 off-road diesel engine standard for the rated horsepower and model year of the year manufactured, and used in conjunction with the highest level VDECS that is verified for a specific engine family and model year. If the highest level VDECS used is Level 1, the engine or power system must meet the certified Tier 4 off-road emission standards, or be equipped with a Level 3 VDECS by December 31, 2015; or

c. An engine or power system either certified to the Tier 1 off-road diesel engine standard, as specified in title 13, CCR, section 2423, or manufactured prior to implementation of the Tier 1 off-road diesel engine standard, both of which must be used in conjunction with the highest level VDECS that is verified for the specific engine family and model year. If the highest level VDECS used is Level 1 or Level 2, the engine or power system must meet the certified Tier 4 off-road emission standards or be equipped with a Level 3 VDECS by December 31, 2015.

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REGULATION FOR MOBILE CARGO HANDLING EQUIPMENT AT PORTS AND INTERMODAL RAIL YARDS continued

2. Bulk Cargo Handling Equipment:

a. An engine or power system, including a diesel, alternative fuel, or heavy-duty pilot ignition engine, certified to either the 2007 or later model year on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or the Tier 4 off-road emission standards for the rated horsepower and model year of the year manufactured; or

b. An engine or power system certified to the on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or certified to the Tier 2 or Tier 3 off-road diesel engine standard for the rated horsepower and model year of the year manufactured, and used in conjunction with the highest level VDECS that is verified for a specific engine family and model year. If the highest level VDECS used is Level 1, the engine or power system must meet the certified Tier 4 off-road emission standards, or be equipped with a Level 3 VDECS by December 31, 2015; or

c. An engine or power system either certified to the Tier 1 off-road diesel engine standard, as specified in title 13, CCR, section 2423, or manufactured prior to implementation of the Tier 1 off-road diesel engine standard, both of which must be used in conjunction with the highest level VDECS that is verified for the specific engine family and model year. If the highest level VDECS used is Level 1, the engine or power system must meet the certified Tier 4 off-road emission standards or be equipped with a Level 3 VDECS by December 31, 2015.

3. Rubber-Tired Gantry Cranes:

a. An engine or power system, including a diesel, alternative fuel, or heavy-duty pilot ignition engine, certified to either the 2007 or later model year on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or the Tier 4 off-road emission standards for the rated horsepower and model year of the year manufactured; or

b. An engine or power system certified to the on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or certified to the Tier 2 or Tier 3 off-road diesel engine standard for the rated horsepower and model year of the year manufactured, and used in conjunction with the highest level VDECS that is verified for a specific engine family and model year; or

c. An engine or power system either certified to the Tier 1 off-road diesel engine standard, as specified in title 13, CCR, section 2423, or manufactured prior to implementation of the Tier 1 off-road diesel engine standard, both of which must be used in conjunction with the highest level VDECS that is verified for the specific engine family and model year. If the highest level VDECS used is Level 1 or Level 2, the engine or power system must meet the certified Tier 4 off-road emission standards or be equipped with a Level 3 VDECS by the latter of model year plus 12 years or December 31, 2015.

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(C) Compliance Schedule for Non-Yard Truck Mobile Cargo Handling Equipment

1. All owners or operators of non-yard truck mobile cargo handling equipment shall comply with subsection (e)(3) according to the schedule in Table 3:

Table 3: Compliance Option Compliance Schedule for Non-Yard Truck In-Use Mobile Cargo Handling Equipment

Engine Model Years	Compliance Date 1				
	Non-Yard Truck Fleets of 3 or Fewer	Non-Yard Truck Fleets of 4 or More			
		First 3 or 25% (whichever is greater)	50%	75%	100%
Pre-1988	2007	2007	2008	2009	2010
1988-1995	2008	2008	2009	2010	2011
1996-2002	2009	2009	2010	2011	2012
2003-2006	20010	2010	2011	2012	2013

a. for each compliance deadline, the percentage of non-yard truck equipment (25 percent, 50 percent, or 100 percent) that must meet the requirements of subsection (e)(3) is determined based on the total population of non-yard truck equipment for a specific model year group (i.e., pre-1988) that exist in the owner's or operator's non-yard truck fleet as of January 1 of the first compliance deadline year for that model year group; and

b. if the number of non-yard truck equipment is not a whole number, conventional rounding practices apply (i.e., if less 0.5, round down; if 0.5 or greater, round up).

ADVISORY UPDATE # 401
June 2009

Update Regarding Retired Equipment Still On-Site

In January 2009, Advisory 387 was issued, which notified cargo handling equipment owners and operators that vehicles being retired in order to comply with the regulation may remain on-site for up to 18 months beyond the required compliance date, as long as batteries and fluids (i.e., oil and fuel) are removed from the units by the required compliance date. In order to accommodate facility operators who are continuing to have difficulties selling, scrapping, or

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moving equipment to out-of-state facilities, we are extending this time to December 31, 2010, for vehicles that were retired in order to comply with compliance dates in 2007 or 2008. To clarify, for retired equipment that had a 12/31/2007 compliance date and for retired equipment that had a 12/31/2008 compliance date, the deadline will be 12/31/2010. This provides 36 months and 24 months, respectively, for removal of retired equipment with compliance dates in 2007 and 2008. Equipment that is retired in order to meet compliance dates on 12/31/2009 and after must conform to the 18-month limit.

Update Regarding Sweepers and Mobile Cranes

In December 2008, the Air Resources Board approved proposed changes to the Cargo Handling Equipment Regulation that will exempt sweepers and mobile cranes, other than rubber-tired gantry cranes, and instead place them under either the on-road truck and bus regulation (most sweepers) or the in-use off-road diesel engine regulation (most mobile cranes). Advisory 382, issued in October 2008, discussed these proposed changes and how they would affect owner/operator compliance schedules. If you have mobile cranes and/or sweepers in any of the three pre-2003 model year groups that were required to comply in 2008 or will be required to comply in 2009, no enforcement of those specific vehicles for the Cargo Handling Equipment Regulation will occur, pending the Office of Administrative Law's approval of the regulatory changes, which is expected by the end of the year. However, if your sweepers and/or cranes have already complied, they may be counted towards your required compliance percentages for the Cargo Handling Equipment Regulation. Additional information regarding the regulatory changes and which rules will apply to these vehicles operating at a port or intermodal rail yard is available at http://www.arb.ca.gov/ports/cargo/documents/cranesweeper.pdf

For further information go to: http://www.arb.ca.gov/regact/cargo2005/cargo2005.htm
http://www.arb.ca.gov/ports/cargo/documents/cranesweeper.pdf

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REGULATION FOR IN-USE OFF-ROAD DIESEL VEHICLES

This regulation applies to any person, business, or government agency who owns or operates within California any diesel fueled or alternative diesel fueled off-road compression ignition vehicle engine with maximum power of 25 horsepower (hp) or greater that is used to provide motive power in a work over rig or to provide motive power in any other motor vehicle that (1) cannot be registered and driven safely on-road or was not designed to be driven on-road, and (2) is not an implement of husbandry or recreational off-highway vehicle. Vehicles that were designed to be driven on-road, have on-road engines, and still meet the original manufacturer's on-road engine emission certification standard are considered on-road and are specifically excluded from this regulation, even if they have been modified so that they cannot be registered and driven safely on-road. Off-road vehicles that were designed for off-road use and have off-road engines are considered off-road and are subject to this regulation, even if they have been modified so that they can be driven safely on-road.

This regulation also applies to any person who sells a vehicle with such an engine within California.

Vehicles with engines subject to this regulation are used in construction, mining, rental, government, landscaping, recycling, land filling, manufacturing, warehousing, ski industry, composting, airport ground support equipment, industrial, and other operations. *The* regulation does not cover locomotives, commercial marine vessels, marine engines, recreational vehicles, or combat and tactical support equipment. The regulation also does not cover stationary or portable equipment, equipment or vehicles used exclusively in agricultural operations, or equipment already subject to the Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards.

Fleets that are subject to fleet average requirements may include vehicles and systems used in place of diesel vehicles in their fleet average index and target rate calculations Fleets that are subject to fleet average requirements may opt to include hours of operation in the fleet average calculation. Each fleet must meet the performance requirements. There are differing requirements for large, medium, and small fleets. If various portions of a fleet are under the control of different responsible officials because they are part of different subsidiaries, divisions, or other organizational structures of a company or agency, the fleet portions may comply with the performance requirements separately and be reported separately. However, the total maximum power of the vehicles under common ownership or control determines the fleet size.

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Compliance Requirements must be met by March 1 of each year.

Fleet Size Category	Description
Small	Fleets with <=2500 hp
Medium	Fleets with 2,501 to 5000 hp
Large	Fleets with more than 5000 hp

Initial Reporting varies by fleet size, fleets must report their fleet information to CARB as it was on March 1, 2009. Fleets must report their information to

CARB by their designated reporting date (see chart below).

INITIAL REPORTING DATES BY FLEET

Fleet Size Category	Initial Reporting Dates
Small	April 1St , 2009
Medium	June 1st , 2009
Large	August 1st, 2009

Performance Requirements: NOx

Each fleet must meet the fleet average requirements in this section by March 1 of each year or demonstrate that it met the best available control technology (BACT) requirements as described in section 2449.1(a)(2). There are differing requirements for large and medium fleets. Small fleets are not subject to the NOx performance requirements.

If various portions of a fleet are under the control of different responsible officials because they are part of different subsidiaries, divisions, or other organizational structures of a company or agency, the fleet portions may comply with the performance requirements separately and be reported separately. A fleet may have some fleet portions that meet the definition of captive attainment area fleet and some fleet portions that do not. However, the total maximum power of the vehicles under common ownership or control determines the fleet size. Once a fleet begins to comply and report separately as fleet portions, the fleet portions must continue to comply and report separately, and the fleet portions must meet the adding vehicle requirements in section 2449(d)(7) just as if they were separate fleets.

Fleets owned by low-population county local municipalities are subject to the small fleet requirements, even if their total maximum power exceeds 2,500 horsepower. Captive attainment area fleets are not subject to the NOx performance requirements. Section 2449(d)(4) describes requirements for fleets that change size.

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Fleet Average Requirements

(A) Fleet Average Requirements for Large and Medium Fleets
1. NOx Fleet Average - For each compliance date, a large or medium fleet that is not a captive attainment area fleet must demonstrate that its NOx Index was less than or equal to the calculated NOx Target Rate.
The equation for calculating NOx Target Rate is below:
NOx Target Rate = [SUM of (*Max Hp* for each engine in fleet multiplied by *Target* for each engine in fleet) for all engines in fleet] divided by [SUM of (Max *Hp*) for all engines in fleet] where Target is the NOx target in g/bhp-hr from Table 1. To find the Target for each engine, read the value for the appropriate row based on the compliance year and the appropriate column based on the engine's maximum power from Table 1.

The equation for calculating NOx Index is below:

NOx Index = [SUM of (*Max Hp* for each engine in fleet multiplied by NOx *Emission Factor* for each engine in fleet) for all engines in fleet] divided by [SUM of (Max *Hp*) for all engines in fleet]

	NOx Targets for each Max Hp Group							
Compliance Date: March 1 of Year	**25-49 hp**	**50-74 hp**	**75-99 hp**	**100-174 hp**	**175-299 hp**	**300-599 hp**	**600-750 hp**	**>750 hp**
2010 (large fleets only)	5.8	6.5	7.1	6.4	6.2	5.9	6.1	7.2
2011 (large fleets only)	5.6	6.2	6.7	6.0	5.8	5.5	5.6	6.8
2012 (large fleets only)	5.3	5.8	6.2	5.5	5.3	5.1	5.2	6.5
2013	5.1	5.5	5.7	5.1	4.9	4.7	4.8	6.1
2014	4.9	5.1	5.2	4.7	4.5	4.3	4.4	5.7
2015	4.6	4.8	4.8	4.3	4.1	3.9	4.0	5.3
2016	4.4	4.4	4.3	3.8	3.6	3.5	3.6	4.9
2017	4.2	4.1	3.8	3.4	3.2	3.1	3.2	4.5
2018	4.0	3.7	3.3	3.0	2.8	2.7	2.7	4.1
2019	3.7	3.4	2.8	2.6	2.3	2.3	2.3	3.8
2020	3.5	3.2	2.4	2.2	1.9	1.9	1.9	3.4

Table 1 shows the targets used to calculate the NOx Target Rate for each compliance date for large and medium fleets. The Emission Factors are defined in Appendix A

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Performance Requirements –PM

Each fleet must meet the fleet average requirements in section 2449.2(a)(1) by March 1 of each year or demonstrate that it met the best available control technology (BACT) requirements as described in section 2449.2(a)(2). There are differing requirements for large and medium, and small fleets. If various portions of a fleet are under the control of different responsible officials because they are part of different subsidiaries, divisions, or other organizational structures of a company or agency, the fleet portions may comply with the performance requirements separately and be reported separately. However, the total maximum power of the vehicles under common ownership or control determines the fleet size. Fleets owned by low-population county local municipalities are subject to the small fleet requirements, even if their total maximum power exceeds 2,500 horsepower. Section 2449(d)(4) describes requirements for fleets that change size.

(1) Fleet Average Requirements
(A) Fleet Average Requirements for Large and Medium Fleets
1. Diesel PM Fleet Average - For each compliance date, a large or medium fleet must demonstrate that its Diesel PM Index was less than or equal to the calculated Diesel PM Target Rate.

The equation for calculating Diesel PM Target Rate is below:
Diesel PM

Target Rate = [SUM of (*Max Hp* for each engine in fleet multiplied by *Target* for each engine in fleet*)* for all engines in fleet] divided by [SUM of (Max *Hp*) for all engines in fleet] where Target is the Diesel PM target in g/bhp-hr from Table 2. To find the Target for each engine, read the value for the appropriate row based on the compliance year and the appropriate column based on the engine's maximum power from Table 2.
The equation for calculating Diesel PM Index is below:

Diesel PM Index = [SUM of (*Max Hp* for each engine in fleet multiplied by PM *Emission Factor* for each engine in fleet) for all engines in fleet] divided by [SUM of (Max *Hp*) for all engines in fleet]

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Table 2 – Large and Medium Fleet PM Targets For Use in Calculating PM Target Rates [g/bhp-hr]

	PM Targets for each Max Hp Group							
Compliance Date: March 1 of Year	**25-49 hp**	**50-74 hp**	**75-99 hp**	**100-174 hp**	**175-299 hp**	**300-599 hp**	**600-750 hp**	**>750 hp**
2010 (large fleets only)	0.46	0.60	0.62	0.33	0.23	0.18	0.20	0.30
2011 (large fleets only)	0.46	0.60	0.62	0.33	0.23	0.18	0.20	0.30
2012 (large fleets only)	0.39	0.43	0.46	0.26	0.16	0.14	0.14	0.24
2013	0.39	0.43	0.46	0.26	0.16	0.14	0.14	0.24
2014	0.29	0.23	0.24	0.18	0.11	0.11	0.11	0.18
2015	0.29	0.23	0.24	0.18	0.11	0.11	0.11	0.18
2016	0.21	0.18	0.19	0.14	0.08	0.08	0.08	0.11
2017	0.21	0.18	0.19	0.14	0.08	0.08	0.08	0.11
2018	0.12	0.12	0.13	0.10	0.06	0.06	0.06	0.08
2019	0.12	0.12	0.13	0.10	0.06	0.06	0.06	0.08
2020	0.08	0.08	0.07	0.06	0.03	0.03	0.03	0.06

Table 2 shows the targets used to calculate the Diesel PM Target Rate for each compliance date for large and medium fleets. The Emission Factors are defined in Appendix A.

For additional compliance information and requirements concerning the "In-Use Off-Road Diesel Vehicles", go to:
http://www.arb.ca.gov/msprog/ordiesl/ordiesl.htm

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REGULATION TO CONTROL EMISSIONS FROM IN-USE ON-ROAD DIESEL-FUELED HEAVY-DUTY DRAYAGE TRUCKS

Note: These are CARB regulations, however different Port Authorities may have different rules that ban old trucks on a faster phase out time frame.

Section 2027. In-Use On-Road Diesel-Fueled Heavy-Duty Drayage Trucks.

(a) *Purpose.* The purpose of this regulation is to reduce emissions and public exposure to diesel particulate matter (diesel PM), oxides of nitrogen (NOx), and other air contaminants by setting emission standards for in-use, heavy-duty diesel-fueled vehicles that transport cargo to and from California's ports and intermodal rail facilities.

(b) *Applicability.*
(1) This regulation applies to owners and operators of on-road diesel-fueled heavy-duty drayage trucks operated at California ports and intermodal rail yard facilities. This regulation also applies to "motor carriers," "marine or port terminals," "intermodal rail yards," and "rail yard and port authorities."

(2) This regulation does not apply to:
(A) dedicated use vehicles;
(B) vehicles operating under an ARB authorized emergency decree;
(C) authorized emergency vehicles;
(D) military tactical support vehicles;
(E) vehicles that operate at port or intermodal rail yard properties in which the ARB Executive Officer has granted an annual exemption under the provisions of subsection (f) to local port or rail yard authorities; and
(F) yard trucks.

Requirements and Compliance Deadlines.

Drayage trucks subject to this regulation must meet the following requirements by the compliance deadlines detailed in both Phase 1 AND Phase 2.

(1) *Phase 1*: By December 31, 2009, all drayage trucks must be equipped with:
(A) 1994 – 2003 model year engine certified to California or federal emission standards and a level 3 VDECS for PM emissions; or,
(B) 2004 or newer model year engine certified to California or federal emission standards; or,
(C) a 1994 or newer model year engine that meets or exceeds 2007 model year California or federal emission standards.
(2) *Phase 2*: After December 31, 2013, all drayage trucks must be equipped with a 1994 or newer model year engine that meets or exceeds 2007 model year California or federal emission standards.

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(3) ***Drayage Truck Owner Requirements***
(A) Drayage truck owners shall:
1. meet all applicable requirements and deadlines set forth in Phases 1 and 2 above;
2. if an aftermarket level 3 VDECS is installed, be able to demonstrate that:
a. the VDECS has been verified by ARB for use with the engine and vehicle, as described in the Executive Order for the VDECS;
b. use of the vehicle must be consistent with the conditions of the Executive Order for the VDECS;
c. the VDECS is installed in a verified configuration;
d. the engine met the engine manufacturer's operational specifications prior to the VDECS installation;
e. the VDECS label is visible;
f. the level 3 VDECS is mounted in a safe and secure manner on the vehicle consistent with provisions in (3)(A)(2)(c) above, and the fixed position of the level 3 VDECS does not obscure vehicle rear view or side mirror visibility in any way.
g. all emission control devices are functioning properly and maintained per manufacturer's specifications;
h. in the event of a failure or damage of an aftermarket level 3 VDECS or an OEM equivalent diesel emissions control system while the device is still under warranty, it has taken prompt action to repair or replace the device by the manufacturer or authorized dealer with the same level of VDECS or OEM equivalent diesel emissions control system within 45 days of first noticing or being notified of the failure or damage to the device.
i. it has adhered to the terms and conditions in the aftermarket manufacturer or OEM warranty governing the use of the device.
j. if the failure or damage to the level 3 VDECS or OEM equivalent diesel emissions control system occurs after expiration of the warranty period, it has taken prompt action to personally repair or replace the failed or damaged device with the same level VDECS or OEM equivalent diesel emissions control system available for the engine within 90 days of first noticing or being notified of the failure or damage to the device.
k. it has not misused, dismantled, or tampered with any components of the level 3 VDECS or OEM equivalent diesel emissions control system, except for purposes of recommended periodical maintenance by an authorized agent, or when it is necessary to detach the device to service the vehicle.
3. register with the DTR, according to subsection (e);
4. be able to demonstrate that the drayage truck operator has been informed about the information required under subsection (d)(5)(A)(4) for the dispatching motor carrier and instructed to provide such information to any enforcement personnel listed in subsection (i), upon request.

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(B) Phase 1 compliance deadline extension:
1. Drayage truck owners may apply for a one-time, one-year, per-truck Phase 1 compliance deadline extension. The compliance deadline application must be either electronically filed or postmarked by June 1, 2009. To receive the Phase 1 compliance deadline extension, a drayage truck owner must demonstrate all of the following:

a. the engine installed on his/her current truck is a California or federally certified 1994 – 2003 model year engine;
b. the truck was registered with the DTR prior to June 1, 2009;
c. no Level 3 diesel emission control technology verified by ARB for use on that combination of truck and engine was available at the time the extension was filed.

Marine or Port Terminals and Intermodal Rail Yard Requirements (CARB Regulation)

(A) Starting September 30, 2009, marine or port terminals and intermodal rail yards shall collect the following information for each drayage truck subject to this regulation that enters the facility that is not DTR compliant as determined by information contained within the Drayage Truck Registry.
1. Dispatching motor carrier:
a. business name of dispatching motor carrier;
b. contact person's name;
c. street address, state, zip code of the dispatching motor carrier;
d. phone number of the dispatching motor carrier;
e. bill of lading or tracking number.
2. Drayage truck:
b. registered owner's name;
c. operator's name;
d. operator's license number;
e. drayage truck's license plate number and state of issuance;
f. drayage truck's vehicle identification number (VIN).
All information collected in subsection (d)(6) shall be kept for a period of not less than five years from the truck entry date and is to be made available to enforcement personnel within 72 hours of an official written or oral request.
(B) Marine or port terminals and intermodal rail yards shall report the information collected in subsection (A) above to their respective authorities according to schedule (A) below and in a format acceptable to their respective authority.

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REGULATION TO CONTROL EMISSIONS FROM IN-USE ON-ROAD DIESEL-FUELED HEAVY-DUTY DRAYAGE TRUCKS - CONTINUED

Date Truck Enters Terminal or Intermodal Rail Yard	Date by which Information is to be Reported to Port or Rail Authority
January 1 – March 31	April 15
April 1 – June 30	July 15
July 1 – September 30	October 15
October 1 – December 31	January 15

For further information go to:
http://www.arb.ca.gov/regact/2007/drayage07/finregoal.pdf

FLEET REQUIREMENTS FOR OFF-ROAD LARGE SPARK-IGNITION (LSI) ENGINE-POWERED FORKLIFTS AND OTHER INDUSTRIAL EQUIPMENT

Fleet Requirements for Off-Road Large Spark-Ignition (LSI) Engine Powered Forklifts and Other Industrial Equipment On May 25, 2006, the California Air Resources Board (ARB) adopted new regulations to reduce emissions from existing LSI fleets. This fact sheet discusses fleet average provisions for medium and large fleets. A separate fact sheet discusses special provisions for agricultural fleets.

Who must comply with these regulations?

Any person, business, municipal or government agency that owns or operates gasoline, propane, or compressed natural gas-fueled off-road LSI "fleets" in California is subject to the regulation. A Fleet is defined four (4) or forklifts with engines of 25 horsepower (19 kilowatt) or greater.

Types of Equipment Are Subject To the Regulation

LSI engines of 25 horsepower (19 kilowatt) or greater are most commonly found in forklifts, scrubbers and sweepers, specialty vehicles, portable generators, large turf care equipment, irrigation pumps, welders, air compressors, airport ground support equipment

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FLEET REQUIREMENTS FOR OFF-ROAD LARGE SPARK-IGNITION (LSI) ENGINE-POWERED FORKLIFTS AND OTHER INDUSTRIAL EQUIPMENT - CONTINUED

(GSE), and a wide array of other agricultural, construction and general industrial equipment. However, the fleet requirement only addresses four of these categories: forklifts, sweepers/scrubbers, industrial tugs (tow tractors), and GSE. These categories represent nearly 94 percent of the total federally non-preempt emissions of hydrocarbons and oxides of nitrogen (HC+NOx) from LSI equipment in California.

Regulation Requirements for Off-Road LSI Fleets

LSI fleets must meet the grams per kilowatt-hour (or grams per brake horsepower-hour) fleet average emission level requirements in the table below. Fleet Type Number of units Fleet Average Emission Level.

Fleet Type	Number of units	Fleet Average Emission Level		
		1/1/2009	1/1/2011	1/1/2013
Large forklift fleet	26+	3.2 (2.4)	2.3 (1.7)	1.5 (1.1)
Mid-size forklift fleet	4-25	3.5 (2.6)	2.7 (2.0)	1.9 (1.4)
Non-forklift fleet	4+	4.0 (3.0)	3.6 (2.7)	3.4 (2.5)

Fleet Requirements

The quickest way for a fleet to reduce its fleet average is to phase out any uncontrolled equipment. Equipment without catalysts, oxygen sensors and electronic fuel/air controllers can emit 20 times more HC+NOx than new engines that are already certified to the 2010 0.6 g/bhp-hr level. Uncontrolled equipment may be addressed through retrofit (available for 1990 and newer model year engines), repower with a complying engine, or replacement with a new or used controlled piece of equipment. Fleets may also incorporate zero-emission equipment where feasible. The capabilities of zero emission equipment such as electric forklifts have increased dramatically in recent years with the advent of more powerful and energy-efficient alternating current traction motors, higher voltage batteries, waterproofing of electronics and batteries, and fast charging. The first step is to plan your purchases. Identify what your initial fleet average is, what fleet averages you'll have to meet by the 2009, 2011, and 2013 compliance dates, what your fleet turnover rate is, and how zero- and near zero-emission equipment can help you.

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FLEET REQUIREMENTS FOR OFF-ROAD LARGE SPARK-IGNITION (LSI) ENGINE-POWERED FORKLIFTS AND OTHER INDUSTRIAL EQUIPMENT – CONTINUED

Exemptions

The LSI regulation provides both fleet and individual equipment exemptions:
• Fleets with one to three pieces of forklift and/or non-forklift equipment are considered small fleets and are exempt from the fleet averages in the table above
• Operators of agricultural crop preparation services fleets do not have to meet the fleet averages either, but must address their uncontrolled 1990 and newer LSI forklifts through retrofit.
• In-field agricultural forklifts are exempt from the LSI regulation
• Equipment that is leased or rented for a period of no more than 30 aggregated calendar days per year are exempt from the fleet average requirement
• Equipment that is leased or rented for more than 30 days, but less than one year may be excluded from the fleet average calculation provided that:
• The lease or rental component comprises no more than 20 percent of the operator's equipment (any rental or lease equipment in excess of 20 percent must be included in the operator's fleet average calculation), and
• The equipment is controlled to a 3.0 g/bhp hr standard if in the fleet between January 1, 2009 and December 31, 2010 and a 2.0 g/bhp hr standard if in the fleet on or after January 1, 2011.

Special Provisions for Low-Use Vehicles

LSI equipment used 250 hours per year or less may be excluded from the fleet average calculation until January 1, 2011. By that time, the piece of equipment must be either retrofitted or repowered with a controlled engine, or retired.

Incentive Funding Availability

Yes. California has the largest clean air incentive program in the nation, the Carl Moyer Program, with up to $140 million available each year primarily through the local air districts. The Carl Moyer Program provides grant funding to offset the incremental capital cost of cleaner technologies, provided that the installation or replacement yields emission benefits that go beyond the requirements of the regulation or occur at least three years early. Many fleets may be able to access Carl Moyer Program funds in advance of their 2013 compliance date.

Note: Carl Moyer Program funds are only available prior to the regulation's compliance date.

For further information go to:
http://www.arb.ca.gov/msprog/offroad/orspark/orspark.htm
http://www.arb.ca.gov/msprog/moyer/moyer.htm

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AIRBORNE TOXIC CONTROL MEASURE FOR AUXILIARY DIESEL ENGINES OPERATED ON OCEAN-GOING VESSELS AT BERTH IN A CALIFORNIA PORT

(a) Any person who owns, operates, charters, rents, or leases any U.S. or foreign-flagged container vessel, passenger vessel, or refrigerated cargo vessel that visits a California port, as defined in section 93118.3(c), title 17, California Code of Regulations (CCR), must comply with section 93118.3 (subject to the exemptions therein), relating to the operation of auxiliary diesel engines on ocean-going vessels at-berth in a California port. In addition, this section also applies to any person who owns or operates a port or terminal located at a California port, as defined in section 93118.3(c)(6), where container, passenger, or refrigerated cargo vessels visit.

Applicability and General Exemptions

(1) Except as provided in this subsection (b), this section applies to any person who owns, operates, charters, rents, or leases any U.S. or foreign-flagged container vessel, passenger vessel, or refrigerated cargo vessel that visits a California port. In addition, this section also applies to any person who owns or operates a port or terminal located at a port where container, passenger, or refrigerated cargo vessels visit.

The requirements of this section do not apply to:

(A) Ocean-going vessel voyages that consist of continuous and expeditious navigation through any of the Regulated California Waters for the purpose of traversing such bodies of water without entering California internal or estuarine waters or calling at a port, roadstead, or terminal facility. "Continuous and expeditious navigation" includes:

1. Stopping and anchoring only to the extent such stopping and anchoring are required by the U.S. Coast Guard;
2. Rendered necessary by force majeure or distress; or
3. Made for the purpose of rendering assistance to persons, ships, or aircraft in danger or distress.

This exemption does not apply to the passage of an ocean-going vessel that engages in any of the prejudicial activities specified in United Nations Convention on the Law of the Seas (UNCLOS) 1982, Article 19, subpart 2. Further, notwithstanding any Coast Guard mandated stops or stops due to force majeure or the rendering of assistance, this exemption does not apply to a vessel that was otherwise scheduled or intended to enter California internal or estuarine waters or call at a port, roadstead or terminal facility.

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(B) Auxiliary engines on-board ocean-going vessels owned or operated by any branch of local, state, federal government, or by a foreign government, when such vessels are

operated on government non-commercial service. However, such vessels are encouraged to act in a manner consistent, so far as is reasonable and practicable, with this section.

(C) Steamships while berthed at a California port.

(D) Auxiliary engines while such engines are operating primarily on liquefied natural gas or compressed natural gas.

(E) Except as otherwise specified in subsection (d)(1)(I), fleets meeting the following criteria:

1. A fleet composed solely of container or refrigerated cargo vessels that visits the same California port fewer than 25 times total in a calendar year; and

2. A fleet composed solely of passenger vessels that visits the same California port fewer than 5 times total in a calendar year.

Vessel In-Use Operational Requirements

(1) Reduced Onboard Power Generation Option

(A) 2014 Requirements

Except as provided in subsection (d)(2), beginning January 1, 2014, the following shall apply to a fleet visiting a California port:

1. At least 50 percent of the fleet's visits to the port shall meet the onboard auxiliary diesel engine operational time limits in subsection (d)(1)(D); and

2. The fleet's onboard auxiliary-diesel-engine power generation while docked at the berth shall be reduced by at least 50 percent from the fleet's baseline power generation.

(B) 2017 Requirements

Except as provided in subsection (d)(2), beginning January 1, 2017, the following shall apply to a fleet visiting a California port:

1. At least 70 percent of the fleet's visits to the port shall meet the onboard auxiliary diesel engine operational time limits in subsection (d)(1)(D); and

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2. The fleet's onboard auxiliary-diesel-engine power generation while docked at the berth shall be reduced by at least 70 percent from the fleet's baseline power generation.

(C) 2020 Requirements

Except as provided in subsection (d)(2), beginning January 1, 2020, the following shall apply to a fleet visiting a California port:

1. At least 80 percent of a fleet's visits to the port shall meet the onboard auxiliary diesel engine operational time limits in subsection (d)(1)(D); and
2. The fleet's onboard auxiliary-diesel-engine power generation while docked at the berth shall be reduced by at least 80 percent from the fleet's baseline power generation.

(D) Limits on Hours of Operation

1. Except as exempt in subsection (d)(1)(E), auxiliary diesel engines onboard vessels subject to subsection (d)(1)(A), (d)(1)(B), and (d)(1)(C) shall meet the following operational limits while at berth for the specified percentage of visits by the fleet:

a. Three hours total per visit to a berth, provided the visiting vessel uses a synchronous power transfer process to change from vessel-based power to shore-based power; or

b. Five hours total per visit to a berth, provided the visiting vessel does not use a synchronous power transfer process to change from vessel-based power to shore-based power.

(E) Exemptions to Limits on Hours of Operation

1. Emergency Event

All of the following requirements apply to claimed exemptions to limits on hours of operation based on emergency events:

a. If the master of the vessel reasonably and actually determines that an emergency event, as defined in subsection (c)(14), occurs during the vessel's visit to a California port, the master of the vessel may operate the vessel's auxiliary engines during the emergency event:

b. The master shall not operate the vessel's auxiliary engines for more than one hour beyond the time when the master receives notification that the emergency event is over or determines that the emergency event is over; and

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c. The provisions of paragraph (b) above notwithstanding, the master may continue to operate the auxiliary engines for no more than five hours if the master receives notification that the emergency event is over or determines that the emergency event is over, and the vessel is scheduled to leave port within five hours.

(G) Compliance Periods

Compliance with the requirements in subsection (d)(1)(A), (d)(1)(B), and (d)(1)(C), shall be determined quarterly for the periods specified as follows:

1. January 1 through March 31, inclusive;
2. April 1 through June 30, inclusive;
3. July 1 through September 30, inclusive; and
4. October 1 through December 31, inclusive

Other subjects addressed within the regulations are:

- **Equivalent Emissions Reduction Option**
- **Calculations for Reduced Onboard Power Generation Option and Equivalent Emissions Reduction Option**
- **Terminal Plan Requirements**
- **Reporting and Recordkeeping Requirements**
- **Violations**

For further information go to:
http://www.arb.ca.gov/regact/2007/shorepwr07/shorepwr07.htm

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Regulation to Establish a Statewide Portable Equipment Registration Program

These regulations establish a statewide program for the registration and regulation of portable engines and engine-associated equipment (portable engines and equipment units) as defined herein. Portable engines and equipment units registered under the Air Resources Board program may operate throughout the State of California without authorization (except as specified herein) or permits from air quality management or air pollution control districts (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 the Executive Officer of the Air Resources Board except in the circumstances specified in the regulations.

Applicability

Portable Equipment Registration Program (PERP)

The Portable Equipment Registration Program (PERP) is a voluntary statewide program to register portable equipment such as air compressors, generators, concrete pumps, tub grinders, wood chippers, water pumps, drill rigs, pile drivers, rock drills, abrasive blasters, aggregate screening and crushing plants, concrete batch plants, and welders. With certain limited exceptions, portable equipment registered in PERP may operate throughout the state without obtaining permits from any of California's 35 air quality management or air pollution control districts (air districts).

> ***"Portable" means designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. For the purposes of this regulation, dredge engines on a boat or barge are considered portable. The engine or equipment unit is not portable if any of the following are true:***
>
> ***(1) the engine or equipment unit or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. The period during which the engine or equipment unit is maintained at a storage facility shall be excluded from the residency time determination. Any engine or equipment unit such as back-up or stand-by engines or equipment units, that replace engine(s) or equipment unit(s) at a location, and is intended to perform the same or similar function as the engine(s) or equipment unit(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s) or equipment unit(s), including the time between the removal of the original engine(s) or equipment unit(s) and installation of the replacement engine(s) or equipment unit(s), will be counted toward the consecutive time period; or***

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(2) the engine or equipment unit remains or will reside at a location for less than 12 consecutive months if the engine or equipment unit is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or

(3) the engine or equipment unit is moved from one location to another in an attempt To circumvent the portable residence time requirements.

Types of equipment that needs to be registered in PERP

Nothing is required to be registered in PERP. Registration in PERP is completely voluntary. The permit requirement at the local air district is mandatory, however. The type of portable equipment that needs a permit is determined by the local air districts only. An owner/operator of portable equipment that needs a permit may then choose to register in PERP in lieu of having to get a permit from the air districts.

The definition of "portable" is listed in Section 2452(cc) of the PERP Regulation. Basically, it states that a piece of equipment is considered portable if it does not reside at the same location longer than 12 consecutive months. The definition of "location" is listed in Section 2452(q). It states that location means any single site at a building, structure, facility, or installation. There is no definition of "site" in the PERP regulation or Portable Engine ATCM.

Registration in PERP and compliance with district emission requirements

If operating onshore, the districts may not impose any additional requirements from their own rules on equipment registered in PERP, as long as all registration requirements are being met. In the State Territorial Waters (STW), the project may not commence operations until the local air district has given written authorization. The district may request additional information regarding the project in order to perform an Air Quality Impact Analysis. The district also has the authority to impose emissions offsets for projects operating in the STW.

Portable generator which power a building or stationary equipment

Registered engines may not operate as stationary sources of air pollution. Therefore, this type of operation is only allowed under very specific circumstances which are listed in Section 2451(c)(9) of the PERP Regulation. Facilities that have interruptible rate agreements with the utilities may not use PERP registered generators under those circumstances.

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REGULATION TO ESTABLISH A STATEWIDE PORTABLE EQUIPMENT REGISTRATION PROGRAM - CONTINUED

Eligibility for PERP

Diesel engines

1. Engine is certified to the current nonroad emission tier
2. Engine is a "flexibility" engine per 40 CFR parts 89.102
3. If certified, but neither not current tier nor "flex", then engine must be resident

Spark-ignition engines

1. Engine is certified to the spark-ignition emission standards
2. Engine meets emission standards in Table 1.
3. If not certified nor meets Table 1, then engine must be resident

Table 1 Spark-ignition Engine Requirements*

Pollutant Emission Limits		
NOx**	VOC**	CO**
80 ppmdv NOx (1.5 g/bhp-hr)	240 ppmdv VOC (1.5 g/bhp-hr)	176 ppmdv CO (2.0 g/bhp-hr)

* These requirements are in addition to requirements of section 2455 and 2456.
** For the purpose of compliance with this article, ppmdv is parts per million @ 15 percent oxygen averaged over 15 consecutive minutes. Limits of ppmdv are the approximate equivalent to the stated grams per brake horsepower hour limit based on assuming the engine is 24.2 percent efficient.

"Tier 1 Engine" means a certified compression-ignition engine according to the horsepower and model year as follows:

≥50 bhp and <100 bhp; 1998 through 2003
≥100 bhp and <175 bhp; 1997 through 2002
≥175 bhp and <300 bhp; 1996 through 2002
≥300 bhp and <600 bhp; 1996 through 2000
≥600 bhp and ≤750 bhp; 1996 through 2001
>750 bhp; 2000 through 2005.

"Tier 2 Engine" means a certified compression-ignition engine according to the horsepower and model year as follows:

≥50 bhp and <100 bhp; 2004 through 2007
≥100 bhp and <175 bhp; 2003 through 2006
≥175 bhp and <300 bhp; 2003 through 2005
≥300 bhp and <600 bhp; 2001 through 2005
≥600 bhp and ≤750 bhp; 2002 through 2005
>750 bhp; 2006 through 2010.

Engine tier depends on the model year and horsepower rating of the engine.

There is also a website: http://www.arb.ca.gov/msprog/offroad/cert/cert.php where you can look up specific engine family names to see what tier level they were certified to. You will need the engine manufacturer, model year, and family name. For portable diesel engines, choose "Off-road Compression-Ignition Engines" as the category.

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Resident engine

There are 3 types of resident engines:
A. The engine resided in California at any time between March 1, 2004 and October 1, 2006. (diesel engines only)
B. The engine lost its permit exemption due to a formal change in air district rules and regulations. (both diesel and spark-ignition engines)
C. The engine currently holds a valid (non-expired) air district permit or registration at the time of application for PERP. (both diesel and spark-ignition engines)

Flexibility engine

These are certified engines that are built by the manufacturer to meet the previous emission tier standard after a new tier has taken effect. All engine manufacturers are allowed by the Federal EPA to build a certain amount of these engines every year. These engines will have specific language on the emission label to identify them as participating in this flexibility program, sometimes called the Transition Program for Equipment Manufacturers (TPEM). A photograph of the engine label is often required with the PERP application for these engines.

Registration deadlines

PERP will no longer accept certified diesel engines that do not meet the current tier after January 1, 2010, even if they were resident in California between March 1, 2004 and October 1, 2006. After January 1, 2010, all previously permit exempt or unpermitted diesel engines entering PERP must either be current tier or flexibility engines.

Portable engine is not eligible for PERP

If your engine does not meet the PERP eligibility requirements, you must contact your local air district to determine operating requirements.

Annual reporting requirements for PERP

These reports comprise of summaries of the engine or equipment unit's operation for the calendar year. The annual reports are different for rental companies and PEPS. The specific requirements for the annual reports are listed in the operating conditions of each registration. ARB staff have made user friendly reporting forms for registrants to use dependingon the type of registration (engine, equipment unit, PEPS, or rental), but they are not required. Registrants may submit written reports via fax, regular mail, or email in whatever format they wish, as long as they contain all the required information. Annual reports are due to ARB by March 1st, of each year for the operation during the previous calendar year.

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Notification requirements for PERP

If any equipment unit will reside at a location for more than 5 days, the owner or operator must notify the local air district in writing within 2 working days of commencing operations. The 5-day trigger starts when the equipment unit is brought onto the location, not when it starts to operate. Notification is not to be made to the Air Resources Board. Also, registered engines are not subject to this notification requirement. ARB has set up a convenient electronic notification system on our website which can be found here: http://www.arb.ca.gov/portable/portable.

(Tier 0) engines in 2010

All portable uncertified diesel engines must be completely put out of service or sold outside of California by January 1, 2010, except for those that have been designated as low use or emergency use. Uncertified spark-ignition engines must also be put out of service or sold outside of California by that date, unless they meet the emission standards in Table 1 of the PERP Regulation.

Fleet average emission standard

These are emission factors for PM in grams per horsepower-hour that a fleet of engines will have to meet on January 1st of 2013, 2017 and 2020. Basically, the PM emissions from each engine in a fleet will be averaged together to see if they are in compliance with the standard. There are 3 fleet standards for each effective date depending on engine size range. This is presented in a table in Section 93116.3(c) of the ATCM which states "*the portable diesel-fueled engine is equipped with a combination of verified emission control strategies that have been verified together to achieve at least 85% reduction in diesel PM emissions.*"

Portable Diesel Engine exempt from fleet standard

The following types of engines are not to be included in the fleet when determining compliance with the fleet standards:

- **Engines designated exclusively as emergency use**
- **Engines designated as low use (limited to 80 hours per year total)**
- **Engines operated only within the outer continental shelf**
- **Engines equipped with SCR as of January 1, 2004**
- **Engines with SCR installed after January 1, 2004 with approval from ARB**

An emergency use engine can only be operated during an emergency event such as a natural disaster (flood, fire, earthquake, etc.) that affects public health and safety, and other emergencies such as a localized power outage, sewer backup, etc. as listed in section 93116.2(a)(11) of the ATCM.

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REGULATION TO ESTABLISH A STATEWIDE PORTABLE EQUIPMENT REGISTRATION PROGRAM - CONTINUED

There is financial assistance for engine replacement and/or retrofit in order to comply with the ATCM requirements. For further information go to: http://www.nrcs.usda.gov/PROGRAMS/EQIP/

For further information go to:
http://www.arb.ca.gov/portable/perp/perpreg091207.pdf
http://www.arb.ca.gov/ba/fininfo.htm

TRUCK AND BUS REGULATION REDUCING EMISSIONS FROM EXISTING DIESEL VEHICLES

In December 2008, the California Air Resources Board (ARB) approved a new regulation to significantly reduce emissions from existing trucks and buses operating in California.

Application

Affected vehicles include on-road heavy-duty diesel fueled vehicles with a gross vehicle weight rating (GVWR) greater than 14,000 pounds, yard trucks with off-road certified engines, and diesel fueled shuttle vehicles of any GVWR. Out-of-state trucks and buses that operate in California are also subject to the regulation. Drayage trucks and private utility-owned vehicles are subject to the regulation beginning January 1, 2021.

Compliance

Any person, business, school district, or federal government agency that owns, operates, leases or rents affected vehicles. The regulation also establishes requirements for any in-state or out-of-state motor carrier, California-based broker, or any California resident who hires or dispatches vehicles subject to the regulation. In addition, California sellers of a vehicle subject to the regulation would have to disclose the regulation's potential applicability to buyers of the vehicles.

Approximately 170,000 businesses in nearly all industry sectors in California, and almost a million vehicles that operate on California roads each year would be affected. Some common industry sectors that operate vehicles subject to the regulation include: for-hire transportation, construction, manufacturing, retail and wholesale trade, vehicle leasing and rental, bus lines, and agriculture.

The regulation requires fleets to install exhaust retrofits that capture pollutants before they are emitted to the air, and to accelerate vehicle replacements to those with cleaner engines. The regulation does not require any vehicles be replaced until 2013, and it never requires all the vehicles within a fleet to be replaced in a single year.
In general, the regulation requires owners to reduce emissions in their fleet by upgrading existing vehicles one of three ways.

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TRUCK AND BUS REGULATION REDUCING EMISSIONS FROM EXISTING DIESEL VEHICLES- CONTINUED

- **Install PM retrofits and replace vehicles (or engines) according to a prescribed schedule based on the existing engine model year.**

Table A: BACT Schedule

Compliance Date January 1	Existing Engine Model Years	Required Actions
2011	Pre-1994	Install PM Filter
2012	2003 – 2004	Install PM Filter
2013	2005 – 2006	Install PM Filter
	1994 – 1999	Replace Vehicle
2014*	2000 – 2002	Replace Vehicle
2015	Pre – 1994	Replace Vehicle
2016	2003 – 2004	Replace Vehicle
2017	2005 – 2006	Replace Vehicle
2018, 2019, 2020	All pre-2007	No new requirements
2021	2007 or equivalent	Replace Vehicle
2022	2008	Replace Vehicle
2023	2009	Replace Vehicle

PM Filter – Highest level verified diesel emissions control technology to reduce PM.
* By 2014 all engines must have a PM filter regardless of engine model year.

- **The second option is to retrofit a minimum number of engines each year with a high level PM exhaust retrofit and to replace a minimum number of older engines with newer engines meeting the 2010 new engine standards.**

Table B: BACT Percent Limit Option

Compliance Date	Percent Meeting BACT	
January 1st	PM Filter	2010 Engine*
2011	25%	N/A
2012	50%	N/A
2013	75%	25%
2014	100%	50%
2015	100%	50%
2016	100%	60%
2017, 2018, 2019	100%	80%
2020, 2021, 2022,	100%	90%
2023	100%	100%

*2010 Engine – Exhaust emissions equivalent to a 2010 model year engine or newer.

TRUCK AND BUS REGULATION REDUCING EMISSIONS

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- **The third option is to meet a fleet average. With this option, a fleet operator can use PM and NOx emission factors established by the regulation to calculate the average emissions of the fleet. Then, by the applicable compliance date each year, the owner can demonstrate that the fleet average emissions for PM and NOx do not exceed the PM and NOx fleet average emission rate targets set by the regulation.**

  The fleet averaging option allows a fleet to gradually reduce their fleet emissions by meeting a fleet average emissions target for PM and one for NOx. The fleet emission targets for PM decline from 2011 so that by 2014 all engines will have PM filters. The NOx emissions targets decline from 2013 so that by 2023 all engines will have emissions equivalent to a 2010 model year engine. This compliance option provides credit for emissions reductions from a wide variety of emissions control technologies and alternative fueled vehicles, and provides the most flexibility in choosing which methods to reduce the average emissions for the fleet. Fleets using this option must report their fleet information each year.

  The average emissions calculated for the fleet must be less than or equal to the targets specified in the regulation for each compliance year. The NOx and PM emissions factors and targets for each engine are based on the engine model year and vehicle weight class. If an exhaust retrofit is used, the emissions factor of the engine is reduced by the percent reduction for which the exhaust retrofit has been verified. A fleet can comply by having some engines with emissions factors above the target provided the fleet also has a number of engines with emissions factors below the targets so that the average meets the goal. The emissions factors and emissions targets for both PM and NOx are listed in the regulation and are included in compliance tools that automatically do the calculations

Low-use vehicles provisions

Vehicles that operate less than 1,000 miles and 100 hours per year in California are exempt from the vehicle cleanup requirements of the regulation. In addition, vehicles greater than 33,000 pounds "gross vehicle weight rating" (GVWR) operating less than 7,500 miles per year and vehicles less than 33,000 pounds GVWR operating less 5,000 miles per year would be required to have a PM retrofit but would not be subject to engine or vehicle replacement requirements until January 1, 2021.

Fleet owners may request a one-year extension of the PM compliance deadline if retrofits are not available or can not be safely installed for a particular vehicle.

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TRUCK AND BUS REGULATION REDUCING EMISSIONS FROM EXISTING DIESEL VEHICLES- CONTINUED

Regulation effect date

For most fleets, the first performance requirements for PM do not begin until January 1, 2011, followed by engine replacement requirements to reduce NOx emissions starting January 1, 2013.
For fleets with three or fewer affected vehicles, none of the performance requirements begin until January 1, 2014. The regulation is phased in such that by January 1, 2023, all vehicles must have a 2010 model year engine or equivalent.

For further information go to:
http://www.arb.ca.gov/msprog/onrdiesel/documents.htm
http://www.arb.ca.gov/msprog/onrdiesel/documents/TBSmallFleetsFS.pdf (for small fleet requirements)
www.arb.ca.gov/dieseltruck or call the ARB's diesel hotline at (866) 6DIESEL (634-3735).

STATIONARY DIESEL ENGINES AND PORTABLE DIESEL EQUIPMENT

In November 2006, the Board approved amendments to the Airborne Toxic Control Measures (ATCM) to include requirements for stationary in-use agricultural engines. Additional amendments addressed implementation and compliance issues primarily involving non-agricultural emergency standby and prime engines. These issues included streamlining certain fuel reporting requirements, updating electricity tariff schedules, modifying the definitions of California (CARB) diesel fuel and alternative diesel fuel, an alternative compliance demonstration option to the 0.01 g/bhp-hr diesel PM standard, and a "sell-through" provision to allow stationary diesel-fueled engine wholesalers and retailers to sell (and owners or operators to use) stock engines that do not meet new, more stringent emissions standards when they become effective. The amendments also authorized the Executive Officer or local air district to allow the sale, purchase, or installation of a new stock engine from the previous model year to meet new stationary diesel-fueled engine emission standards, if verifiable information is provided documenting that current mode year engines meeting the new emission standards are not available in sufficient numbers or in a sufficient range of makes, models, and horsepower ratings. The OAL approved the amendments on September 18, 2007, which became effective October 18, 2007

Both private businesses and public agencies operating stationary prime and emergency standby diesel engines in California are subject to the ATCM. Emergency standby engines are those that are used only when normal power or natural gas service fails or when needed for fire suppression or flood control. Prime engines are those that are not used for emergency standby purposes. Examples of businesses that are affected include private schools and universities, private water treatment facilities, hospitals, power generation, communications, broadcasting, building owners, agricultural production, banks, hotels,

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STATIONARY DIESEL ENGINES AND PORTABLE DIESEL EQUIPMENT - CONTINUED

refiners, resorts, recycling centers, quarries, wineries, dairies, food processing, and manufacturing entities. A variety of public agencies are also affected including military installations, prisons and jails, public schools and universities, and public water and wastewater treatment facilities

Below are the operating requirements and diesel PM emission standards of the ATCM

New Stationary Diesel Engines > 50 HP (Installed and permitted on or after January 1, 2005)

Emergency Standby	Prime
The more stringent of • Diesel PM limit of ≤ 0.15 g/bhp-hr, or • Off-Road Engine Certification Standard for an off-road engine of the same horsepower rating; and • ≤ 50 hours per year for non-emergency operation. OR The more stringent of • Diesel PM limit of ≤ 0.01 g/bhp-hr, or • Off-Road Engine Certification Standard for an off-road engine of the same horsepower rating; and • 51 to 100 hours per year for non-emergency operation (upon District approval)	The more stringent of: • Diesel PM limit of ≤ 0.01 g/bhp-hr; or • Off-Road Engine Certification Standard for an off-road engine of the same horsepower rating

➢ **In-Use Stationary Diesel Engines > 50 HP (Installed or permitted prior to January 1, 2005)**

➢

Emergency Standby	Prime
• Emergency use: not limited by ATCM • Non-emergency use: - ≤ 20 hours/year: Not limited by the ATCM; - 21 to 30 hours/year: Diesel PM limit of ≤ 0.40 g/bhp-hr; - 31 to 50 hours/year: District approval and Diesel PM limit of ≤ 0.15 g/bhp-hr; - 51 to 100 hours/year: District approval and Diesel PM limit of ≤ 0.01 g/bhp-hr.	• Diesel PM limit of < 0.01 g/bhp-hr; or • Reduce Diesel PM emissions by 85%; or • Reduce Diesel PM emissions by 30% by January 1, 2006, and meet Diesel PM limit of 0.01 g/bhp-hr limit in 2011.

New Stationary Diesel Engines ≤ 50 HP

New stationary diesel engines less than or equal to 50 horsepower must meet the current Off-Road Engine Certification Standard for an off-road engine of the same horsepower rating.

The compliance schedule for in-use emergency standby and prime engines.

Owns 3 or Fewer Engines			Owns 4 or More Engines					
Pre-1990 MY	1990 to 1996 MY	1996+ MY	Pre-1990 MY*		1990 to 1996 MY*		1996+ MY*	
1/1/2006	1/1/2007	1/1/2008	50%	1/1/07	30%	1/1/07	50%	1/1/08
			75%	1/1/08	60%	1/1/08	100%	1/1/09
			100%	1/1/09	100%	1/1/09		

* Minimum percentage of engines required to comply by specified dates

For further information go to:
http://www.arb.ca.gov/diesel/statport.htm#Stationary

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CARB CONTACT INFORMATION FOR THE VARIOUS EMISSIONS REGULATIONS

TRANSPORTATION REFRIGERATION UNIT (TRU) ATCM IN-USE PERFORMANCE STANDARDS
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REGULATION ON FUEL SULFUR FOR OCEAN GOING VESSELS WITHIN CALIFORNIA WATERS
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REGULATION FOR MOBILE CARGO HANDLING EQUIPMENT AT PORTS AND INTERMODAL RAIL YARDS
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REGULATION FOR IN-USE OFF-ROAD DIESEL VEHICLES
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REGULATION FOR IN-USE ON-ROAD DIESEL FUEL – HEAVYDUTY DRAYAGE TRUCKS
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FLEET REQUIREMENTS FOR OFF-ROAD LARGE SPARK-IGNITION (LSI) ENGINE POWERED FORKLIFTS AND OTHER INDUSTRIAL EQUIPMENT
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EMISSION LIMITS AND REQUIREMENTS FOR AUXILIARY DIESEL ENGINES AND DIESEL-ELECTRIC ENGINES OPERATED ON OCEAN-GOING VESSELS WITHIN CALIFORNIA WATERS AND 24 NAUTICAL MILES OF THE CALIFORNIA BASELINE
(ARB has ceased the enforcement of this regulation due to the PMSA legal challenge)
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