

§ 2477. Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate.

(a) Purpose. Diesel particulate matter (PM) was identified in 1998 as a toxic air contaminant. This regulation implements provisions of the Diesel Risk Reduction Plan, adopted by the Air Resources Board in October, 2000, as mandated by the Health and Safety Code Sections 39650-39675, to reduce emissions of substances that have been determined to be toxic air contaminants. Specifically, this regulation will use a phased approach to reduce the diesel PM emissions from in-use transport refrigeration units (TRUs) and TRU generator (gen) set equipment used to power electrically driven refrigerated shipping containers and trailers that are operated in California.

(b) Applicability.

(1) Except as provided in subsection (c), this regulation applies to owners and operators of diesel-fueled TRUs and TRU gen sets (see definition of operator and owner in subsection (d) that operate in the state of California. This specifically includes:

(A) Operators and owners of California-based TRUs and TRU gen sets that are installed on trucks, or trailers, shipping containers, or railcars; and

(B) Operators and owners of non-California-based TRUs and TRU gen sets that are installed on trucks, trailers, shipping containers, or trailers.

(2) This regulation applies to facilities located in California with 20 or more loading dock doors serving refrigerated areas where perishable goods are loaded or unloaded for distribution on trucks, trailers, shipping containers, or rail cars that are equipped with TRUs and TRU gen sets and that are owned, leased, or contracted for by the facility, its parent company, affiliate, or subsidiary that are under facility control (see definition).

(3) To the extent not already covered under subsections (b)(1) and (b)(2), above, subsection (g) of this regulation shall apply to any person engaged in this State in the business of selling to an ultimate purchaser, or renting or leasing new or used TRUs or TRU gen sets, including, but not limited to, manufacturers, distributors, and dealers.

(4) Severability. If any subsection, paragraph, subparagraph, sentence, clause, phrase, or portion of this regulations is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of the regulation.

(c) Exemptions. This regulation does not apply to military tactical support equipment.

(d) Definitions. For purposes of this regulation, the following definitions apply:

(1) "Affiliate or Affiliation" refers to a relationship of direct or indirect control or shared interests between the subject business and another business.

(2) "Alternative Fuel" means natural gas, propane, ethanol, methanol, or advanced technologies that do not rely on diesel fuel, except as a pilot ignition source at an average ratio of less than 1 part diesel fuel to 10 parts total fuel on an energy equivalent basis. Alternative fuels also means any of these fuels used in combination with each other or in combination with other non-diesel fuels. Alternative-fueled engines shall not have the capability of idling or operating solely on diesel fuel at any time.

(3) "Alternative-Fueled Engine" means an engine that is fueled with a fuel meeting the definition of alternative fuel.

(4) "Alternative Diesel Fuel" means any fuel used in diesel engines that is not commonly or commercially known, sold or represented as diesel fuel No. 1-D or No. 2-D, pursuant to the specification for Diesel Fuel Oils D975-81, and does not require engine or fuel system modifications for

the engine to operate, although minor modifications (e.g. recalibration of the engine fuel control) may enhance performance. Examples of alternative diesel fuels include, but are not limited to, biodiesel, Fischer Tropsch fuels, and emulsions of water in diesel fuel. Natural gas is not an alternative diesel fuel. An emission control strategy using a fuel additive will be treated as an alternative diesel fuel based strategy unless:

(A) The additive is supplied to the vehicle or engine fuel by an on-board dosing mechanism, or

(B) The additive is directly mixed into the base fuel inside the fuel tank of the vehicle or engine, or

(C) The additive and base fuel are not mixed until vehicle or engine fueling commences, and no more additive plus base fuel combination is mixed than required for a single fueling of a single engine or vehicle.

(5) "ARB" means the California Air Resources Board.

(6) "B100 Biodiesel Fuel" means 100% biodiesel fuel derived from vegetable oil or animal fat and complying with ASTM D 6751-02 and commonly or commercially known, sold, or represented as "neat" biodiesel or B100. B100 biodiesel fuel is an alternative diesel fuel.

(7) "B100 Biodiesel-Fueled" (compression-ignition engine) means a compression- ignition engine that is fueled by B100 biodiesel fuel.

(8) "Business" means an entity organized for profit including, but not limited to, an individual, sole proprietorship, partnership, limited liability partnership, corporation, limited liability company, joint venture, association or cooperative; or solely for purposes of the Prompt Payment Act (Government Code 927 et seq.), a duly authorized nonprofit corporation.

(9) "California-Based TRUs and TRU Gen Sets" means TRUs and TRU gen sets equipped on trucks, trailers, shipping containers, or railcars that a reasonable person would find to be regularly assigned to terminals within California.

(10) "CARB Diesel Fuel" means any diesel fuel that is commonly or commercially known, sold or represented as diesel fuel No. 1-D or No. 2-D, pursuant to the specification for Diesel Fuel Oils D975-81 and meets the specifications defined in 13 CCR 2281, 13 CCR 2282, and 13 CCR 2284.

(11) "Carbon Monoxide (CO)" means a colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels.

(12) "Carrier" means any person, party, or entity who undertakes the transport of goods from one point to another.

(13) "Certification" means the obtaining of an Executive Order for a new offroad compression-ignition engine family that complies with the off-road compression-ignition emission standards and requirements specified in the California Code of Regulations, Title 13, Section 2423. A "certified engine" is an engine that belongs to an engine family that has received a certification Executive Order.

(14) "Certification Data" means the ARB Executive Order number and related exhaust emission data for each test cycle mode used to certify the engine family and obtain the certification level shown in the certification Executive Order. Such data includes modal exhaust emissions data for nitrogen oxides, nonmethane hydrocarbons, carbon monoxide, and particulate matter includes, as a minimum, torque, engine speed, weighting factor, power, mass emission rate (grams per hour), and certification test fuel.

(15) "Compression Ignition (CI) Engine" means an internal combustion engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The regulation of power by controlling fuel supply in lieu of a throttle is indicative of a compression ignition engine.

(16) "Consignee" (see receiver).

(17) "Consignor" (see shipper).

(18) "Cryogenic Temperature Control System" means a heating and cooling system that uses a cryogen, such as liquid carbon dioxide or liquid nitrogen that is routed through an evaporator coil that cools air blown over the coil. The cryogenic system uses a vapor motor to drive a fan and alternator, and a propane-fired heater superheats the carbon dioxide for heating and defrosting. Electrically driven fans may be used instead of a vapor motor and heating and defrost needs may be met by using electric heaters and/or vehicle engine coolant.

(19) "Deterioration Factor (DF)" means a factor that is applied to the certification emission test data to represent emissions at the end of the useful life of the engine. Separate DFs apply to each measured pollutant, except that a combined NMHC+NO_x DF applies to engines that do not use aftertreatment devices. Decreasing emissions over time would not be allowed to offset increasing emissions of the other pollutant in this combined DF.

(20) "Diesel Fuel" means any fuel that is commonly or commercially known, sold, or represented as diesel fuel, including any mixture of primarily liquid hydrocarbons - organic compounds consisting exclusively of the elements carbon and hydrogen - that is sold or represented as suitable for use in an internal combustion, compression-ignition engine.

(21) "Diesel-Fueled" means fueled by diesel fuel or CARB diesel fuel in whole or in part, except as allowed for a pilot ignition source under the definition for "alternative fuel".

(22) "Diesel Oxidation Catalyst (DOC)" means the use of a catalyst to promote the oxidation processes in diesel exhaust. Usually refers to an emission control device that includes a flow-through substrate where the surfaces that contact the exhaust flow have been catalyzed to reduce emissions of the organic fraction of diesel particulates, gas-phase hydrocarbons, and carbon monoxide.

(23) "Diesel Particulate Filter (DPF)" means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate. Periodically the collected particles are either physically removed or oxidized (burned off) in a process called regeneration.

(24) "Diesel Particulate Matter" means the particles found in the exhaust of diesel-fueled CI engines. Diesel PM may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(25) "Dual-Fuel Engine" means an engine designed to operate on a combination of alternative fuel, such as compressed natural gas (CNG) or liquefied petroleum gas (LPG), and conventional fuel, such as diesel or gasoline. These engines have two separate fuel systems, which either inject both fuels simultaneously into the engine combustion chamber or fumigate the gaseous fuel with the intake air and inject the liquid fuel into the combustion chamber.

(26) "Emergency" means any of the following times:

(A) A failure or loss of normal power service that is not part of an "interruptible service contract" (see definition in subsection (d));

(B) A failure of a facility's internal power distribution system, provided the failure is beyond the reasonable control of the operator;

(C) When an affected facility is placed under an involuntary "rotating outage" (see definition in subsection (d)).

(27) "Emission Control Strategy" means any device, system, or strategy employed with a diesel-fueled CI engine that is intended to reduce emissions. Examples of emission control strategies include, but are not limited to, particulate filters, diesel oxidation catalysts, selective catalytic reduction systems, alternative fuels, fuel additives used in combination with particulate filters, alternative diesel fuels, and combinations of the above.

(28) "Emissions Rate" means the weight of a pollutant emitted per unit of time (e.g., grams per second).

(29) "Executive Officer" means the Executive Officer of the California Air Resources Board or his or her delegate.

(30) "Facility" means any facility where TRU-equipped trucks, trailers, shipping containers or railcars are loaded or unloaded with perishable goods. This includes, but is not limited to, grocery distribution centers, food service distribution centers, cold storage warehouses, and intermodal facilities. Each business entity at a commercial development is a separate facility for the purposes of this regulation, provided the businesses are "independently owned and operated" (see definition in subsection (d)).

(31) "Facility Control (of TRUs or TRU Gen Sets)" means the TRUs or TRU gen sets located at the facility are owned or leased by the facility, its parent company, affiliate, or a subsidiary, or under contract for the purpose of providing carrier service to the facility, and the TRUs' or TRU gen sets' arrival, departure, loading, unloading, shipping and/or receiving of cargo is determined by the facility, parent company, affiliate, or subsidiary (e.g. scheduled receiving, dispatched shipments).

(32) "Fischer-Tropsch Diesel Fuel" See "ultra-low-aromatic synthetic diesel fuel".

(33) "Fuel Additive" means any substance designed to be added to fuel or fuel systems or other engine-related engine systems such that it is present in-cylinder during combustion and has any of the following effects: decreased emissions, improved fuel economy, increased performance of the engine; or assists diesel emission control strategies in decreasing emissions, or improving fuel economy or increasing performance of the engine.

(34) "Generator Set (gen set)" means a CI engine coupled to a generator used as a source of electricity.

(35) "Hybrid Cryogenic Temperature Control System" means a temperature control system that uses a cryogenic temperature control system in conjunction with a conventional TRU.

(36) "Independently Owned and Operated" means a business concern that independently manages and controls the day-to-day operations of its own business through its ownership and management, without undue influence by an outside entity or person that may have an ownership and/or financial interest in the management responsibilities of the applicant business or small business.

(37) "Intermodal Facility" means a facility involved in the movement of goods in one and the same loading unit or vehicle which uses successively several modes of transport without handling of the goods themselves in changing modes. Such a facility is typically involved in loading and unloading refrigerated shipping containers and trailers to and from railcars, trucks, and ocean-going ships.

(38) "Interruptible Service Contract" means any arrangement in which a nonresidential electrical customer agrees to reduce or consider reducing its electrical consumption during periods of peak demand or at the request of the System Operator in exchange for compensation, or assurances not to be blacked out or other similar non-monetary assurances.

(39) "In Use TRU, TRU gen set, or engine" means a TRU, TRU gen set, or engine that is not a "new" TRU, TRU gen set, or engine.

(40) "Low Emission TRU (LETRU or L)" means a TRU or TRU gen set that meets the performance standards described under paragraph (e)(1)(A)1. or (e)(1)(A)2.

(41) "Manufacturer" means a business as defined in Government Code § 14837(c).

(42) "Military tactical support equipment (TSE)" means equipment that meets military specifications, owned by the U.S. Department of Defense and/or the U.S. military services, and used in combat, combat support, combat service support, tactical or relief operations, or training for such operations.

(43) "Model Year (MY)" means diesel-fueled engine manufacturer's annual production period, which includes January 1st of a calendar year, or if the manufacturer has no annual production period, the calendar year.

(44) "New TRU, TRU Gen Set, or Engine" means any TRU, TRU gen set, or engine that has never been subject to a retail sale or lease to an "ultimate purchaser" (see definition in subsection (d)).

(45) "Nitrogen Oxide (NOx)" means compounds of nitric oxide (NO), nitrogen dioxide (NO₂), and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition.

(46) "Non-California-Based TRUs and TRU Gen Sets" means TRUs and TRU gen sets that are equipped on or used in trucks, trailers, shipping containers, or railcars that a reasonable person would find to be regularly assigned to terminals outside of California and operate in California from time to time for the purpose of transporting perishable goods into or out of the state.

(47) "Non-methane Hydrocarbons (NMHC)" means the sum of all hydrocarbon air pollutants except methane. NMHCs are precursors to ozone formation.

(48) "Operate" means to start, cause to function, program the temperature controller, select an operating program or otherwise control, fuel, monitor to assure proper operation, or keep in operation.

(49) "Operator" means any person, party or entity that operates a TRU or TRU gen set for the purposes of transporting perishable goods, excluding an employee driver and third party maintenance and repair service, and including but not limited to:

(A) Manufacturer, producer, supplier, carrier, shipper, consignor, consignee, receiver, distribution center, or warehouse of perishable goods;

(B) An individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including but not limited to, a government corporation;

(C) Any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law.

(50) "Owner" means any person that legally holds the title (or its equivalent) showing ownership of a TRU or TRU gen set, excluding a bank or other financial lending institution, and including but not limited to:

(A) Manufacturer, producer, supplier, carrier, shipper, consignor, consignee, receiver, distribution center, warehouse;

(B) An individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including but not limited to, a government corporation;

(C) Any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law.

(51) "Owner/Operator" means a requirement applies to the owner and/or operator of a TRU or TRU gen set, as determined by agreement or contract between the parties if the two are separate business entities.

(52) "Parent Company" means a company that has a controlling interest in another company, usually through ownership of more than one-half the voting stock.

(53) "Particulate Matter (PM)" means the particles found in the exhaust of CI engines, which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(54) "Rated Brake Horsepower" means the power delivered, according to the statement of the engine manufacturer, at the rated speed.

(55) "Real Emission Reductions" means that an action is taken that results in reductions in the PM emission rate of an in-use engine (e.g. a VDECS is installed that reduced the PM emissions rate by more than 50%).

(56) "Receiver" means the person, party, or entity that receives shipped goods, cargo, or commodities.

(57) "Refrigerated Trailer" means a trailer van, railcar, or shipping container equipped with a TRU or TRU gen set. Pursuant to Health and Safety Code section 39618, refrigerated trailers are mobile sources and shall be regulated by the ARB on a statewide basis.

(58) "Rotating Outage" means a controlled involuntary curtailment of electrical power service to consumers as ordered by the system operator - see definition in subsection (d).

(59) "Shipper" means the person, party, or entity who usually owns or supplies the commodities shipped by a carrier.

(60) "System Operator" means one of the several organizations that control energy in California. System operators include, but are not limited to, the California Independent System Operator, the Los Angeles Department of Water and Power, the Imperial Irrigation District, the Sacramento Municipal Utility District.

(61) "Terminal" means any place where a TRU or TRU gen set equipped truck, trailer, shipping container, railcar or TRU gen set is regularly garaged, maintained, operated, or dispatched from, including a dispatch office, cross-dock facility, maintenance shop, business, or private residence.

(62) "Tier 4 Nonroad/Offroad Emission Standards" means the emission standards and associated procedures promulgated by U.S. Environmental Protection Agency in "Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel; Final Rule" (Vol. 69, No. 124 Fed.Reg. pp. 38957-39273 (June 29, 2004).

(63) "Transport Refrigeration Unit (TRU)" means refrigeration systems powered by integral internal combustion engines designed to control the environment of temperature sensitive products that are transported in trucks and refrigerated trailers. TRUs may be capable of both cooling and heating.

(64) "TRU Generator Set (TRU gen set)" means a generator set that is designed and used to provide electric power to electrically driven refrigeration units of any kind. This includes, but is not limited to gen sets that provide electricity to electrically powered refrigeration systems for semi-trailer vans and shipping containers.

(65) "Ultimate Purchaser" means with respect to a new TRU, TRU gen set, or engine, the first person who in good faith purchases a new TRU, TRU gen set, or engine for purposes other than resale.

(66) "Ultra-Low-Aromatic Synthetic Diesel Fuel" means fuel produced from natural gas, coal, or biomass by the Fischer-Tropsch gas-to-liquid chemical conversion process, or similar process that meets the following properties:

Table 1

Property	ASTM	Value
Sulfur Content (ppmw)	D5453-93	<1
Total Aromatic Content (wt %)	D5186-96	<1.5%
Polynuclear Aromatic Content (wt %)	D5186-96	<0.5%
Natural Cetane Number	D613-84	>74

(67) "Ultra-Low Emission TRU (ULETRU or U)" means a TRU or TRU gen set that meets the performance standards described under subparagraph (e)(1)(A)1. and (e)(1)(A)2. or that uses an "alternative technology" in accordance with subparagraph (e)(1)(A)3.

(68) "Verification Classification Level" means the classification assigned to a Diesel Emission Control Strategy by the Executive Officer as defined in the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emission from Diesel Engines (13 CCR Sections 2700 - 2710). PM reductions correspond as follows: Level 1: 25%; Level 2: 50%; Level 3: 85% or 0.01 g/hp-hr.

(69) "Verified Diesel Emission Control Strategy" (VDECS) means an emission control strategy designed primarily for the reduction of diesel particulate matter emissions that has been verified per the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (13 CCR Sections 2700 - 2710). Examples of diesel retrofit systems that may be verified include, but are not limited to, diesel particulate filters, diesel oxidation catalysts, fuel additives (e.g. fuel-borne catalysts), alternative fuels (e.g. dual fuel), alternative diesel fuels, and combinations of the above.

(e) Requirements.

(1) In-Use Operation:

(A) In-Use Performance Standards: In accordance with the schedule set forth below in paragraph (e)(1)(B), no owner/operator shall operate a TRU or TRU gen set in California unless it meets the in-use emission category performance standards set forth below.

1. In-Use performance standard categories for TRU and TRU gen set engines with rated brake horsepower less than 25 horsepower (<25 hp) are shown in Table 2, along with the engine certification standards or the level of Verified Diesel Emission Control Strategy (VDECS) (see definition) that is necessary to qualify for each category.

Table 2 <25 HP TRU and TRU Gen Set In-Use PM Performance Standards

In-Use Emission Category	Engine Certification (g/hp-hr)	Level of VDECS Equipped with
Low Emission TRU (LETRU or L)	0.30	Level 2
Ultra-Low Emission TRU (ULETRU or U)	NA	Level 3

a. Compliance can be achieved by:

I. Using a certified engine meeting the applicable nonroad/offroad emissions standards for all regulated pollutants and the in-use PM performance standard. Only engines for which certification data and deterioration factors have been provided to ARB shall be considered when determining compliance. The Executive Officer will consider such submittals, publish, and make available a list of qualifying engines.

II. Equipping the engine with the required Level of VDECS.

2. In-Use performance standard categories for TRU and TRU gen set engines with rated brake horsepower greater than or equal to 25 horsepower (≥25 hp) are shown in Table 3, along with the engine certification standards or the level of VDECS that is necessary to qualify for each category.

Table 3 ≥25 HP TRU and TRU Gen Set In-Use PM Performance Standards

Engine In-Use Emission Category	Certification (g/hp-hr)	Level of VDECS Equipped with
Low Emission TRU (LETRU or L)	0.22	Level 2
Ultra-Low Emission TRU (ULETRU or U)	0.02	Level 3

a. Compliance can be achieved by:

I. Using a certified engine meeting the applicable nonroad/offroad emissions standards for all regulated pollutants and the in-use PM performance standard. Only engines for which certification data and deterioration factors have been provided to ARB shall be considered when determining compliance. The Executive Officer will consider such submittals, publish, and make available a list of qualifying engines.

II. Equipping the engine with the required Level of VDECS.

3. As an alternative to meeting the ULETRU in-use performance standards in subsections (e)(1)(A)1. and 2., an owner/operator may operate a TRU or TRU gen set in California meeting one of the Alternative Technology options listed below. Alternative Technologies qualify to meet the ULETRU in-use performance standard only if the TRU or TRU gen set is operated under the conditions included in the description listed below.

a. Electric standby, provided that the TRU is not operated under diesel engine power while at a facility, except during an emergency.

b. Cryogenic temperature control systems or hybrid cryogenic temperature control systems, provided that the TRU does not operate under diesel engine power while at a facility, except during an emergency.

c. Alternative-fueled engines (see definition in subsection (d)). If the engine is a CI engine, a VDECS is required. Note: If the engine is not a compression ignition diesel fueled engine, this regulation would not apply, but the engine may have to meet other emission standards (e.g. large spark-ignited engine standards if >25 hp).

d. Fuel exclusively with an alternative diesel fuel (see definition in subsection (d)) that has been verified as a VDECS, provided it is used in accordance with the requirements of subsection (e)(2)(A) and the alternative diesel fuel contains no conventional diesel or CARB diesel fuel.

e. Power by fuel cells. If a reformer is used with diesel fuel as the source of hydrocarbons, then emissions must be evaluated and verified through the Verification Procedure Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (13 CCR sections 2700 - 2710).

f. Equip with any other system approved by the Executive Officer to not emit diesel PM or increase public health risk while at a facility.

(B) In-Use Compliance Dates.

1. No owner/operator shall operate a 2001 and older model year (MY) TRU or TRU gen set engine in California unless it meets the in-use performance criteria set forth in paragraph (e)(1)(A) for

a. LETRU on or before December 31, 2008, and

b. ULETRU on or before December 31, 2015, as shown in Tables 4 and 5.

2. No owner/operator shall operate a 2002 MY TRU or TRU gen set engine in California unless it meets the in-use performance criteria set forth in paragraph (e)(1)(A) for

a. LETRU on or before December 31, 2009, and

b. ULETRU on or before December 31, 2016, as shown in Tables 4 and 5.

3. No owner/operator shall operate a 2003 MY and subsequent MY TRU or TRU gen set engine in California unless it meets the in-use performance criteria set forth in paragraph (e)(1)(A) for ULETRU on or before December 31st of the seventh year past the unit's model year, as shown in Tables 4 and 5.

Table 4. <25 HP TRU and TRU Gen Set Engines In-Use Compliance Dates

MY	In-Use Compliance Year ⁶													
	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
'01 & Older		L	L	L	L	L	L	L	U	U	U	U	U	U
'02			L	L	L	L	L	L	L	U	U	U	U	U
'03 ^s				U	U	U	U	U	U	U	U	U	U	U
'04					U	U	U	U	U	U	U	U	U	U
'05						U	U	U	U	U	U	U	U	U
'06							U	U	U	U	U	U	U	U
'07								U	U	U	U	U	U	U
'08									U	U	U	U	U	U
'09										U	U	U	U	U
'10											U	U	U	U
'11												U	U	U
'12													U	U
'13														U

Table 5..25 HP TRU and TRU Gen Set Engines In-Use Compliance Dates

MY	In-Use Compliance Year ⁷													
	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
'01 & Older		L	L	L	L	L	L	L	U	U	U	U	U	U
'02			L	L	L	L	L	L	L	U	U	U	U	U
'03 ^s				U	U	U	U	U	U	U	U	U	U	U
'04					U	U	U	U	U	U	U	U	U	U
'05						U	U	U	U	U	U	U	U	U
'06							U	U	U	U	U	U	U	U
'07								U	U	U	U	U	U	U
'08									U	U	U	U	U	U
'09										U	U	U	U	U
'10											U	U	U	U
'11												U	U	U
'12													U	U
'13														U

(C) Replacements Due to Failures.

1. If a VDECS fails within its warranty period, the owner/operator of the TRU or TRU gen set must replace it with the same VDECS or a higher verification classification level, if available.

2. If a VDECS fails outside its warranty period and a higher verification classification level VDECS is available, then the owner/operator of the TRU or TRU gen set shall upgrade to the highest level VDECS required under paragraphs (e)(1)(A)1. and (e)(1)(A)2. that is determined to be cost-effective by the Executive Officer.

(D) In-Use Recordkeeping and Reporting. In-use recordkeeping and reporting shall be completed by the operator in accordance with the requirements of subsection (f)(1).

(E) ARB Identification Numbering Requirements. Identification numbers will be issued to help expedite the inspection procedure and prevent shipping delays.

1. California-based TRUs and TRU gen sets:

a. On or before January 31, 2009, owner/operators of all California-based TRUs and TRU gen sets subject to this regulation shall apply for an ARB identification number for all California-based TRUs or TRU gen sets operated by the operator by submitting an application that includes the information listed below.

I. Operator name, address, and contact information for the responsible official (e.g. phone number, email address, fax number).

II. Owner name, address, and contact information (if other than operator).

III. TRU or TRU gen set make, model, model year, and serial number.

IV. TRU engine make, model, model year, and serial number.

V. Terminal or terminals that the TRU-equipped truck or trailer is assigned to, with address and contact information.

VI. Other associated identification numbers, which may include (as applicable):

i. Vehicle Identification Number (VIN) of the TRU-equipped truck or trailer.

ii. Vehicle license number of the TRU-equipped truck or trailer.

iii. Railcar recording mark and car number.

iv. Shipping container number (for TRU-equipped shipping containers only).

v. Company equipment number (if any).

VII. Compliance status with paragraph (e)(1)(A) requirements. If compliance not as-yet required, mark N/A.

i. Date when compliance was achieved.

ii. What performance standard was met (e.g. LETRU or ULETRU).

iii. How compliance was achieved (e.g. new compliant TRU, TRU engine replacement, or description of VDECS that was used).

iv. Identify who did the installation work (if applicable).

b. Applications shall be submitted by one of the following methods:

I. Mail or deliver a physical report to ARB at the address listed immediately below:

California Air Resources Board Stationary Source Division (TRU) P.O. Box 2815 Sacramento, CA 95812

II. Electronically submit through ARB's web site. The web address will be identified in an advisory.

c. TRUs and TRU gen sets added to an operator's TRU operations after January 31, 2009 shall be brought into compliance with subsection (e)(1)(E). An application shall be submitted to ARB within 30 days of the unit entering the operator's control:

I. Requesting an ARB I.D. number for a new TRU or TRU gen set that was not previously numbered, or

II. Requesting a change in owner or operator (or other pertinent application information) for used equipment that already has an ARB I.D. number.

d. Failure to apply or submittal of false information is a violation of state law subject to civil penalty.

e. On or before February 1, 2009, the Executive Officer shall begin issuing identification numbers to TRU and TRU gen set operators for each unit based in California for which a complete application has been filed. The number will include a 2-digit prefix for model year (e.g. 2001 model year would have a prefix 01); a 6-digit serial number; a check-digit, and a letter indicating compliance status with in-use performance standards (either "L" or "U"). In the event that an operator applies for an early compliance certificate in accordance with subsection (e)(1)(F), ARB will also issue a certificate which acknowledges early compliance per (e)(1)(F)3.

f. Within 30 days of receipt of the ARB-issued identification number, owner/operators shall permanently affix or paint the identification number on the TRU or TRU gen set chassis housing in clear view according to the following specification:

I. The ARB identification number shall be preceded by the letters "ARB".

II. Letters and numbers shall contrast sharply in color with the color of the background surface on which the letters are placed.

III. The location of the I.D. number shall be as follows:

i. Truck and trailer TRUs - both sides of TRU chassis housing.

ii. Rail car and shipping container TRUs - both sides of the TRU.

iii. TRU gen sets - both sides of gen set housing.

IV. Letters and numbers shall be readily legible during daylight hours, from a distance of 50 feet (15.24 meters) while unit is stationary.

V. Marking shall be kept maintained in a manner that retains the legibility required by the subparagraph immediately above.

2. Non-California-based TRUs and TRU Gen Sets:

a. Operators of non-California-based TRUs and TRU gen sets may voluntarily apply for ARB identification numbers for TRUs that are based outside of California but operate within California during the normal course of business. Non-California-based operators may voluntarily submit the same application information listed above in subparagraph (e)(1)(E)1.a., above, using the same methods of submittal listed in subparagraph (e)(1)(e)1.b., above. Upon application approval, ARB would issue identification numbers to the operator in accordance with subparagraph (e)(1)(E)1.e., above. The non-California-based operator would then permanently affix or paint the identification number on the TRU or TRU gen set chassis in clear view, in accordance with (e)(1)(E)1.f., above.

(F) Early Compliance with LETRU In-Use Performance Standards.

1. For 2002 and older MY TRU and TRU gen set engines, operators or owners that meet the LETRU in-use performance standard earlier than required in paragraph (e)(1)(B) may apply to the Executive Officer for a delay in the ULETRU in-use performance standard. Except as provided below, early compliance would be achieved through any of the options available in paragraph (e)(1)(A).

a. This delay would not be available to the operator or owner if the engine manufacturer of the replacement engine is using the early compliance with engine emissions standards in U.S. EPA's Averaging, Banking, and Trading Program (or California's equivalent program).

b. Early compliance is conditioned upon real emission reductions (refer to definition in sub section (d)) occurring earlier than the applicable compliance deadline.

c. This delay may not be available to the operator or owner if public funds were used for early compliance. The applicant shall disclose whether public funds were used for any portion of early compliance and what program the funding came from.

2. Early LETRU compliance with real emission reductions would allow specific units to delay compliance with ULETRU in-use performance standards by up to three years, according to the rounding conventions and examples listed below.

a. Each year of early compliance with the LETRU in-use performance standards would be rewarded with 1 year delay in the ULETRU in-use performance standard.

I. One full year early compliance qualifies for one full year delay in meeting ULETRU compliance.

II. Two full years early compliance qualifies for two full years delay in meeting ULETRU compliance.

III. Three full years early compliance qualifies for three full years delay in meeting ULETRU compliance.

b. A partial year of early LETRU compliance would be rounded to the nearest full year for the delayed ULETRU requirements.

I. Early LETRU compliance of 183 days or more in a calendar year would count toward a one year ULETRU delay.

II. Early LETRU compliance of 182 days or less in a calendar year would not count toward a ULETRU delay.

3. Upon receipt of an application to delay ULETRU compliance, the Executive Officer shall determine if the application demonstrates early compliance with LETRU in-use performance standards in accordance with subsection (e)(1)(F)1., and if the application is approved, shall delay the in-use ULETRU compliance date for specific TRUs and TRU gen sets operating in California in accordance with subparagraph (e)(1)(F)2.

4. Upon approval of the application, ARB shall issue a certificate and ARB identification number in accordance with subsection (e)(1)(E)1.e. which acknowledges early compliance with LETRU requirements and discloses the number of years delay granted, and resulting ULETRU compliance date.

5. The operator shall maintain a legible copy of the certificate in a water-tight sleeve mounted inside the TRU or TRU gen set chassis housing. The operator shall paint the identification number in clear view in accordance with subsection (e)(1)(E)1.f. on the specific TRU or TRU gen set that was granted the compliance extension.

(2) Fuel Requirements.

(A) Operators Choosing to Use Alternative Diesel Fuels. Operators choosing to use alternative diesel fuels in compression ignition TRU and TRU gen set engines to meet the requirements of subsection (e)(1) shall:

1. Maintain records in accordance with subsection (f)(1)(B) of this regulation.
2. Use only fuel that is a VDECS alternative diesel fuel that contains no conventional diesel or CARB diesel fuel in TRUs or TRU gen sets operated in California.
3. Permanently affix a label in clear view near the fill spout that identifies the proper fuel that is required to be in compliance.
4. In the event that the operator decides to revert to using conventional diesel or CARB diesel fuel, the operator shall comply with the requirements of subsection (e)(1) within 10 days of discontinuation of alternative diesel fuel use. Within 10 days of discontinuation, the operator shall notify the Executive Officer in writing of this change in fuel use and shall include an update to any ARB I.D. number application or annual report submitted to comply with subsections (e)(1)(E), (e)(1)(F), or (f)(1).

(B) Operators that Retrofit TRUs or TRU Gen Sets with a VDECS. Operators that retrofit TRUs or TRU gen sets with a VDECS that requires certain fuel properties to be met in order to achieve the required PM reduction or PM emissions shall only fuel the subject TRU or TRU gen set with fuel that meets these specifications when operating in the state of California. In addition, operators that choose a VDECS that requires certain fuel properties to be met in order to prevent damage to the VDECS or an increase in toxic air contaminants, other harmful compounds, or in the nature of the emitted PM shall only fuel the subject TRU or TRU gen set with fuel that meets these specifications.

(f) Monitoring, Recordkeeping, and Reporting Requirements.

(1) TRU and TRU Gen Set Operator Recordkeeping and Reporting.

(A) Operator Reporting.

1. All operators subject to this regulation shall submit an Operator Report to ARB by January 31, 2009 that shall include the following information:

a. Operator name, address, and contact information for the responsible official (phone number, email address, fax number).

b. List of all terminals owned or leased by the operator located within California, with address, phone number, and terminal contact name.

c. TRU and TRU gen set inventory information for each TRU and TRU gen set based in California that is owned or leased by the operator:

I. TRU or gen set make, model, model year, and serial number.

II. TRU owner, and if other than operator, owner name, address, and contact.

III. Engine make, model, model year, and serial number.

IV. Terminal(s) that the TRU is assigned to.

V. ARB TRU or TRU gen set identification number, if already issued. If the ARB identification number has not been issued or there has been a change in the other identification numbers listed below since the prior annual report, then provide the following identification numbers (as applicable):

i. Vehicle Identification Number.

- ii. Vehicle license number.
- iii. Railcar recording mark and car number.
- iv. Shipping container number (for TRU-equipped shipping containers only).
- v. Company equipment number.

VI. Compliance status with paragraph (e)(1)(A) requirements.

2. The Operator Report shall be updated within 30 days when changes to any of the above operator information occur.

a. Operator Reports shall be submitted by one of the following methods:

I. Mail or deliver a physical report to ARB at the address listed immediately below:

California Air Resources Board Stationary Source Division (TRU) P.O. Box 2815 Sacramento, CA 95812

II. Electronically submit through ARB's web site. The web address will be identified in an advisory.

3. Failure to report or submittal of false information is a violation of state law subject to civil penalty.

(B) Alternative Diesel Fuel Use and Fuel Additive Recordkeeping and Reporting.

1. Operators that choose a compliance pathway that involves the use of alternative diesel fuel in accordance with subparagraph (e)(1)(A)3.d. (e.g. B100 biodiesel fuel or ultra-low-aromatic synthetic diesel fuel) and/or a VDECS that includes the use of a fuel additive (e.g. fuel-borne catalyst) shall maintain records that document exclusive use of the chosen fuel or additive for each affected CI engine and hours of operation. Appropriate records would be copies of receipts or invoices of appropriate fuel and/or fuel additive and daily operating hour logs.

2. Records shall be kept available for a minimum of three (3) years and shall be compiled and made available to the ARB upon request.

3. Failure to keep records or submittal of false information is a violation of state law subject to civil penalty.

(2) Facility Monitoring, Recordkeeping, and Reporting.

(A) Facility Reporting. All facilities subject to this subsection shall submit a Facility Report to ARB by January 31, 2006, containing the following information, as of December 31, 2005:

- 1. Contact information for the facility's responsible official.
- 2. Provide all North American Industrial Classification System codes (NAICS) applicable to the facility.
- 3. The number of loading dock doors serving refrigerated storage space.
- 4. The number of square feet of refrigerated storage space.
- 5. The number of TRUs or TRU gen sets under facility control by model year and horsepower category.
- 6. The number of refrigerated trucks, trailers, shipping containers, or railcars leased or rented.
- 7. The total annual TRU engine operating hours for all TRUs or TRU gen sets under facility control during 2005 (e.g. total TRU engine operating time for both on-road and off-road operations).

8. The average weekly number of inbound refrigerated trucks, trailers, shipping containers, and railcars delivering goods to the facility during 2005, calculated by dividing the annual total inbound refrigerated loads by 52.

9. The average weekly number of outbound refrigerated trucks, trailers, shipping containers and railcars delivering goods from the facility during 2005, calculated by dividing the annual total outbound refrigerated loads by 52.

10. The average total number of hours per week that outbound TRU or TRU gen set engines operate while at the facility during 2005. Average TRU or TRU gen set engine operating time at facility for outbound refrigerated loads may be used if the result is representative of the outbound TRU or TRU gen set operations at facilities, as determined by the Executive Officer. Average values would be determined for outbound loads based on recordkeeping, conducted in accordance with subparagraph (f)(2)(B)2., and applied to the total annual number of refrigerated outbound loads, and then weekly averages calculated as follows: Average TRU or TRU gen set engine operating time per outbound refrigerated load multiplied by the total annual number of outbound loads, divided by 52 weeks equals the average total number of hours per week that outbound TRU or TRU gen set engines operate while at the facility.

11. The average total number of hours per week that inbound TRU or TRU gen set engines operate while at the facility during 2005. Average TRU or TRU gen set engine operating time at facility for inbound refrigerated loads may be used if the result is representative of the inbound TRU or TRU gen set operations at facilities, as determined by the Executive Officer. Average values would be determined for inbound loads based on recordkeeping, conducted in accordance with subparagraph (f)(2)(B)2., and applied to the total annual number of refrigerated inbound loads, and then weekly averages calculated as follows: Average TRU or TRU gen set engine operating time per inbound refrigerated load multiplied by the total annual number of inbound loads, divided by 52 weeks equals the average total number of hours per week that inbound TRU or TRU gen set engines operate while at the facility.

12. The number of refrigerated trailers (as defined) that are used at the facility for cold storage, the total annual number of hours of TRU engine operation associated with these refrigerated trailers, and the total annual number of hours of operation using electric standby associated with these refrigerated trailers.

(B) Recordkeeping.

1. Recordkeeping that substantiates the information reported in the Facility Report shall be maintained and shall be compiled and made available to State inspectors upon request for a minimum of three (3) years.

2. The Executive Officer may approve alternative recordkeeping and calculation procedures for determining the average weekly hours of TRU engine operation at a facility for inbound and outbound refrigerated loads, provided the Executive Officer finds that the alternative procedures meet the intent of subparagraph (f)(2).

(C) Facility Report Submittals. Facility Reports shall be submitted by one of the following methods:

1. Mail or deliver a physical report to ARB at the address listed immediately below:

California Air Resources Board Stationary Source Division (TRU) P.O. Box 2815 Sacramento, CA 95812

2. Electronically submit through ARB's web site. The web address will be identified in an advisory.

(D) Failure to report or submittal of false information. Failure to report or submittal of false information is a violation of state law subject to civil penalty.

(g) Prohibitions.

(1) No person who is engaged in this State in the business of selling to an ultimate purchaser, or renting or leasing new or used TRUs or TRU gen sets, including, but not limited to, manufacturers, distributors, and dealers, shall intentionally or negligently import, deliver, purchase, receive, or otherwise acquire a new or used TRU or TRU gen set engine that does not meet the performance requirements or alternatives set forth in section (e)(1) above.

(2) No person who is engaged in this State in the business of selling to an ultimate purchaser new or used TRU or TRU gen set engines, including, but not limited to, manufacturers, distributors, and dealers, shall sell, or offer to sell, to an ultimate purchaser who is a resident of this State or a person that could reasonably be expected to do business in this State a new or used TRU or TRU gen set engine that does not meet the performance requirements or alternatives set forth in section (e)(1) above.

(3) No person who is engaged in this State in the business of renting or leasing new or used TRU or TRU gen set engines, including, but not limited to, manufacturers, distributors, and dealers, shall lease, offer to lease, rent, or offer to rent, in this state any new or used TRU or TRU gen set engine that does not meet the performance requirements or alternatives set forth in section (e)(1) above.

(4) Operators of affected facilities and operators of affected TRUs and TRU gen sets are prohibited from taking action to divert affected TRUs to alternative staging areas in order to circumvent the requirements of this section.

(h) Penalties.

(1) All persons, as defined in section 19 of the Health and Safety Code, found to be in violation of title 13, CCR, section 2477 may be cited and subject to the penalty provisions set forth in Health and Safety Code sections 39674, 39675, 42400 et seq., 42402 et seq., and 42410.

1 The Engine Certification value for the Low Emission TRU category corresponds to the "Interim" Tier 4 Nonroad/Offroad Emission Standards that are to go into effect in 2008.

2 Not Applicable - ARB and U.S. EPA will perform a technical review in 2007 to evaluate DOC or filter-based standard for <25 hp category new engines in 2013. If a more stringent "long term" level for new tier 4 (as identified in the Tier 4 Nonroad/Offroad Emission Standards) engines is adopted by U.S. EPA for this horsepower category, the Board will consider adopting an engine certification in-use performance standard for ULETRU for <25 hp TRUs and TRU gen sets.

3 The Engine Certification value for Low Emission TRU category corresponds to the "Interim" Tier 4 Nonroad/Offroad Emission Standards that are to go into effect in 2008.

4 The Engine Certification value for the Ultra-Low Emission TRU category corresponds to the "Long Term" Tier 4 Nonroad/Offroad Emission Standards that will go into effect in 2012 or 2013.

5 Compliance date is December 31st of the compliance year shown. "MY" means model year. Black shaded areas are years with no requirements since in-use compliance year precedes model year . Dark shaded areas without letter codes have no requirements, pending in-use compliance date. "L" means must meet LETRU in-use performance standards. "U" means must meet ULETRU in-use performance standards.

6 TRUs and TRU gen sets with MY 2003 engines and subsequent MY engines shall be required to comply with ULETRU requirements by the end of the seventh year after the model year. The exception to this is .25 hp 2013 and subsequent model years, since these model years would meet ULETRU in-use performance standards as new engines.

7 Compliance date is December 31st of the compliance year shown. "MY" means model year. Black shaded areas are years with no requirements since in-use compliance year precedes model year . Dark shaded areas without letter codes have no requirements, pending in-use compliance date. "L"

means must meet LETRU in-use performance standards. "U" means must meet ULETRU in-use performance standards.

8 TRUs and TRU gen sets with MY 2003 engines and subsequent MY engines shall be required to comply with ULETRU requirements by the end of the seventh year after the model year. The exception to this is .25 hp 2013 and subsequent model years, since these model years would meet ULETRU in-use performance standards as new engines.

§ 2479. Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards.

(a) Purpose

The purpose of this regulation is to reduce diesel particulate matter (PM) and criteria pollutant emissions from compression ignition (CI) mobile cargo handling equipment that operate at ports and intermodal rail yards in the state of California.

(b) Applicability

Except as provided in subsection (c), the regulation would apply to any person who conducts business in California who sells, offers for sale, leases, rents, purchases, owns or operates any CI mobile cargo handling equipment that operates at any California port or intermodal rail yard.

(c) Exemptions

(1) The requirements of this section do not apply to mobile cargo handling equipment that do not operate at a port or intermodal rail yard;

(2) The requirements of this section do not apply to portable CI engines;

(3) The requirements of subsections (e), (f), (g), (h), and (i) do not apply to mobile cargo handling equipment that are not used to handle cargo at any time but are used for transporting personnel or fuel delivery. Examples include, but are not limited to, fuel delivery trucks operating solely at the terminal to deliver fuel to terminal equipment and vans and buses used to transport personnel;

(4) The requirements of this section do not apply to military tactical support cargo handling equipment;

(5) The requirements of this section do not apply to mobile cranes as defined in subsection (d)(33); and

(5) The requirements of this section do not apply to sweepers as defined in subsection (d)(54).

(d) Definitions

For purposes of this section, the definitions of Health and Safety Code section 39010 through 39060 shall apply except to extent that such definitions may be modified by the following definitions that apply specifically to this regulation:

(1) "Alternative Diesel Fuel" means any fuel used in a CI engine that is not commonly or commercially known, sold, or represented by the supplier as diesel fuel No. 1-D or No. 2-D, pursuant to the specifications in ASTM D975-81, "Standard Specification for Diesel Fuel Oils," as modified in May 1982, which is incorporated herein by reference, or an alternative fuel, and does not require engine or fuel system modifications for the engine to operate, although minor modifications (e.g., recalibration of the engine fuel control) may enhance performance. Examples of alternative diesel fuels include, but are not limited to, biodiesel that does not meet the definition of CARB diesel fuel; Fischer-Tropsch fuels; emulsions of water in diesel fuel; and fuels with a fuel additive, unless:

(A) the additive is supplied to the engine fuel by an on-board dosing mechanism, or

(B) the additive is directly mixed into the base fuel inside the fuel tank of the engine, or

(C) the additive and base fuel are not mixed until engine fueling commences, and no more additive plus base fuel combination is mixed than required for a single fueling of a single engine.

(2) "Alternative Fuel" means natural gas, propane, ethanol, methanol, gasoline (when used in hybrid electric mobile cargo handling equipment only), hydrogen, electricity, fuel cells, or advanced technologies that do not rely on diesel fuel. "Alternative fuel" also means any of these fuels used in combination with each other or in combination with other non-diesel fuel.

(3) "Basic Container Handling Equipment" means mobile cargo handling equipment, other than yard trucks, bulk cargo handling equipment, and RTG cranes, used to handle cargo containers. Basic Container Handling Equipment includes but is not limited to top handlers, side handlers, reach stackers, straddle carriers, and forklifts.

(4) "Bulk Cargo Handling Equipment" means mobile cargo handling equipment, other than yard trucks, basic container handling equipment, and RTG cranes, generally used to move non-containerized cargo, including but not limited to dozers, excavators, loaders, tractors, and aerial lifts.

(5) "California Air Resources Board (CARB) Diesel Fuel" means any diesel fuel that meets the specifications of vehicular diesel fuel, as defined in title 13 CCR, sections 2281, 2282, and 2284.

(6) "Carbon Monoxide (CO)" is a colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels.

(7) "Cargo Handling Equipment" means any off-road, self-propelled vehicle or equipment used at a port or intermodal rail yard to lift or move container, bulk, or liquid cargo carried by ship, train, or another vehicle, or used to perform maintenance and repair activities that are routinely scheduled or that are due to predictable process upsets. Equipment includes, but is not limited to, rubber-tired gantry cranes, yard trucks, top handlers, side handlers, reach stackers, forklifts, loaders, aerial lifts, excavators, and dozers.

(8) "Certified Off-road Diesel Engine" means an engine certified to California off-road engine emission standards under title 13 CCR, section 2423.

(9) "Certified On-road Diesel Engine" means an engine certified to California on-road diesel engine emission standards under title 13 CCR, section 1956.8.

(10) "Compression Ignition (CI) Engine" means an internal combustion engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The regulation of power by controlling fuel supply in lieu of a throttle is indicative of a compression ignition engine.

(11) "Contiguous Properties" means two or more parcels of land with a common boundary or separated solely by a public roadway or other public right-of-way.

(12) "Diesel Fuel" means any fuel that is commonly or commercially known, sold, or represented by the supplier as diesel fuel, including any mixture of primarily liquid hydrocarbons (HC) - organic compounds consisting exclusively of the elements carbon and hydrogen - that is sold or represented by the supplier as suitable for use in an internal combustion, compression-ignition engine.

(13) "Diesel-Fueled" means a CI engine fueled by diesel fuel, CARB diesel fuel, or jet fuel, in whole or part.

(14) "Diesel Oxidation Catalyst (DOC)" means a catalyst promoting oxidation processes in diesel exhaust, and usually designed to reduce emissions of the organic fraction of diesel particulates, gas-phase HC, and CO.

(15) "Diesel Particulate Filter (DPF)" means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

(16) "Diesel Particulate Matter (Diesel PM)" means the particles found in the exhaust of diesel-fueled CI engines. Diesel PM may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(17) "Dozer" means an off-road tractor, either tracked or wheeled, equipped with a blade.

(18) "Emission Control Strategy" means any device, system, or strategy employed with a diesel engine that is intended to reduce emissions, including, but not limited to, diesel oxidation catalysts, selective catalytic reduction systems, fuel additives, diesel particulate filters, alternative diesel fuels, water emulsified fuels, and any combination of the above.

(19) "Excavator" means an off-road vehicle consisting of a backhoe and cab mounted on a pivot atop an undercarriage with tracks or wheels.

(20) "Executive Officer" means the Executive Officer of the California Air Resources Board or his/her designee.

(21) "Fleet" means the total number of mobile cargo handling equipment vehicles owned, rented, or leased by an owner or operator at a specific terminal or intermodal yard location.

(22) "Forklift" means an off-road industrial truck used to hoist and transport materials by means of steel fork(s) under the load.

(23) "Fuel Additive" means any substance designed to be added to fuel or fuel systems or other engine-related engine systems such that it is present in-cylinder during combustion and has any of the following effects: decreased emissions, improved fuel economy, increased performance of the engine; or assists diesel emission control strategies in decreasing emissions, or improving fuel economy or increasing performance of the engine.

(24) "Heavy-duty Pilot Ignition Engine" means an engine designed to operate using an alternative fuel, except that diesel fuel is used for pilot ignition at an average ratio of no more than one part diesel fuel to ten parts total fuel on any energy equivalent basis. An engine that can operate or idle solely on diesel fuel at any time does not meet this definition.

(25) "Hydrocarbon (HC)" means the sum of all hydrocarbon air pollutants.

(26) "In-Use" means a CI engine that is not a "new" CI engine.

(27) "Intermodal Rail Yard" means any transportation facility primarily dedicated to the business of rail and/or intermodal rail operations where cargo is transferred to or from a train and any other form of conveyance, such as train to ship, ship to train, train to truck, or truck to train.

(28) "Lease" means a contract by which one conveys cargo handling equipment for a specified term and for a specified rent.

(29) "Level" means one of three categories of Air Resources Board-verified diesel emission control strategies as set forth in title 13, CCR, section 2701 et seq: Level 1 means the strategy reduces engine diesel particulate matter emissions by between 25 and 49 percent, Level 2 means the strategy reduces engine diesel particulate matter emissions by between 50 and 84 percent, and Level 3 means the strategy reduces engine diesel particulate matter emissions by 85 percent or greater, or reduces engine emissions to less than or equal to 0.01 grams diesel PM per brake horsepower-hour.

(30) "Loader" means any type of off-road tractor with either tracks or rubber tires that uses a bucket on the end of movable arms to lift and move material; can be also referred to as a front-end loader, front loader, skid steer loader, backhoe, rubber-tired loader, or wheeled loader.

(31) "Military Tactical Support Cargo Handling Equipment" means cargo handling equipment that meets military specifications, owned by the U.S. Department of Defense and/or the U.S. military services, and used in combat, combat support, combat service support, tactical or relief operations, or training for such operations.

(32) "Minimum Use Requirement" means an agreement, as part of state or local incentive funding programs or written agreement between mobile cargo handling equipment owners or operators and the Ports of Long Beach, Los Angeles, or Oakland, to use an emission control device on mobile cargo handling equipment for a specified minimum number of years and/or hours.

(33) "Mobile Crane" means a mobile machine, other than a rubber-tired gantry crane, with a hoisting mechanism mounted on a specially constructed truck chassis or carrier; a mobile crane can either be a single-engine crane or a two-engine crane.

(34) "Model Year" means the CI engine manufacturer's annual production period, which includes January 1st of a calendar year, or if the manufacturer has no annual production period, the calendar year.

(35) "Newly Purchased, Leased, or Rented Cargo Handling Equipment" means mobile cargo handling equipment, or a diesel-fueled CI engine installed in mobile cargo handling equipment, that is newly purchased, rented, or leased by an owner or operator on or after January 1, 2007, and is operated at a port or intermodal rail yard in the state of California after January 1, 2007.

(36) "Nitrogen Oxides (NO_x)" means compounds of nitric oxide (NO), nitrogen dioxide (NO₂), and other oxides of nitrogen, which are typically created during combustion processes and are major contributors to smog formation and acid deposition.

(37) "Non-Methane Hydrocarbons (NMHC)" means the sum of all HC air pollutants except methane.

(38) "Non-Yard Truck Mobile Cargo Handling Equipment" means all mobile cargo handling equipment other than yard trucks.

(39) "Ocean-going Vessel" means a commercial, government, or military vessel meeting any one of the following criteria:

(A) a vessel with a "registry" (foreign trade) endorsement on its United States Coast Guard certificate of documentation, or a vessel that is registered under the flag of a country other than the United States;

(B) a vessel greater than or equal to 400 feet in length overall (LOA) as defined in 50 CFR § 679.2, as adopted June 19, 1996;

(C) a vessel greater than or equal to 10,000 gross tons (GT ITC) per the convention measurement (international system) as defined in 46 CFR 69.51-.61, as adopted September 12, 1989; or

(D) a vessel propelled by a marine compression ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.

(40) "Off-Road Engine" means an engine used in an off-road vehicle, or piece of equipment, including a certified on-road diesel engine.

(41) "Off-Road Vehicle or Equipment" means any non-stationary device, including registered motor vehicles, powered by an internal combustion engine or motor, used primarily off the highways to propel, move, or transport persons or property.

(42) "Owner or Operator" means any person subject to the requirements of this section, including but not limited to:

(A) an individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including but not limited to, a government corporation; and

(B) any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law.

(43) "Particulate Matter (PM)" means the particles found in the exhaust of CI engines, which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(44) "Port" means a place, which typically consists of different terminals, where cargo is loaded onto and unloaded from ocean-going vessels primarily. A port includes military terminals that operate cargo handling equipment when located as part of, or on contiguous properties with, non-military terminals.

(45) "Portable CI Engine" means a compression ignition (CI) engine designed and capable of being carried or moved from one location to another. Indicators of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. Portable engines are not self-propelled.

(46) "Purchased" means the date shown on the front of the cashed check, the date of the financial transaction, or the date on the engine purchasing agreement, whichever is earliest.

(47) "Railcar Mover" means an off-road vehicle fitted with rail couplers and capable of traveling on both roads and rail tracks.

(48) "Reach Stacker" means an off-road truck-like cargo container handler that uses an overhead telescopic boom that can reach across two or more stacks of cargo containers and lift the containers from the top.

(49) "Registered Motor Vehicle" means a yard truck or other cargo handling vehicle that is registered as a motor vehicle under Vehicle Code section 4000, et seq.

(50) "Rent" means payment for the use of mobile cargo handling equipment for a specified term.

(51) "Retirement" or "Retire" means an engine or vehicle that will be taken out of service by an owner or operator and will not be operated at a port or intermodal rail yard in the State of California. The engine may be sold outside of California or scrapped.

(52) "Rubber-tired Gantry Crane or RTG Crane" means an off-road overhead cargo container crane with the lifting mechanism mounted on a cross-beam supported on vertical legs which run on rubber tires.

(53) "Side Handler or Side Pick" means an off-road truck-like cargo container handler that uses an overhead telescopic boom to lift empty or loaded cargo containers by grabbing either two top corners on the longest side of a container, both arms of one side of a container, or both top and bottom sides of a container.

(54) "Sweeper" means an off-road vehicle with attached brushes underneath that sweep the ground and pick up dirt and debris.

(55) "Terminal" means a facility, including one owned or operated by the Department of Defense or the U.S. military services, that operates cargo handling equipment at a port or intermodal rail yard.

(56) "Tier 4 Off-road Emission Standards" means the emission standards promulgated by the United States Environmental Protection Agency in "Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel; Final Rule" (Vol. 69, No. 124 Fed. Reg. pp. 38957-39273, June 29, 2004) which

harmonize with the final amended emission standards for newly manufactured off-road engines approved by the Air Resources Board on December 12, 2004.

(57) "Top Handler or Top Pick" means an off-road truck-like cargo container handler that uses an overhead telescopic boom to lift empty or loaded cargo containers by grabbing the top of the containers.

(58) "Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (Verification Procedure)" means the Air Resources Board (ARB) regulatory procedure codified in title 13, CCR, sections 2700-2710, which is incorporated herein by reference, that engine manufacturers, sellers, owners, or operators may use to verify the reductions of diesel PM and/or NOx from in-use diesel engines using a particular emission control strategy.

(59) "Verified Diesel Emission Control Strategy (VDECS)" means an emission control strategy, designed primarily for the reduction of diesel PM emissions, which has been verified pursuant to the "Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines" in title 13, California Code of Regulations, commencing with section 2700.

(60) "Yard truck" means an off-road mobile utility vehicle used to carry cargo containers with or without chassis; also known as utility tractor rig (UTR), yard tractor, yard goat, yard hostler, yard hustler, or prime mover.

(e) Requirements

(1) Newly Purchased, Leased, or Rented Equipment Performance Standards:

(A) Yard Trucks:

1. Except as provided in subsection (c), on or after January 1, 2007, no owner or operator shall operate any newly purchased, leased, or rented yard trucks unless they are equipped with the following types of engines:

a. Yard trucks that are registered as motor vehicles shall be equipped with engines that meet the on-road emission standards as specified in title 13, California Code of Regulations, section 1956.8, for the model year in which the yard trucks and engines were newly purchased, leased, or rented.

b. Yard trucks that are not registered as motor vehicles shall be equipped with engines:

i. that are certified to the on-road emission standards set forth in title 13, CCR, section 1956.8; for the model year in which the yard trucks and engines were newly purchased, leased, or rented; or

ii. that have been certified to meet the final Tier 4 off-road emission standards for the rated horsepower.

(B) Non-Yard Truck Cargo Handling Equipment:

1. Except as provided in subsection (c), on or after January 1, 2007, no owner or operator shall operate any newly purchased, leased, or rented non-yard truck vehicles or equipment unless they meet the following:

a. Non-yard truck mobile cargo handling equipment that are registered as motor vehicles shall be equipped with engines that meet the on-road emission standards as specified in title 13, California Code of Regulations, section 1956.8, for the model year in which the non-yard truck mobile cargo handling equipment and engines were newly purchased, leased, or rented.

b. Non-yard truck mobile cargo handling equipment that are not registered as motor vehicles shall be equipped with engines:

i. that have been certified to meet the on-road emission standards as specified in title 13, California Code of Regulations, section 1956.8 for the model year in which the non-yard truck mobile cargo handling equipment and engines were newly purchased, leased, or rented; or

ii. that have been certified to meet the Tier 4 off-road emission standards for the model year and rated horsepower of the newly purchased, leased, or rented non-yard truck mobile cargo handling equipment engines; or

c. if (b) above is not available for the specific application and equipment type, the non-yard truck mobile cargo handling equipment shall be equipped with engines that have been certified to meet the highest available level off-road diesel engine emission standards as specified in title 13, California Code of Regulations, section 2423 for the rated horsepower and model year in which the equipment were newly purchased, leased, or rented, provided the owner or operator must install the highest level VDECS available within one year after the purchase, lease, or rental of the equipment, or within 6 months of when a VDECS becomes available, if that occurs after one year after the purchase, lease, or rental.

(2) In-Use Performance Standards for Yard Trucks

(A) In accordance with the schedule set forth below in paragraph (e)(2)(B), 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

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

(B) Compliance Schedules for In-Use Yard Trucks

1. All owners or operators of three or fewer yard trucks shall comply with subsection (e)(2) according to the schedule in Table 1:

Table 1: Compliance Schedule for In-Use Yard Truck Fleets of Three or Less

Off-road without VDECS Installed by December 31, 2006		Off-road with VDECS Installed by December 31, 2006	
<i>Model Year</i>	<i>Compliance Deadline</i>	<i>Model Year</i>	<i>Compliance Deadline</i>
Pre-2003	Dec. 31, 2007	Pre-2003	Dec. 31, 2008
2003	Dec. 31, 2010	2003	Dec. 31, 2011
2004	Dec. 31, 2011	2004	Dec. 31, 2012
2005	Dec. 31, 2012	2005	Dec. 31, 2013
2006	Dec. 31, 2013	2006	Dec. 31, 2014

<i>Model Year</i>	<i>Compliance Deadline</i>	<i>Model Year</i>	<i>Compliance Deadline</i>
Pre-2000	Dec. 31, 2007	Pre-2000	Dec. 31, 2008
2000	Dec. 31, 2008	2000	Dec. 31, 2009
2001	Dec. 31, 2009	2001	Dec. 31, 2010
2002	Dec. 31, 2010	2002	Dec. 31, 2011
2003	Dec. 31, 2011	2003	Dec. 31, 2012
2004	Dec. 31, 2012	2004	Dec. 31, 2013
2005	Dec. 31, 2013	2005	Dec. 31, 2014
2006	Dec. 31, 2014	2006	Dec. 31, 2015

2. All owners or operators of four or more yard trucks shall comply with subsection (e)(2) according to the schedule in Table 2:

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

Off-road without VDECS Installed by December 31, 2006			Off-road with VDECS Installed by December 31, 2006		
<i>Model Year</i>	<i>% of Model Year</i>	<i>Compliance Deadline</i>	<i>Model Year</i>	<i>% of Model Year</i>	<i>Compliance Deadline</i>
Pre-2003	Greater of 3 or 50% 100%	Dec. 31, 2007 Dec. 31, 2008	Pre-2003	Greater of 3 or 50% 100%	Dec. 31, 2008 Dec. 31, 2009
2003	Greater of 3 or 25% 50% 100%	Dec. 31, 2010 Dec. 31, 2011 Dec. 31, 2012	2003	Greater of 3 or 25% 50% 100%	Dec. 31, 2011 Dec. 31, 2012 Dec. 31, 2013
2004	Greater of 3 or 25% 50% 100%	Dec. 31, 2011 Dec. 31, 2012 Dec. 31, 2013	2004	Greater of 3 or 25% 50% 100%	Dec. 31, 2012 Dec. 31, 2013 Dec. 31, 2014
2005	Greater of 3 or 25% 50% 100%	Dec. 31, 2012 Dec. 31, 2013 Dec. 31, 2014	2005	Greater of 3 or 25% 50% 100%	Dec. 31, 2013 Dec. 31, 2014 Dec. 31, 2015
2006	Greater of 3 or 25% 50% 100%	Dec. 31, 2013 Dec. 31, 2014 Dec. 31, 2015	2006	Greater of 3 or 25% 50% 100%	Dec. 31, 2014 Dec. 31, 2015 Dec. 31, 2016

**On-road without VDECS Installed by
December 31, 2006**

Model Year	% of Model Year	Compliance Deadline
Pre-2000	Greater of 3 or 25%	Dec. 31, 2007
	50%	Dec. 31, 2008
	100%	Dec. 31, 2009
2000	Greater of 3 or 25%	Dec. 31, 2008
	50%	Dec. 31, 2009
	100%	Dec. 31, 2010
2001	Greater of 3 or 25%	Dec. 31, 2009
	50%	Dec. 31, 2010
	100%	Dec. 31, 2011
2002	Greater of 3 or 25%	Dec. 31, 2010
	50%	Dec. 31, 2011
	100%	Dec. 31, 2012
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

**On-road with VDECS Installed by
December 31, 2006**

Model Year	% of Model Year	Compliance Deadline
Pre-2000	Greater of 3 or 25%	Dec. 31, 2008
	50%	Dec. 31, 2009
	100%	Dec. 31, 2010
2000	Greater of 3 or 25%	Dec. 31, 2009
	50%	Dec. 31, 2010
	100%	Dec. 31, 2011
2001	Greater of 3 or 25%	Dec. 31, 2010
	50%	Dec. 31, 2011
	100%	Dec. 31, 2012
2002	Greater of 3 or 25%	Dec. 31, 2011
	50%	Dec. 31, 2012
	100%	Dec. 31, 2013
2003	Greater of 3 or 25%	Dec. 31, 2012
	50%	Dec. 31, 2013
	100%	Dec. 31, 2014
2004	Greater of 3 or 25%	Dec. 31, 2013
	50%	Dec. 31, 2014
	100%	Dec. 31, 2015
2005	Greater of 3 or 25%	Dec. 31, 2014
	50%	Dec. 31, 2015
	100%	Dec. 31, 2016
2006	Greater of 3 or 25%	Dec. 31, 2015
	50%	Dec. 31, 2016
	100%	Dec. 31, 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).

(3) 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.

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.

(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	Non-Yard Truck Fleets of 3 or Fewer	Compliance Date ¹			
		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	2010	2010	2011	2012	2013

¹ Compliance date refers to December 31st of the year indicated.

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).

(4) Fuel Requirements

(A) Except as provided for in subsection (c), on or after January 1, 2007, no owner or operator of cargo handling equipment shall fuel the equipment with any fuel unless the fuel is one of the following:

1. CARB Diesel Fuel; or
2. An alternative diesel fuel that meets the requirements of the Verification Procedure; or
3. An alternative fuel; or
4. CARB Diesel Fuel used with fuel additives that meets the requirements of the Verification Procedure; or
5. Any combination of (e)(4)(A)1. through (e)(4)(A)4. above.

(B) Owners or operators choosing to use alternative diesel fuels in mobile cargo handling equipment to meet the requirements of subsections (e)(2) and (e)(3) shall:

1. Maintain records in accordance with subsection (i); and
2. Use only fuel that is a VDECS alternative diesel fuel in mobile cargo handling equipment at ports or intermodal rail yards in California; and
3. Permanently affix a label in clear view near the fill spout that identifies the proper fuel that is

required to be in compliance; and

4. In the event that the owner or operator decides to revert to using CARB diesel fuel, the operator shall comply with the requirements of subsections (e)(2) and (e)(3) within 10 days of discontinuation of alternative diesel fuel use. Within 10 days of discontinuation, the owner or operator shall notify the Executive Officer in writing of this change in fuel use and shall include an update to any annual report submitted to comply with subsections (j).

(C) Owners or operators that retrofit mobile cargo handling equipment with a VDECS that requires certain fuel properties to be met in order to achieve the required PM reduction or PM emissions shall only fuel the subject mobile cargo handling equipment with fuel that meets these specifications. In addition, owners or operators that choose a VDECS that requires certain fuel properties to be met in order to prevent damage to the VDECS or an increase in toxic air contaminants, other harmful compounds, or in the nature of the emitted PM, shall only fuel the subject mobile cargo handling equipment with fuel that meets these specifications.

(f) Compliance Extensions

An owner or operator may be granted an extension to a compliance deadline specified in subsection (e) for one of the following reasons. If a compliance extension is granted by the Executive Officer, the owner or operator shall be deemed to be in compliance as specified by the Executive Officer's authorization. Unless specifically stated, compliance extensions may not be combined or used consecutively, and only one compliance extension type may be granted per engine or vehicle.

(1) Compliance Extension for an Engine Near Retirement. If an owner or operator has applied a Compliance Option to its fleet pursuant to the schedule set forth in Table 3 of subsection (e), and the next engine subject to the Compliance Options is scheduled to be retired from the active fleet within one year of the applicable compliance deadline, the owner or operator does not need to apply a Compliance Option to that engine for up to one year, provided the owner or operator maintains appropriate records and documentation, as specified in subparagraph (i)(1)(F), regarding the assigned retirement date and the engine is retired on or before the assigned date. If upon inspection, ARB finds the aforementioned conditions to have not been met, the engine would be in noncompliance from the date that compliance would otherwise have been required under the schedule set forth in Table 3 of subsection (e).

(2) Compliance Extension Based on No Verified Diesel Emission Control Strategy for Non-Yard Truck Mobile Cargo Handling Equipment. If the Executive Officer has not verified a diesel emission control strategy or one is not commercially available for a particular engine and equipment combination, an annual extension in compliance, up to a maximum of two years, may be granted by the Executive Officer. The Executive Officer shall grant the extension upon determining that the following circumstances have been met:

(A) The owner or operator has applied to the Executive Officer for a compliance extension for an engine six months prior to each compliance deadline specified in subsection (e)(3)(C) and provided sufficient documentation to meet the conditions set forth below. The owner or operator may, six-months prior to the expiration of the extension, apply for an additional one-year extension. In such a case, the owner or operator shall once again be required to show to the Executive Officer's satisfaction that the conditions set forth below have been met:

1. Establish that it has applied a Compliance Option specified in subsection (e)(3) to all applicable engines in its fleet for which a Compliance Option is feasible pursuant to the schedule set forth in Table 3 of subsection (e),

2. Identify each engine for which an extension is requested by engine serial number; engine manufacturer, model year, family, and series; and type of mobile cargo handling equipment, for which a specific diesel emission control strategy would jeopardize the original engine warranty and a statement from the engine manufacturer or authorized dealer stating the original engine warranty would be jeopardized; or

3. Identify each engine and equipment or vehicle combination for which an extension is requested by engine serial number; engine manufacturer, model year, family, and series; and type of mobile cargo handling equipment, for which no diesel emission control strategy is commercially available and a list of manufacturers that have been contacted with their responses to a request to purchase, and

4. Describe the reason(s) for the request for a compliance extension for each engine or engine and equipment or vehicle combination.

(3) Use of Experimental Diesel Particulate Matter Emission Control Strategies for Non-Yard Truck Mobile Cargo Handling Equipment. An annual compliance extension may be granted by the Executive Officer for the use of an experimental, or non-verified, diesel PM emission control strategy if a VDECS is not available or if the owner or operator can demonstrate that an existing VDECS is not feasible for their equipment or application. The owner or operator shall keep documentation of this use in records as specified in paragraph (i)(1)(G). Each mobile cargo handling equipment engine will be considered to be in compliance for the duration of the experiment, until the extension expires. The owner or operator must bring the mobile cargo handling equipment into compliance prior to the end of the annual compliance extension. The Executive Officer may grant the extension upon determining that the owner or operator has met the conditions specified below:

(A) The engine owner or operator has applied to the Executive Officer for a compliance extension six months prior to each compliance deadline, including annually if the owner or operator wishes to continue with the experimental controls. The application must include emissions data demonstrating the experimental control achieves at least a Level 1 diesel PM emission reduction through:

1. off-road engine certification test data for the cargo handling equipment engine;
2. engine manufacturer test data;
3. emissions test data from a similar engine;
4. emissions test data used in meeting the requirements of the Verification Procedure for the emission control strategy implemented; or
5. emissions testing conducted under the following conditions:
 - a. baseline testing may be conducted with the emission control strategy in place, provided the test sample is taken upstream of the emission control strategy;
 - b. control strategy testing shall be performed on the cargo handling equipment engine with full implementation of the emission control strategy;
 - c. the percent change from baseline shall be calculated as the baseline emissions minus control strategy emissions, with the difference being divided by the baseline emissions and the result expressed as a percentage;
 - d. the same test method shall be used for determining both baseline emissions and control strategy emissions; and
 - e. diesel PM, NO_x, CO, HC, NMHC, and CO₂ testing shall be done in accordance with one of the following methods:
 - i. International Organization for Standardization (ISO) 8178 Test procedures: ISO 8178-1: 1996(E) ("ISO 8178 Part 1"); ISO 8178-2: 1996(E) ("ISO 8178 Part 2"); and ISO 8178-4: 1996(E) ("ISO 8178 Part 4"), which are incorporated herein by reference; or
 - ii. Title 13, California Code of Regulations, section 2423, "Exhaust Emission Standards and Test Procedures - Off-Road Compression Ignition Engines," which is incorporated herein by reference.

(B) The application for extension must include the following: explanation demonstrating that the highest level VDECS are not feasible for the specific equipment or application (if applicable), identification of each engine (serial number, engine manufacturer, model year, family, and series), description of the emission control system to be demonstrated, emissions data required in (A) above, the contact information for the emission control system supplier, and a letter of intent from the supplier that they intend to apply for verification of the experimental system;

(C) The owner or operator must bring the mobile cargo handling equipment into compliance prior to the end of the compliance extension period;

(D) If VDECS are available, or become available during the extension period, and are determined to be feasible for the specific engine and equipment type, the owner or operator must demonstrate that the experimental control achieves equivalent to or better than a Level 1 VDECS; and

(E) No experimental diesel particulate matter emission control strategy may be used on mobile cargo handling equipment after December 31, 2015.

(4) Compliance Extension for Equipment Manufacturer Delays. An owner or operator who has purchased new equipment in order to comply with subsection (e), including an owner or operator who has been granted a compliance extension per subsections (f)(2), (f)(3), or (f)(5), will be considered to be in compliance if the new equipment has not been received due to manufacturing delays, as long as the following conditions are met:

(A) The equipment was purchased, or the owner or operator and seller had entered into contractual agreement for the purchase, at least six months prior to the required compliance date as specified in subsection (e); and

(B) Proof of purchase, such as a purchase order or signed contract for the sale, including engine specifications for each applicable equipment, must be maintained by the owner or operator and provided to an agent or employee of ARB upon request.

(5) Compliance Extension for Yard Trucks Having VDECS with Minimum Use Requirements. If VDECS were installed on a yard truck prior to December 31, 2005, and the minimum use requirements of the VDECS, as established under a public funding program, is later than the compliance date as specified in subsection (e)(2)(B), an exemption from compliance may be extended to three years beyond the installation date of the VDECS if the following conditions are demonstrated by the owner or operator:

(A) The VDECS was installed using funding from a public agency; and

(B) The funding program stipulated minimum use requirements that would expire after the required compliance date as specified in subsection (e)(2)(B).

(g) Diesel Emission Control Strategy Special Circumstances

An owner or operator shall maintain the original level of the elected Compliance Option for each engine once that engine is required to be in compliance, and is not required to upgrade to a higher level of Compliance Option, except under specified special circumstances, as follows:

(1) In the event of a failure or damage of a diesel emission control strategy, the following conditions apply:

(A) Failure or Damage during the Warranty Period. If a diesel emission control strategy fails or is damaged within its warranty period and the diesel emission control strategy manufacturer or authorized dealer determines it cannot be repaired, the owner or operator shall replace the diesel emission control strategy with either the same level diesel emission control strategy or another approved Compliance Option as defined in subsection (e)(3) within 90 days of diesel emission control strategy failure.

(B) Failure or Damage Outside of Warranty Period. If a diesel emission control strategy fails or is damaged outside of its warranty period, and it cannot be repaired, the owner or operator shall apply a Compliance Option within 90 days, as defined in subsection (e)(3).

(h) Alternative Compliance Plan for Non-Yard Truck Cargo Handling Equipment

(1) Requirements

(A) The purpose of this subsection is to allow any person ("person" or "applicant") subject to this regulation the option of complying with the requirements of this subsection (h) in lieu of the requirements of subsection (e)(3). Under this subsection (h), alternative emission control strategies (AECS) can be implemented as an alternative compliance plan (ACP), provided they result in no greater emissions, expressed in pounds, of diesel PM and NOx from the non-yard truck cargo handling equipment, over the applicable calendar year, relative to the emissions that would have occurred under subsection (e)(3).

(B) An applicant wishing to participate in an ACP may include one or more non-yard truck cargo handling equipment in the ACP, but the applicant shall only include equipment that the person owns or operates under their direct control at the same port or intermodal rail yard.

(C) No cargo handling equipment shall be included in more than one ACP.

(D) AECS may include, but are not limited to:

1. equipment engine modifications,
2. exhaust treatment control,
3. engine repower,
4. equipment replacement, and
5. use of alternative fuels or fuel additives.

(E) The ACP application demonstrating compliance with this subsection shall contain, at a minimum, the following information:

1. the company name, address, and contact information;
2. the equipment subject to the ACP, including equipment and engine make, model, and serial numbers, and other information that uniquely identify the equipment;
3. documentation, calculations, emissions test data, or other information that establishes the diesel PM and NOx reductions, expressed in pounds, from non-yard truck cargo handling equipment will be equivalent to or greater than the emission reductions that would have been achieved upon compliance with subsection (e)(3);
4. the proposed recordkeeping, reporting, monitoring, and testing procedures that the applicant plans to use to demonstrate continued compliance with the ACP.

(F) Emission reduction calculations demonstrating equivalence with the requirements of subsection (e)(3) shall only include diesel PM and NOx emissions from non-yard truck cargo handling equipment that operate at the California port or intermodal rail yard to which the ACP applies.

(G) Any owner or operator subject to an approved ACP shall maintain operating records in a manner and form as specified by the Executive Officer in the approved ACP. Required records may include, but are not limited to, information on hours of operation, fuel usage, maintenance procedures, and emissions test results. Such records and reports shall be retained for a period of not less than three

(3) years and shall be submitted to the Executive Officer in the manner specified in the approved ACP and upon request by the Executive Officer.

(H) Emission reductions included in an ACP shall not include reductions that are otherwise required by any local, State, or federal rule, regulation, or statute, or that are achieved or estimated from equipment not located at the specific port or intermodal rail yard to which the ACP applies.

(I) No person may operate any non-yard truck cargo handling equipment under an ACP unless the applicant has first been notified in writing by the Executive Officer that the ACP application has been approved. Prior to such approval, applicants shall comply with the provisions of this section, including the requirements in subsection (e)(3).

(2) Application Process

(A) Applications for an ACP shall be submitted in writing to the Executive Officer for evaluation.

(B) The Executive Officer shall establish an Internet site ("ACP Internet site") in which all documents pertaining to an ACP application will be made available for public review. The Executive Officer shall also provide a copy of all such documents to any person upon request ("interested party(ies)"). The Executive Officer shall provide two separate public comment periods during the ACP application process, as specified in this subsection (h)(2).

(C) Completeness Determination

Within 15 days after receiving an ACP application(s), the Executive Officer shall notify the applicant whether the application is deemed sufficiently complete to proceed with further evaluation. If the application is deemed incomplete, the notification shall identify the application's deficiencies. The Executive Officer shall have an additional 15-day period for reviewing each set of documents or information submitted in response to an incompleteness determination. Nothing in this subsection prohibits the Executive Officer from requesting additional information from the applicant, during any part of the ACP application process, which the Executive Officer determines is necessary to evaluate the application.

(D) Notice of Completeness and 30-Day First Public Comment Period

After an ACP application has been deemed complete, the Executive Officer shall provide a 30-day public comment period to receive comments on any element of the ACP application and whether the Executive Officer should approve or disapprove the ACP application based on the contents and merits of the application. The Executive Officer shall notify all interested parties of the following:

1. the applicant(s);
2. the start and end dates for the 30-day first comment period; and
3. the address of the ACP Internet site where the application is posted.

The Executive Officer shall also make this notification available for public review on the ACP Internet site.

(E) Proposed Action and 15-Day Second Public Comment Period

Within 30 days after the first public comment period ends, the Executive Officer shall notify the applicant and all interested parties of ARB's proposed approval or disapproval. This notification shall propose to approve the application as submitted, disapprove the application, or approve the ACP application with modifications as deemed necessary by the Executive Officer. The notification shall identify the start and end dates for the 15-day second public comment period. During the second public comment period, any person may comment on the Executive Officer's proposed approval or disapproval of the ACP application and any element of the application. The Executive Officer shall also make this notification available for public review on the ACP Internet site.

(F) Final Action

Within 15 days after the second public comment period ends, the Executive Officer shall take final action to either approve or deny an ACP application and shall notify the applicant accordingly. If the application is denied or modified, the Executive Officer shall state the reasons for the denial or modification in the notification. The notification to the applicant and approved ACP, if applicable, shall be made available to the public on the ACP Internet site. In addition, the Executive Officer shall consider and address all comments received during the first and second public comment periods, and provide responses to each comment on the ACP Internet site.

(G) Notification to the Executive Officer of Changes to an Approved ACP

The applicant shall notify the Executive Officer in writing within 30 days upon learning of any information that would alter the emissions estimates submitted during any part of the ACP application process. If the Executive Officer has reason to believe that an approved ACP has been granted to a person that no longer meets the criteria for an ACP, the Executive Officer may, pursuant to subsection (h)(3) below, modify or revoke the ACP as necessary to assure that the applicant and subject non-yard truck cargo handling equipment will meet the emission reduction requirements in this section.

(3) Revocation or Modification of Approved ACPs

With 30-days notice to the ACP holder, the Executive Officer may revoke or modify, as needed, an approved ACP if there have been multiple violations of the ACP provisions or the requirements of the approved ACP; or if the Executive Officer has reason to believe that an approved ACP has been granted that no longer meets the criteria or requirements for an ACP or the applicant can no longer comply with the requirements of the approved ACP in its current form.

Public notification of a revocation or modification of an approved ACP shall be made available on the ACP Internet site.

(i) Recordkeeping Requirements

Beginning December 31, 2006, an owner or operator of mobile cargo handling equipment shall maintain the following records or copies of records at port and intermodal rail yard facilities where applicable. The owner or operator shall provide the following records for inspection to an agent or employee of ARB upon request, including copies of these records at the department's expense, for all mobile cargo handling equipment subject to compliance with the regulation:

(1) Records Kept at Terminal. The owner or operator shall keep the following records accessible either in hard copy format or computer records at the terminal where the mobile cargo handling equipment normally resides:

(A) Owner or Operator Contact Information

1. Company name
2. Contact name, phone number, address, e-mail address
3. Address of equipment

(B) Equipment and Engine Information

1. Make of equipment and engine
2. Model of equipment and engine
3. Engine family (if applicable)

4. Engine serial number
 5. Year of manufacture of equipment and engine (if unable to determine, approximate age)
 6. Rated brake horsepower
 7. Control equipment (if applicable)
 - a. Type of diesel emission control strategy
 - b. Serial number of installed diesel emission control strategy
 - c. Manufacturer of installed diesel emission control strategy
 - d. Model of installed diesel emission control strategy
 - e. Installation date of installed diesel emission control strategy
 - f. Level of control (1, 2, or 3); if using a Level 1 or 2, include the reason for the choice
 - g. Documentation for Minimum Use Requirement Compliance Extension pursuant to paragraph (f)(5)
- (C) Records of maintenance for each installed diesel emission control strategy
- (D) Fuel(s) Used
1. CARB Diesel
 2. Alternative diesel fuel (specify)
 3. Alternative fuel (specify)
 4. Combination (dual fuel) (specify)
 5. Other (specify)
- (E) Operation Information
1. Describe general use of engine
 2. Typical load (percent of maximum bhp rating)
 3. Typical annual hours of operation
 4. If seasonal, months of year operated and typical hours per month operated
- (F) For each engine for which an owner or operator is claiming an exemption pursuant to paragraph (f)(1), the retirement date correlated to the information in paragraph (i)(1) above
- (G) For each engine for which an owner or operator is claiming an extension pursuant to paragraph (f)(3), the records of the test plan, including start and end dates of the experiment; diesel particulate matter emission control strategy manufacturer name and contact information (representative, address, and phone number); name and type of experimental diesel particulate matter emission control strategy; and targeted data to be generated by experiment, correlated to the information in paragraph (i)(1) above

(H) For each engine for which an owner or operator is claiming an extension pursuant to paragraph (f)(4), the purchase order or signed contract between the owner or operator and seller of the new equipment that has been purchased in order to comply with subsection (e)

(I) A statement of compliance, prepared beginning January 1, 2007, and renewed each January 1 thereafter until January 1, 2016, certifying that the owner's or operator's engines are in compliance as required, including the following:

1. "The mobile cargo handling equipment at terminal (insert terminal name and name of port or intermodal rail yard) are in compliance with title 13, California Code of Regulations, section 2479;" and

2. The owner's or operator's name, business address, business telephone; and

3. The signature of the owner or operator or its agent and date signed.

(2) Records Kept in Mobile Cargo Handling Equipment. For each mobile cargo handling equipment, the owner or operator shall keep the following information affixed to the driver's side door jamb, or another readily accessible location known by the owner or operator of each mobile cargo handling equipment, in the form of a legible and durable label or in an alternative form approved by the Executive Officer or designee that is immediately accessible at the time of inspection by the enforcement agency:

(A) For each installed diesel emission control strategy, label information as specified in title 13, CCR, section 2706(g), and the installation date; or

(B) For each mobile cargo handling equipment that has installed a certified on-road or off-road engine in order to comply with subsection (e), the engine make, model, and installation date; or

(C) Engine model year and planned compliance date; or

(D) Engine model year and retirement date for an engine for which an owner or operator is claiming an extension pursuant to paragraph (f)(1); or

(E) Engine model year and beginning and end date for which an owner or operator is claiming an extension pursuant to paragraph (f)(2); or

(F) Engine model year and beginning and ending date of the test plan for an engine for which an owner or operator is claiming an extension pursuant to paragraph (f)(3); or

(G) Engine model year and date of purchase of replacement engine or equipment for which an owner or operator is claiming an extension pursuant to paragraph (f)(4); or

(H) Engine model year, date of installation of VDECS, and supporting documentation for public funding program, for the engine and equipment for which an owner or operator is claiming an extension pursuant to paragraph (f)(5).

(3) Each owner or operator shall maintain these records for each mobile cargo handling equipment until it is sold outside of the State of California or is no longer used at a port or intermodal rail yard in the State of California. If ownership is transferred, the seller shall convey the records to the buyer.

(j) Reporting Requirements

(1) Compliance Plan. By January 31, 2007, each owner or operator of in-use mobile cargo handling equipment subject to the requirements of subsection (e) shall provide the following information to the Executive Officer:

(A) Information listed in paragraph (i)(1), and

(B) An identification of the planned control strategy (Compliance Plan) for each mobile cargo handling equipment listed in paragraph (i)(1) that, when implemented, will result in compliance with subsection (e). If applicable, the information should include the Executive Order number issued by the Executive Officer for a VDECS that has been approved by the Executive Officer through the Verification Procedure. The Compliance Plan is not binding and can be changed by the owner or operator prior to the required compliance date(s).

(2) Demonstration of Compliance. By no later than the earliest applicable compliance date specified in subsections (e)(2)(B) or (e)(3)(C), for each in- use cargo handling equipment subject to the requirements of subsection (e), the owner or operator shall provide the following information to the Executive Officer:

(A) Information listed in (i)(1), and

(B) An identification of the control strategy implemented for each mobile cargo handling equipment in accordance with the requirements of subsection (e) for purposes of demonstrating compliance.

(3) Annual Reporting. Each terminal owner or operator shall submit an annual report to the Executive Officer by January 31, 2007, and by each January 31 annually, through 2016 as described below:

(A) Company name;

(B) Contact name, phone number, address, e-mail address;

(C) Address of equipment, including name of port or intermodal rail yard where equipment is operated;

(D) The population, as of January 1 of that year, of equipment in each yard truck model year group and each non-yard truck model year group; and

(E) A signed affidavit stating the completeness and accuracy of the annual report.

(4) Reporting for Off-Road Equipment that Does Not Handle Cargo at any Time. Each terminal owner or operator to whom subsection (c)(3) applies, shall submit a report to the Executive Officer by January 31, 2007, as described below:

(A) Owner or Operator Contact Information

1. Company name

2. Contact name, phone number, address, e-mail address

3. Address of equipment

(B) Equipment and Engine Information

1. Make of equipment and engine

2. Model of equipment and engine

3. Engine family (if applicable)

4. Engine serial number

5. Year of manufacture of equipment and engine (if unable to determine, approximate age)

6. Rated brake horsepower

7. Control equipment (if applicable)

- a. Type of diesel emission control strategy
- b. Serial number of installed diesel emission control strategy
- c. Manufacturer of installed diesel emission control strategy
- d. Model of installed diesel emission control strategy
- e. Installation date of installed diesel emission control strategy
- f. Level of control (1, 2, or 3)

(C) Fuel(s) Used

1. CARB Diesel
2. Alternative diesel fuel (specify)
3. Alternative fuel (specify)
4. Combination (dual fuel) (specify)
5. Other (specify)

(D) Operation Information

1. Describe general use of engine
2. Typical load (percent of maximum bhp rating)
3. Typical annual hours of operation
4. If seasonal, months of year operated and typical hours per month operated

(k) Right of Entry

An agent or employee of the Air Resources Board has the right of entry to port and intermodal rail yard cargo handling facilities for the purpose of inspecting on-road and off-road cargo handling equipment and their records to determine compliance to these regulations.

(l) Prohibitions

No person who is engaged in this State in the business of selling to an ultimate purchaser, or renting or leasing new or used mobile cargo handling equipment, including, but not limited to, manufacturers, distributors, and dealers, shall sell, offer for sell, import, deliver, purchase, receive, or otherwise acquire a new or used mobile cargo handling equipment for the purpose of selling, renting, or leasing in California, that does not meet the performance requirements of this regulation.

(m) Severability

If any subsection, paragraph, subparagraph, sentence, clause, phrase, or portion of this regulation is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of the regulation.

(n) Submittal of Documents

(A) All documents required under this regulation to be submitted to the Executive Officer shall be submitted as follows:

CALIFORNIA AIR RESOURCES BOARD
STATIONARY SOURCE DIVISION, CARGO HANDLING EQUIPMENT
P.O. BOX 2815
SACRAMENTO, CALIFORNIA 95812-2815

(B) An alternative method, including electronic submittals, may be approved by the Executive Officer.