

## Final Regulation Order

### MOBILE CARGO HANDLING EQUIPMENT AT PORTS AND INTERMODAL RAIL YARDS.

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**Note:** This document is printed in a style to indicate changes from the existing provisions in title 13, California Code of Regulations, section 2479. All existing language is indicated by plain type. All additions to the language are indicated by underlined text. All deletions are indicated by ~~strikeout~~. Portions of the regulations not being changed are indicated by asterisks (\*\*\*\*\*).

Amend title 13, California Code of Regulations (CCR) section 2479 to read as follows.

#### **Section 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. Mobile cargo handling equipment propelled by engines certified to a cycle other than the diesel cycle, i.e. otto cycle engine, are not subject to this section.

##### **(c) Exemptions**

- (1) The requirements of this section do not apply to:
  - (A) mobile cargo handling equipment that do not operate at a port or intermodal rail yard;
  - (2B) ~~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;~~

- ~~(4C) The requirements of this section do not apply to military tactical support cargo handling equipment;~~
  - ~~(D) equipment used solely to support construction activities at a port or intermodal rail yard;~~
  - ~~(5E) The requirements of this section do not apply to mobile cranes as defined in subsection (d)(3340); and~~
  - ~~(5F) The requirements of this section do not apply to sweepers as defined in subsection (d)(5464); and~~
  - ~~(G) rented, leased, or contracted equipment brought onto a port or intermodal rail yard to perform unexpected repairs that are not routine in nature or due to predictable maintenance activities.~~
- (32) The requirements of subsections (e) through (j) do not apply to mobile cargo handling equipment that are used exclusively for transporting personnel or delivering fuel to equipment or vehicles on terminal or rail yard property. 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.
- (3) The requirements of subsection (e)(1)(B) do not apply to non-yard truck cargo handling equipment that is owned, leased, or rented by an owner or operator of a port terminal or intermodal rail yard and has been moved from one port terminal or intermodal rail yard to another port terminal or intermodal rail yard under the control of the same owner or operator and has received approval for such transfer under subsection (k) below.

**(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) “Alternate PM Standard” means one of the Family Emissions Limits (FEL) standards that are currently available to engine manufacturers under title 13, California Code of Regulations (CCR), section 2423. Alternate standards are of limited duration and may be selectively applied to total or partial engine family production volumes.
- (34) “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.
- (45) “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.
- (56) “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.
- (67) “Carbon Monoxide (CO)” is a colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels.
- (8) “Cargo” means material, goods, or commodities that have been or will be transported to or from a port or intermodal rail yard by ship, train, truck, or other mode of transportation.
- (79) “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.
- (810) “Certified Off-road Diesel Engine” means an engine certified to California off-road engine emission standards under title 13 CCR, section 2423.

- (11) “Class I Railroad” is a freight railway based on large revenues (\$250 million or more) in comparison to the revenues of Class II (which ranges from greater than \$20 million but less than \$250 million) and Class III (less than \$20 million) railways, as defined by the Surface Transportation Board.
- (912) “Certified On-road Diesel Engine” means an engine certified to California on-road diesel engine emission standards under title 13 CCR, section 1956.8.
- (4013) “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. Any engine certified under the diesel cycle is included under the definition of a compression ignition engine.
- (14) “Construction Activities” means any activities at a port or intermodal rail yard that is preparatory to or involved with the building, alteration, rehabilitation, demolition, or improvement of property, including, but not limited to, the following activities: grading excavation, loading, crushing, cutting, planning, shaping, or ground breaking.
- (4415) “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.
- (4216) “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.
- (4317) “Diesel-Fueled” means a CI engine fueled by diesel fuel, CARB diesel fuel, or jet fuel, in whole or part.
- (4418) “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.
- (4519) “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.
- (4620) “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.
- (4721) “Dozer” means an off-road tractor, either tracked or wheeled, equipped with a blade.

- (~~18~~22) “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~~23) “Excavator” means an off-road vehicle consisting of a backhoe and cab mounted on a pivot atop an undercarriage with tracks or wheels.
- (~~20~~24) “Executive Officer” means the Executive Officer of the California Air Resources Board or his/her designee.
- (25) “Family Emissions Limits (FEL)” means an emission level that is declared by the manufacturer to serve in lieu of an emissions standard for certification purposes and for the averaging, banking, and trading program as defined in title 13, CCR, section 2423.
- (~~21~~26) “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~~27) “Forklift” means an off-road industrial truck used to hoist and transport materials by means of steel fork(s) under the load.
- (~~23~~28) “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.
- (29) “Hybrid” means powered by two or more sources of energy.
- (~~24~~30) “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~~31) “Hydrocarbon (HC)” means the sum of all hydrocarbon air pollutants.
- (~~26~~32) “In-Use” means a CI engine that is not a “new” CI engine.
- (~~27~~33) “Intermodal Rail Yard” means any transportation facility, owned or operated by a Class I Railroad, which is 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.

(2834)“Lease” means a contract by which one conveys cargo handling equipment for a specified term and for a specified rent.

(2935)“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.

(3036)“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.

(37) “Low-throughput Port” means a port that has a two-year average annual cargo throughput of less than one million tons per year, not including petroleum products, as reported by the U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center.

(3438)“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.

(3239)“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.

(3340)“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.

(3441)“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.

(3542)“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, or otherwise brought onto a port or intermodal rail yard 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~~43) "Nitrogen Oxides (NO<sub>x</sub>)" means compounds of nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>), and other oxides of nitrogen, which are typically created during combustion processes and are major contributors to smog formation and acid deposition.

(~~37~~44) "Non-Methane Hydrocarbons (NMHC)" means the sum of all HC air pollutants except methane.

(~~38~~45) "Non-Yard Truck Mobile Cargo Handling Equipment" means all mobile cargo handling equipment other than yard trucks.

(~~39~~46) "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~~47) "Off-Road Engine" means an engine used in an off-road vehicle, or piece of equipment, including a certified on-road diesel engine.

(~~41~~48) "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.

(49) "Opacity" means the fraction of a beam of light, expressed in percent, which fails to penetrate a plume of smoke.

(50) "Otto cycle Engine" means a type of engine with operating characteristics significantly similar to the theoretical Otto combustion cycle. The primary means for controlling power output in an Otto cycle engine is by limiting the amount of air and fuel that can enter the combustion chambers of the engine. Gasoline-fueled engines are Otto cycle engines.

(4251)“Owner or Operator” means any person that owns or operates a port terminal or intermodal rail yard 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.

(4352)“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.

(4453)“Port” is a publically or privately owned property located at a harbor or along a waterway where marine and port terminals typically load or unload water-borne commerce onto and from ocean-going vessels; a port includes all property within the physical boundaries of the port or demarcated as the port on city or county land maps as well as other contiguous or adjacent properties owned or operated by the 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.

(4554)“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.

(4655)“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.

(4756)“Railcar Mover” means an off-road vehicle fitted with rail couplers and capable of traveling on both roads and rail tracks.

(4857)“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.

(4958)“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.

(5059)“Rent” means payment for the use of mobile cargo handling equipment for a specified term.



- (5460) "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 any port or intermodal rail yard in the State of California by the same or different owner or operator, and will not be replaced with a new engine or vehicle. The engine may be sold outside of California or scrapped.
- (5261) "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. RTG cranes do not include gantry cranes that operate on steel wheels and rails.
- (62) "Safe" means cargo handling equipment that can be operated with little or no additional risk of operational accidents due to, but not limited to, installation of verified diesel emission control strategies that impair the operator's operational vision to the front and sides or change vehicle balance. An Executive Officer determination regarding safe use shall be consistent with California and federal safety regulations and rulings.
- (5363) "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.
- (5464) "Sweeper" means an off-road vehicle with attached brushes underneath that sweep the ground and pick up dirt and debris.
- (5565) "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.
- (5666) "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.
- (5767) "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.
- (68) "Two-year Average Annual Cargo Throughput " means the arithmetic average of the annual cargo throughput, not including petroleum products, as reported by the U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, for the most recently reported calendar year and the calendar year immediately preceding that year.

(69) "Urban Area" means a densely developed territory that contains 50,000 or more people as defined by the latest U.S. Census Bureau census.

~~(5870)~~ "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.

~~(5971)~~ "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.

(72) "Warranty Period" means the period of time and/or mileage that the vehicle, engine, or part is covered by the engine manufacturer's new engine warranty provisions.

(73) "Water-borne Commerce" means the movement of materials, goods or commodities using vessels or other craft plying upon navigable waters of the United States.

~~(6074)~~ "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.~~(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.~~(ii) that have been certified to meet the final Tier 4 off-road emission standards for the rated horsepower; ~~or~~
- ~~(iii)~~ that have been equipped with alternative power systems that can be demonstrated to the Executive Officer, through use of reliable and repeatable emissions data from one of the following tests to meet either the on-road NO<sub>x</sub> and PM emission standards as specified in title 13, CCR section 1956.8 or the Tier 4 final off-road NO<sub>x</sub> and PM emissions standards as specified in title 13, CCR section 2423(b)(1)(B), that are in effect for the rated horsepower and the model year in which the yard truck and/or engine or power system is newly purchased, leased, or rented:
  - A. Testing conducted using the test methods set forth in subsection (n) or an alternative test method approved by the Executive Officer,
  - B. Testing conducted by the engine manufacturer for that engine;
  - C. Testing conducted by the engine manufacturer from another in-use engine that is configured and used in a substantially similar way to the engine;
  - D. Testing conducted to meet the regulatory requirements of ARB's Verification Procedure; or
  - E. Testing conducted to meet the requirements for U.S. EPA certification of systems providing remanufacture to a cleaner standard.

(B) Non-Yard Truck Cargo Handling Equipment:

1. ~~Except as provided in subsection (c), e~~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 for on-road use unless they are~~ shall be equipped with engines that meet the on-road emission standards as specified in title 13, California Code of Regulations CCR, 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-2.~~ On or after January 1, 2007, no owner or operator shall operate any newly purchased, leased, or rented N~~non-yard truck mobile cargo handling equipment that are not registered as motor vehicles for on-road use unless shall be equipped with engines:~~

- ~~i. a.~~ They are equipped with engines that have been certified to meet the on-road emission standards as specified in title 13, California Code of Regulations CCR, 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 as specified in title 13, CCR section 2423(b)(1)(B) for the model year and rated horsepower of the newly purchased, leased, or rented non-yard truck mobile cargo handling equipment engines; or
- ~~e.3. i.~~ If an owner or operator cannot comply with one of the compliance options of a. (b) above because it is not available for the specific application and equipment type, the non-yard truck mobile cargo handling equipment shall be are 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 CCR, 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.
4. Alternatively, the owner or operator may elect to equip the non-yard truck mobile cargo handling equipment with engines or power systems that can be demonstrated to the Executive Officer, by using emissions reliable and repeatable test data from one of the following tests, to meet the Tier 4 off-road NOx and PM emissions standards as specified in title 13, CCR section 2423(b)(1)(B) that are in effect for the rated horsepower and model year in which the engine or power system is newly purchased, leased, or rented:
- a. Testing conducted using the test methods set forth in subsection (n) or an alternative test method approved by the Executive Officer,
  - b. Testing conducted by the engine manufacturer for that engine;
  - c. Testing conducted by the engine manufacturer from another in-use engine that is configured and used in a substantially similar way to the engine;
  - d. Testing conducted to meet the regulatory requirements of ARB's Verification Procedure; or
  - e. Testing conducted to meet the requirements for U.S. EPA certification of systems providing remanufacture to a cleaner standard.
5. If non-yard truck cargo handling equipment not registered for on-road use have been purchased with engines complying with one of the options of subsection (e)(1)(B)2. above but there is a manufacturer's delay in delivery, and if no comparable compliant cargo handling equipment are

available for lease, then the owner or operator may lease comparable non-yard truck mobile cargo handling equipment that are 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 are leased, provided the owner or operator provides the following to the Executive Officer:

- a. Identification of the equipment type and application, including required engine horsepower,
- b. Purchase order, letter, or other form of documentation that demonstrates that the owner/operator has entered into a contract to purchase equipment with engines certified to subsection (e)(1)(B)2. and includes the anticipated delivery date, and
- c. Documentation from representatives of equipment and/or engine manufacturers supporting claim of non-availability, including anticipated date of availability.
- d. Equipment may be leased or rented for up to a six month period or until purchased equipment are available, whichever is longer.

(2) ~~In-Use~~ *Performance Standards for In-Use 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 covered by this regulation at a port or intermodal rail yard unless the engine meets the performance standards requirements 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 or OEM aftertreatment controls that results in emissions less than or equal to the diesel PM and NOx emission standards for a certified final Tier 4 off-road diesel engine of the same horsepower rating; or
4. Is an engine or power system that can be demonstrated to the Executive Officer, through use of reliable and repeatable emissions data from one of the following tests to meet either the on-road NO<sub>x</sub> and PM emission standards as specified in title 13, CCR section 1956.8, or Tier 4 final off-road NO<sub>x</sub> and PM emissions standards as specified in title 13, CCR section 2423(b)(1)(B), that are in effect for the rated horsepower and the model year in which the yard truck and/or engine or power system is newly purchased, leased, or rented:
  - a. Testing conducted using the test methods in subsection (n) or an alternative test method approved by the Executive Officer,

- b. Testing conducted by the engine manufacturer for that engine;
  - c. Testing conducted by the engine manufacturer from another in-use engine that is configured and used in a substantially similar way to the engine;
  - d. Testing conducted to meet the regulatory requirements of ARB's Verification Procedure; or
  - e. Testing conducted to meet the requirements for U.S. EPA certification of systems providing remanufacture to a cleaner standard.
5. Annually per the following procedure, does not exceed the maximum opacity levels as provided in subsections (e)(2)(A)5.a. through g. below. For equipment retrofitted with a VDECS the opacity of engine-out exhaust must be measured with VDECS removed, such as when VDECS is removed for cleaning. Equipment with OEM aftertreatment controls should not remove the aftertreatment control when testing engine opacity levels.
- a. The opacity shall be measured during the preconditioning and test phases with a smoke meter consistent with Society of Automotive Engineers "Surface Vehicle Recommended Practice, Snap Acceleration Smoke Test Procedure for Heavy-Duty Powered Vehicles" (SAE J1667).(February 1996), which is incorporated by reference herein, and as specified in subsection (e)(2)(A)5.g. The results shall be recorded continuously on the chart recorder during each snap-idle cycle.
  - b. Opacity is to be measured according to the following procedure:
    - (i.) Preparation Phase. The yard truck shall be placed at rest, with the transmission in neutral, and the yard truck properly restrained to prevent any rolling motion.
    - (ii) Preconditioning Phase. The yard truck shall be put through a snap-idle cycle two or more times until two successive measured smoke levels are within five (5) opacity percent of each other. The smoke meter shall be rechecked prior to the preconditioning sequence to determine that its zero and full scale reading are adjusted according to specifications in section 5.4.2 of SAE J1667.
    - (iii) Test Procedure Phase. The yard truck shall be put through the snap-idle cycle three times.
    - (iv) The maximum instantaneous value recorded by the chart recorder shall be recorded as the maximum opacity reading.
    - (v) The test opacity to determine the compliance with subsection (e)(2)(A)5.e. shall be the average of the two meter readings with the least difference in opacity values. If all three readings have successive equivalent differences between them, the test opacity shall be the average of the three readings.

- c. If the opacity exceeds the following limits, the equipment is to be taken out of service and repaired. The information is to be recorded as specified subsection (i)(1)(D)9. A post-repair opacity test is to be performed to determine if the measured opacity is within the requirements in subsection (e)(2)(A)5.e. Equipment must be repaired such that it meets these opacity requirements before putting it back into service.
- d. If the post-repair opacity measure is 5 opacity percent higher than the opacity requirement in subsection (e)(2)(A)5.e., it shall be taken out of service. It may be returned to service if it can be repaired so that the post-repair opacity is no more than 5 opacity percent greater than the requirement in subsection (e)(2)(A)5.e.
- e. Opacity requirements:  
No yard truck shall exceed the smoke opacity levels provided below when tested in accordance with this section.
- (i) Yard trucks powered by a non-certified diesel-fueled engine or an engine certified to a U.S. EPA PM emissions limit of greater than 0.40 grams/brake horsepower-hour (g/bhp-hr) PM shall not exceed 55 percent smoke opacity when tested in accordance with this section.
- (ii) Yard trucks powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit greater than or equal to 0.31 but less than or equal to 0.40 g/bhp-hr PM shall not exceed 45 percent smoke opacity when tested in accordance with this section.
- (iii) Yard trucks powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of greater than or equal to 0.21 but less than or equal to 0.30 g/bhp-hr PM shall not exceed 35 percent smoke opacity when tested in accordance with this section.
- (iv) Yard trucks powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of greater than or equal to 0.11 but less than or equal to 0.20 g/bhp-hr PM shall not exceed 25 percent smoke opacity when tested in accordance with this section.
- (v) Yard trucks powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of greater than or equal to 0.05 but less than or equal to 0.10 g/bhp-hr PM shall not exceed 15 percent smoke opacity when tested in accordance with this section.
- (vi) Yard trucks powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of less than 0.05 g/bhp-hr PM shall not exceed 5 percent smoke opacity when tested in accordance with this section.

- f. Individuals conducting opacity tests must have completed training conducted by the California Council on Diesel Education and Technology and obtained certification on the proper administration of the SAE J1667 test procedure.
- g. The smoke opacity measurement equipment shall consist of a light extinction type smoke meter that has an optical detection unit, a control/indicator unit, and a strip chart recorder. The smoke meter shall comply with the specifications provided in section 6 of the SAE J1667 procedure and shall be calibrated according to specifications in section 7 of the SAE J1667 procedure.
- h. Initial phase-in for fleets of five or more yard trucks. Fleets of five or more yard trucks shall test the yard trucks in the fleet for smoke opacity in accordance with the requirements of (e)(2)(A)5.a. through g. above pursuant to the following schedule:
- (i) at least 25 percent of the fleet's yard trucks within 180 calendar days of the effective date for these regulations;
  - (ii) at least 50 percent of the fleet's yard trucks within 270 calendar days of the effective date for these regulations;
  - (iii) at least 75 percent of the fleet's yard trucks within 365 calendar days of the effective date for these regulations;
  - (iv) the fleet's remaining yard trucks within 455 calendar days after the effective date for these regulations.
  - (v) for fleets of one to four yard trucks shall test at least one yard truck within 180 days of the regulation becoming effective, and one yard truck in each subsequent 90 day calendar day period, until all yard trucks in the fleet have been tested.
- i. If it can be demonstrated that complying with the requirements of subsection (e)(2)(A)5. is not feasible due to the engine/equipment configuration then an alternative method of compliance may be used if approved by the EO. In approving a request for use of an alternative method, the Executive Officer will consider whether the owner/operator is able to demonstrate that alternative method will be able to detect increases in soot accumulation rates in the aftertreatment control device and be able to provide needed maintenance and repair.
- i. Yard trucks powered by a 2009 or subsequent model year engine are exempt from subsection (e)(2)(A)5. until January of the calendar year that is four years after the model year of the engine. For example, a 2009 model year engine is exempt until January 1, 2013.



(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<sup>1</sup>**

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

Model Year	Compliance Deadline
Pre-2003	Dec. 31, 2007
2003	Dec. 31, 2010
2004	Dec. 31, 2011
2005	Dec. 31, 2012
2006	Dec. 31, 2013

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

Model Year	Compliance Deadline
Pre-2003	Dec. 31, 2008
2003	Dec. 31, 2011
2004	Dec. 31, 2012
2005	Dec. 31, 2013
2006	Dec. 31, 2014

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

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

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

Model Year	Compliance Deadline
Pre-2000	Dec. 31, 2008
2000	Dec. 31, 2009
2001	Dec. 31, 2010
2002	Dec. 31, 2011
2003	Dec. 31, 2012
2004	Dec. 31, 2013
2005	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:

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<sup>1</sup> The model year in Tables 1 and 2 refers to the newer of the engine model year or the equipment model year.

**Table 2: Compliance Schedule for In-Use Yard Truck Fleets of Four or More<sup>2</sup>**

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

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

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

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

**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

<sup>2</sup> The model year in Tables 1 and 2 refers to the newer of the engine model year or the equipment model year.

- 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 In-Use 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 covered by this regulation unless ~~they~~the equipment 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~~subsection (e)(3)(B) per the compliance schedule listed in Table 3 in subsection (e)(3)(C); ~~and~~
2. Adherence to any special ~~circumstances~~requirements that may apply when a diesel emission control strategy is used as a Compliance Option as specified in subsection (g); and
3. Annually per the following procedure, do not exceed the maximum opacity levels as provided in subsections (e)(3)(A)3.a. through g. below. For equipment retrofitted with a VDECS the opacity of engine-out exhaust must be measured with VDECS removed, such as when VDECS is removed for cleaning. Equipment with OEM aftertreatment controls should not remove the aftertreatment control when testing engine opacity levels,
  - a. The opacity shall be measured during the preconditioning and test phases with a smoke meter consistent with Society of Automotive Engineers "Surface Vehicle Recommended Practice, Snap Acceleration Smoke Test Procedure for Heavy-Duty Powered Vehicles" (SAE J1667).(February 1996), which is incorporated by reference herein, and as specified in subsection (e)(3)(A)3.g. The results shall be recorded continuously on the chart recorder during each snap-idle cycle.
  - b. Opacity is to be measured according to the following procedure:

- (i) Preparation Phase. The vehicle shall be placed at rest, with the transmission in neutral, and the vehicle properly restrained to prevent any rolling motion.
  - (ii) Preconditioning Phase. The vehicle shall be put through a snap-idle cycle two or more times until two successive measured smoke levels are within five (5) opacity percent of each other. The smoke meter shall be rechecked prior to the preconditioning sequence to determine that its zero and full scale reading are adjusted according to specifications in section 5.4.2 of SAE J1667.
  - (iii) Test Procedure Phase. The vehicle shall be put through the snap-idle cycle three times.
  - (iv) The maximum instantaneous value recorded by the chart recorder shall be recorded as the maximum opacity reading.
  - (v) The test opacity to determine the compliance with subsection (e)(3)(A)3.e. shall be the average of the two meter readings with the least difference in opacity values. If all three readings have successive equivalent differences between them, the test opacity shall be the average of the three readings.
- c. If the opacity exceeds the requirements established in section (e)(3)(A)3.e, the equipment is to be taken out of service and repaired. The information is to be recorded as specified subsection (i)(1)(D)9. A post-repair opacity test is to be performed to determine if the measured opacity is within the requirements in subsection (e)(3)(A)3.e. Equipment must be repaired such that it meets these opacity requirements before putting it back into service.
- d. If the post-repair opacity measure is greater than 5 percent higher than the opacity requirement in subsection (e)(3)(A)3.e., it shall be taken out of service. It may be returned to service if it can be repaired so that the post-repair opacity is no more than 5 percent greater than the requirement in subsection (e)(3)(A)3.e.
- e. Opacity requirements:
  - (i) No cargo handling equipment shall exceed the smoke opacity levels provided below when tested in accordance with this section. Non-yard truck cargo handling equipment powered by a non-certified diesel-fueled engine or an engine certified to a U.S. EPA PM emissions limit of greater than 0.40 g/bhp-hr PM shall not exceed 55 percent smoke opacity when tested in accordance with this section.
  - (ii) Non-yard truck cargo handling equipment powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of greater than or equal to 0.31 but less than or equal to 0.40

- g/bhp-hr PM shall not exceed 45 percent smoke opacity when tested in accordance with this section.
- (iii) Non-yard truck cargo handling equipment powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of greater than or equal to 0.21 but less than or equal to 0.30 g/bhp-hr PM shall not exceed 35 percent smoke opacity when tested in accordance with this section.
  - (iv) Non-yard truck cargo handling equipment powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of greater than or equal to 0.11 but less than or equal to 0.20 g/bhp-hr PM shall not exceed 25 percent smoke opacity when tested in accordance with this section.
  - (v) Non-yard truck cargo handling equipment powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of greater than or equal to 0.05 but less than or equal to 0.10 g/bhp-hr PM shall not exceed 15 percent smoke opacity when tested in accordance with this section.
  - (vi) Non-yard truck cargo handling equipment powered by a diesel-fueled engine certified to a U.S. EPA PM emissions limit of less than 0.05 g/bhp-hr PM shall not exceed 5 percent smoke opacity when tested in accordance with this section.
- f. Individuals conducting opacity tests must have completed training conducted by the California Council on Diesel Education and Technology and obtained certification on the proper administration of the SAE J1667 test procedure.
- g. The smoke opacity measurement equipment shall consist of a light extinction type smokemeter that has an optical detection unit, a control/indicator unit, and a strip chart recorder. The smokemeter shall comply with the specifications provided in section 6 of the SAE J1667 procedure and shall be calibrated according to specifications in section 7 of the SAE J1667 procedure.
- h. Initial phase-in for fleets of five or more. Fleets of five or more non-yard truck equipment shall test the non-yard truck equipment for smoke opacity in accordance with the requirements of (e)(3)(A)3.a. through g. above pursuant to the following schedule:
- (i) at least 25 percent of the fleet's non-yard truck equipment within 180 calendar days of the effective date for these regulations;
  - (ii) at least 50 percent of the fleet's non-yard truck equipment within 270 calendar days of the effective date for these regulations;
  - (iii) at least 75 percent of the fleet's non-yard truck equipment within 365 calendar days of the effective date for these regulations;

- (iv) the fleet's remaining non-yard truck equipment within 455 calendar days after the effective date for these regulations.
- (v) for fleets of one to four non-yard truck equipment, shall test at least one piece of non-yard truck equipment within initial 180 days of the regulation becoming effective, and one piece of non-yard truck equipment in each subsequent 90 day calendar day period, until all non-yard truck equipment in the fleet have been tested.

- i. engines that operate at constant speed and variable load may comply with the requirements of subsection (e)(3)(A)3. using an alternative method as approved by the EO.
- j. If it can be demonstrated that complying with the requirements of subsection (e)(3)(A)3. is not feasible due to the engine/equipment configuration then an alternative method of compliance may be used if approved by the EO. In approving a request for use of an alternative method, the Executive Officer will consider whether the owner/operator is able to demonstrate that the alternative method will be able to detect increases in soot accumulation rates in the aftertreatment control device and be able to provide needed maintenance and repair.
- k. Cargo handling equipment powered by a 2009 or subsequent model year engine is exempt from subsection (e)(3)(A)3. until January of the calendar year that is four years after the model year of the engine. For example, a 2009 model year engine is exempt until January 1, 2013.

~~34~~ Maintenance ofMaintain all records as specified in subsection (i); and

~~45~~ 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 as specified in title 13, CCR section

2423(b)(1)(B) 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,~~ or Tier 4 Alternate PM off-road diesel engine standards, as specified in title 13, CCR section 2423(b)(2)(B), 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 as specified in title 13, CCR section 2423(b)(1)(B), 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 as specified in title 13, CCR section 2423(b)(1)(B) or be equipped with a Level 3 VDECS by December 31, 2015; or
- d. An engine or power system that can be demonstrated to the Executive Officer, through use of reliable and repeatable emissions data from one of the following tests to meet the Tier 4 off-road NOx and PM emissions standards as specified in title 13, CCR section 2423(b)(1)(B) that were in effect for the rated horsepower and the model year in which the engine or power system is newly purchased, leased, or rented:
  - (i) Testing conducted using the test methods in subsection (n) or an alternative test method approved by the Executive Officer,
  - (ii) Testing conducted by the engine manufacturer for that engine;
  - (iii) Testing conducted by the engine manufacturer from another in-use engine that is configured and used in a substantially similar way to the engine;
  - (iv) Testing conducted to meet the regulatory requirements of ARB's Verification Procedure; or
  - (v) Testing conducted to meet the requirements for U.S. EPA certification of systems providing remanufacture to a cleaner standard.

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 as specified in title 13, CCR section 2423(b)(1)(B) 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,~~ or Tier 4 Alternate PM off-road diesel engine standards, as specified in title 13, CCR section 2423(b)(2)(B), 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 as specified in title 13, CCR section 2423(b)(1)(B), 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 as specified in title 13, CCR section 2423(b)(1)(B) or be equipped with a Level 3 VDECS by December 31, 2015; or.
- d. An engine or power system that can be demonstrated to the Executive Officer, through use of reliable and repeatable emissions data from one of the following tests - to meet the Tier 4 off-road NOx and PM emissions standards as specified in title 13, CCR section 2423(b)(1)(B) that are in effect for the rated horsepower and model year in which the engine or power system is newly purchased, leased or rented:
  - (i) Testing conducted using the test methods in subsection (m) or an alternative test method approved by the Executive Officer,
  - (ii) Testing conducted by the engine manufacturer for that engine;
  - (iii) Testing conducted by the engine manufacturer from another in-use engine that is configured and used in a substantially similar way to the engine;



- (iv) Testing conducted to meet the regulatory requirements of ARB's Verification Procedure; or
- (v) Testing conducted to meet the requirements for U.S. EPA certification of systems providing remanufacture to a cleaner standard.

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 as specified in title 13, CCR section 2423(b)(1)(B) 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,~~ or Tier 4 Alternate PM off-road diesel engine standards, as specified in title 13, CCR section 2423(b)(2)(B), 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 as specified in title 13, CCR section 2423(b)(1)(B) or be equipped with a Level 3 VDECS by the latter of model year plus 12 years or December 31, 2015; or
- d. An engine or power system that can be demonstrated to the Executive Officer, through use of reliable and repeatable emissions data from one of the following tests to meet the Tier 4 off-road NOx and PM emissions standards as specified in title 13, CCR section 2423(b)(1)(B) that are in effect for the rated horsepower and model year of the year in which the engine or power system is newly purchased, leased, or rented:
  - (i) Testing conducted using the test methods in subsection (m) or an alternative test method approved by the Executive Officer,
  - (ii) Testing conducted by the engine manufacturer for that engine;

- (iii) Testing conducted by the engine manufacturer from another in-use engine that is configured and used in a substantially similar way to the engine;
- (iv) Testing conducted to meet the regulatory requirements of ARB's Verification Procedure; or
- (v) Testing conducted to meet the requirements for U.S. EPA certification of systems providing remanufacture to a cleaner standard.

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

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

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

Engine Model Years	Compliance Date <sup>43</sup>				
	Non-Yard Truck Fleets of 3 or Fewer	Non-Yard Truck Fleets of 4 or More			
		First 3 or 25% (whichever is greater)	50%	75%	100%
pre-1988	2007	2007	2008	2009	2010
1988-1995	2008	2008	2009	2010	2011
1996-2002	2009	2009	2010	2011	2012
2003-2006	2010	2010	2011	2012	2013

- a. for each compliance deadline, the percentage of non-yard truck equipment (25 percent, 50 percent, or 100 percent) that must meet the requirements of subsection (e)(3) is determined based on the total population of non-yard truck equipment for a specific model year group (i.e., pre-1988) that exist in the owner's or operator's non-yard truck fleet as of January 1 of the first compliance deadline year for that model year group; and
- b. if the number of non-yard truck equipment is not a whole number, conventional rounding practices apply (i.e., if less 0.5, round down; if 0.5 or greater, round up).
- c. the owner or operator may modify the engine compliance schedule set forth in Table 3 to allow older model-year engines to be brought into compliance prior to newer model year engines so long as the

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<sup>43</sup> Compliance date refers to December 31<sup>st</sup> of the year indicated.

total number of engines brought into compliance each year is the same as that set forth in Table 3.

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(5) Replacement Engines for In-Use Yard Truck and Non-Yard Truck Equipment

- (A) Except as provided in section (e)(5)(B) below, an in-use yard truck or non-yard truck equipment that is repowered with a replacement engine is considered to be newly purchased, leased, or rented equipment and must meet the requirements of section (e)(1), taking into consideration the physical and performance characteristics of the vehicle or equipment.
- (B) A replacement engine for an engine that has failed during its warranty period and replaced per the warranty provisions may meet the emission standards of the warranted engine that is being replaced.

**(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 provided all of the conditions of as specified by the Executive Officer's authorization are met. 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.* Subject to the conditions set below, 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~~ four years, may be granted by the Executive Officer. Owners or operators who apply for an additional compliance extension beyond the first two annual

extensions are required to use electric or hybrid cargo handling equipment as specified in subsection (f)(2)(D), if such equipment is available and operationally feasible for the intended use. The additional compliance extension beyond the first two annual extensions will be a two-year extension. 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~~ 60 days 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~~ 60 days 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. Reasons may include that the application of VDECS precludes safe operation.
- (B) If, at any time during the first or second annual compliance extension, a safe and feasible VDECS becomes commercially available for the engine, the owner or operator must install the VDECS, or otherwise comply with subsection (e)(3), within six months of the ARB notification of the verification of the VDEC.
- (C) An engine used in CHE equipment shall not be eligible for more than two annual extensions if excessive engine exhaust opacity is the only reason a VDECS cannot be installed on an engine or engine and equipment combination (e.g., a VDECS is available for an engine with lower engine

exhaust opacity that is of the same model year, size, and equipment or vehicle combination).

- (D) The Executive Officer shall approve a two-year compliance extension beyond the two initial annual compliance extensions provided that, in addition to fulfilling the requirements provided in subsection (f)(2)(A), the owner or operator agrees to either:
1. replace a yard truck or non-yard truck piece of equipment, other than the equipment for which the extension is granted, with a piece of either electric or hybrid equipment within six months of the date the extension begins, or
  2. replace the engine and equipment for which an extension has been granted with either electric or hybrid equipment at the end of the final extension period. If the owner or operator chooses this option and it can be demonstrated to and approved by the Executive Officer at the end of the additional extension period that electric or hybrid equipment is not commercially available, technically feasible giving consideration to cost, or operationally feasible for the intended use for the application for which the extension is granted, the owner or operator must:
    - a. retire or replace the equipment for which the extension is granted with compliant diesel equipment, or otherwise bring the equipment into compliance with subsection (e)(3) and, in addition,
    - b. must replace an in-use yard truck or non-yard truck equipment, other than the equipment for which the extension was granted, that has not yet been brought into compliance with subsection (e), with either electric or hybrid equipment, unless it can be demonstrated to and approved by the Executive Officer that such equipment is not commercially available, technically feasible giving consideration to cost or operationally feasible.
  3. If during the extension period, a safe and feasible VDECS becomes available and the owner or operator has chosen the option provided in subsection (f)(2)(D)2. then,
    - a. the owner or operator can be excused from its agreed to performance under section (f)(2)(D)2. if the owner or operator can demonstrate to and obtain approval by the Executive Officer that electric or hybrid equipment is not commercially available at that time, technically feasible giving consideration to cost, or operationally feasible for replacement of either the equipment for which the extension has been granted or another in-use yard truck or piece of non-yard truck equipment, and the owner or operator installs the VDECS on the equipment for which the extension has been granted, or otherwise comply with subsection (e)(3),

within six months of the ARB notification of the verification of the VDECS.

- b. A VDECS is not required to be installed if:
- (i) electric or hybrid equipment is available for the equipment for which the extension is granted and the equipment will be replaced with electric or hybrid equipment at the end of the final extension period; or
  - (ii) electric or hybrid equipment is available for another piece of equipment and the equipment will be replaced with electric or hybrid equipment at the end of the final extension period and the owner or operator complies with subsection (f)(2)(D)2.a.

4. If the owner or operator chooses to replace a piece of equipment other than the equipment for which the extension is granted with electric or hybrid equipment, the owner or operator must obtain Executive Officer approval. The Executive Officer may disapprove the action based on an evaluation that the emissions from the equipment to be replaced with electric or hybrid are not substantially the same or greater than the emissions from the equipment for which the extension is provided considering the following information:

- a. annual hours of operation of the two pieces of equipment,
- b. maximum rated horsepower of the two pieces of equipment,  
and
- c. a comparison of engine emissions levels of the replacement electric or hybrid equipment and compliant diesel equipment.

5. An owner or operator who fails to meet the terms of the compliance extension shall be subject to penalties for not being in compliance with the regulation. The period of non-compliance shall be calculated starting from the date the equipment would have been required to be in compliance if the extension had not been granted.

- (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 safe or feasible for their equipment or application, or use of the non-verified control strategy is needed to generate data to support verification of the control strategy. 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~~ 60 days 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<sub>x</sub>, CO, HC, NMHC, and CO<sub>2</sub> testing shall be done in accordance with one of the following methods:
      - i. (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. (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 or safe 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 stating 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 or safe 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.

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(6) Compliance Extension for Non-yard Truck Equipment Operated Less Than 200 Hours Annually.

- (A) The Executive Officer shall grant an annual compliance extension up to a maximum of two years for engines operated less than 200 hours annually upon determining that the owner or operator has met the following conditions:
  - 1. Complied with subsection(e)(3) for all applicable engines in its fleet for which compliance options are feasible pursuant to the schedule set forth in Table 3 of subsection (e).
  - 2. Installed a non-resettable hour meter on each engine for which the compliance extension is requested
  - 3. Submitted an application that may cover one or more engines to the Executive Officer for a compliance extension at least 60 days prior to each compliance deadline specified in subsection (e)(3)(C) ;
  - 4. Identified in the application the engine manufacturer, serial number model year, and engine family and series of each engine for which an extension is requested;
  - 5. Provided documentation, either from non-resettable hour meters, fuel records, or some other credible method for tracking engine operation; that the engines covered by the application have not been operated more than 200 hours in the preceding year.
- (B) The owner or operator shall maintain records of annual use for each engine granted a compliance extension under this subsection for the duration of the extension in the vehicle associated with that engine.



- (C) The owner or operator shall report annually the annual hours of operation for each engine granted a compliance extension under this subsection for the duration of the extension.
- (D) The Executive Officer may elect not to grant a low-use extension for more than two engines in a single fleet or for more than two percent of a fleet, whichever is greater. The Executive Officer's election to limit the number of engines granted a low-use extension will consider the impact on public health based on an evaluation of the following information:
  - 1. number of equipment granted a low-use extension
  - 2. hours of operation of the equipment
  - 3. estimated engine emissions levels
  - 4. proximity of the equipment to off-site residences
- (E) If the engine is operated annually for more than 200 hours, the extension is automatically revoked and the engine must cease operation until the owner or operator brings the engine into compliance with subsection (e)(3).

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**(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 k~~) in lieu of the requirements of subsections (e)(2) and (e)(3). Under this subsection (~~h k~~), 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 yard truck and non-yard truck cargo handling equipment combined, over the applicable calendar year, relative to the combined emissions that would have occurred under subsections and (e)(2) and (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,
6. hybrid technology, and
7. electric equipment.

(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 yard truck and non-yard truck cargo handling equipment combined will be equivalent to or greater than the combined emission reductions that would have been achieved upon compliance with subsections (e)(2) and (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 subsections (e)(2) and (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.

- (l) 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).

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### **(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) Records of opacity testing results

1. Brand name and model of the opacity meter.
2. Dates of last calibration of the opacity meter and chart recorder.
3. Name of the smoke meter operator who conducted the test.
4. Name and address of the contracted smoke test facility or vehicle repair facility that conducted the test (if applicable).
5. Applicability of smoke opacity standard for the tested vehicle.
6. Vehicle identification number, vehicle's engine model, engine make, engine model year, and test date.
7. Initial smoke test opacity levels (for three successive test readings).
8. Indication of whether the vehicle passed or failed the initial smoke test.
9. For vehicles that have failed the smoke test and been repaired, the following information:
  - a. name of the mechanic
  - b. date of the repair
  - c. a statement identifying the nature of the repairs made
  - d. an itemized list of parts used in the repair
10. Post-repair test date.
11. Post-repair smoke test opacity levels (for three successive test readings).
12. Indication of whether the vehicle passed or failed the post-repair smoke test.

(DE) Fuel(s) Used

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

(EF) 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

(FG) 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

(GH) 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)
- (J) 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).
- (I) Documentation, either from non-resettable hour meters, fuel records, or some other credible method for tracking engine operating hours approved by the Executive Officer, that the engine has not been operated more than 200 hours in the preceding year.

- (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.
- (F) An owner or operator that claims an extension pursuant to paragraph (f)(6) shall submit the following information to ARB for each engine which an extension is granted annually and for any electric or hybrid equipment purchased in response to extension requirements:
  - 1. Engine serial number,
  - 2. Engine manufacturer,
  - 3. Engine model year,
  - 4. Engine family and series, and.
  - 5. Annual hours of operation as measured by the engine's hour meter.

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**(k) Executive Officer Approval to Transfer Non-Yard Truck Mobile Cargo Handling Equipment Between Two Facilities.**

The Executive Officer shall allow an owner or operator of a port terminal or intermodal rail yard to transfer non-yard truck cargo handling equipment owned, leased, or rented by the owner or operator between two port terminals or intermodal rail yards under the control of the same owner or operator upon request from the owner or operator and if,

- (1) The two facilities that the equipment is being transferred from and to are under the same control;
- (2) The equipment transfer will not be used to meet the requirements of this section at the facility the equipment is being transferred from;
- (3) The transferred equipment must be brought into compliance with the requirements of subsection (e)(3) before the equipment is put into operation at the new location; and
- (4) The transfer plan is submitted to the Executive Officer for review 30 days prior to the planned transfer and the Executive Officer determines that the plan does not result in a significant increase in public health impacts based on an evaluation of the following information:
  - (A) number of equipment to be transferred
  - (B) hours of operation of equipment
  - (C) estimated engine emissions levels
  - (D) proximity of new location to off-site residences

(5) The transfer plan must include the following information:

(A) Owner/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 manufacturer of equipment and engine (if unable to determine, approximate age)
6. Rated brake horsepower
7. Estimated annual hours of operation (at both the equipment's original and new locations)
8. Control equipment (if applicable)
  - a. Type of diesel emission control strategy (DECS)
  - b. Serial number of installed DECS
  - c. Manufacturer of installed DECS
  - d. Model of installed DECS
  - e. Installation date of installed DECS
  - f. Level of control (1, 2, or 3)

(C) Facility address and phone number where equipment originally operated

(D) Facility address and phone where equipment is to be transferred

(E) Anticipated transfer date

**(l) Equipment at Rural Low-Throughput Ports**

The requirements of this entire section do not apply to equipment at low-throughput ports that are no closer than 75 miles from an urban area. If a low-throughput port subsequently exceeds the two-year average annual cargo throughput limit set in (d)(36), or the population in the surrounding community increases to exceed 50,000 persons, each owner or operator of cargo handling equipment at that port needs to submit a plan for compliance to the Executive Officer within six months of the port being notified of the exceedance. The compliance plan must include the information listed in subsections (i)(1)(A) and (B) and include compliance dates no later than 3 years from notification of the exceedance.

**(km) 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.

**(n) Test Methods**

The following test methods are approved by the Executive Officer when testing for diesel PM, NO<sub>x</sub>, CO, HC, NMHC, and CO<sub>2</sub>. The testing must be done with the applicable method specified in the following procedures: International Organization for Standardization (ISO) 8178-2: 1996(E) (“ISO 8178 Part 2”); (2) ISO 8178-4: 1996(E) (“ISO 8178 Part 4”); and applicable methods and procedures specified in 40 CFR Part 94 (as amended in 2007), all of which are incorporated herein by reference, or 40 CFR Part 89, 40 CFR Part 1039, or 40 CFR Part 1065 for nonroad (off-road) engines, as those parts existed on September 22, 2011. Each of the procedures specified in this subsection is incorporated by reference herein.

**(lo) 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.

**(p) Disclosure of Retrofit Requirements**

- (1) Any person who sells, offers for sale, leases or rents cargo handling equipment with an engine certified to Tier 4 Alternate PM off-road diesel engine standards, as specified in title 13, CCR, section 2423(b)(2)(B) or an independent engine certified to those standards that will be used in cargo handling equipment must provide the following disclosure in writing on the bill of sale, “When operated at a California port or intermodal rail yard, this engine is subject to the retrofit requirements of either subsection (e)(1)(B)3., (e)(3)(B)1.b., (e)(3)(B)2.b., or (e)(3)(B)3.b. of the California Air Resources Board’s Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards.”
- (2) For purposes of this section, it shall be presumed that an independent engine sold or leased by person who sells cargo handling equipment will be used to repower such equipment. For more information, please visit the California Air Resources Board’s website at <http://www.arb.ca.gov/ports/cargo/cargo.htm>.

**(mq) 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.

**(nr) Submittal of Documents**

- (A) (1) 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)~~ (2) An alternative method, including electronic submittals, may be approved by the Executive Officer.

NOTE: Authority cited: Sections 39600, 39601, 39618, 39658, 39659, 39667, 39674, 39675, 42400, 42400.1, 42400.2, 42400.3, 42400.3.5, 42400.6, 42402, 42402.1, 42402.2, 42402.3, 42402.4, 42410, 43013 and 43018, Health and Safety Code. Reference: Sections 39618, 39650, 39658, 39659, 39667, 39674, 39675, 42400, 42400.1, 42400.2, 42400.3, 42400.3.5, 42400.6, 42402, 42402.1, 42402.2, 42402.3, 42402.4, 42410, 43013 and 43018. ~~Health and Safety Code.~~