

Amend Title 13, California Code of Regulations, § 2485, to read:

§ 2485. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.

- (a) ~~Purpose.~~ Purpose. The purpose of this airborne toxic control measure is to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles.
- (b) ~~Applicability.~~ Applicability. This section applies to diesel-fueled commercial motor vehicles that operate in the State of California with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. This specifically includes:
- (1) California-based vehicles; and
- (2) Non-California-based vehicles.
- (c) ~~Requirements.~~ Requirements.

(1) Idling Restriction.

On or after February 1, 2005, the driver of any vehicle subject to this section shall comply with the following requirements, except as noted in subsection (d) below:

~~(1A) the driver shall not idle the vehicle's primary diesel engine for greater than 5.0 minutes at any location, except as noted in subsection (d); and~~

~~(2B) the driver shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 100 feet of a restricted area, except as noted in Subsection (d).~~

(2) Use of Alternative Technologies.

(A) On or after January 1, 2008, the driver shall not operate an internal combustion APS on any vehicle equipped with a 2007 and subsequent model year primary diesel engine unless the vehicle is:

1. equipped with an APS meeting the emissions performance requirements found in subsection (c)(3)(A), below; and

2. the vehicle is equipped with a label meeting the requirements pursuant to section 35.B.4 of the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as incorporated by reference in title 13, CCR, section 1956.8(b).
- (B) On or after January 1, 2008, the driver shall not operate a fuel-fired heater on any vehicle equipped with a 2007 and subsequent model year primary diesel engine unless the fuel-fired heater meets the emissions performance requirements found in subsection (c)(3)(B), below;
 - (C) On or after January 1, 2008, the driver of a vehicle equipped with a 2006 or older model year primary diesel engine may use and operate in California any certified internal combustion APS with or without the additional PM control specified in subsection (c)(3)(A)1. or any other certified alternative idling reduction technology.
- (3) Compliance Requirements. As an alternative to idling the primary engine, diesel engines/vehicles may, as an option, be equipped with alternative technologies, as listed and defined below in (A), (B), and (C) of this subsection. If so equipped, these technologies are subject to the following requirements:
- (A) Internal Combustion APS.
 1. In order to operate in California, an APS utilizing an internal combustion engine must comply with applicable California off-road and/or federal non-road emission standards and test procedures for its fuel type and power category. In addition, diesel-fueled APSs installed on vehicles equipped with primary engines certified to the 2007 and subsequent model year heavy-duty diesel engine standards, pursuant to section 1956.8(a)(2)(A) of title 13, CCR, shall either,
 - a. be equipped with a verified Level 3 in-use strategy for particulate matter control (see title 13, CCR, sections 2700 to 2710), or
 - b. have its exhaust routed directly into the vehicle's exhaust pipe, upstream of the diesel particulate matter aftertreatment device.
 2. With advance Executive Officer approval, a certifying/verifying APS manufacturer may petition for an alternate compliance strategy other than described in (A)1.a. or b. in this subsection above. However, this provision is limited to manufacturers that can

demonstrate, to the satisfaction of the Executive Officer, that their alternative strategy is equivalent (or "cleaner"), from an emissions standpoint, compared to the requirement described in (A)1.a. or b. in this subsection above. As an example, strategies that can use the available electric power infrastructure, instead of solely operating a diesel-fueled APS for engine and/or cab heating and cooling, may be able to use such a strategy to demonstrate compliance with these requirements.

~~(B) *Fuel-Fired Heaters.* Fuel-fired heaters must comply with the applicable California emission standards and test procedures as specified in the Low Emission Vehicle program requirements found in title 13, CCR, subsections 1961(a)(15) and (d), or in Part 1.E.1.13 of the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," as incorporated by reference in title 13, CCR, section 1961(d). However, the specified requirement that limits fuel-fired heaters from being operated above 40°F does not apply.~~

(C) *Other Idle Reduction Technologies.* Other technologies that will reduce idling emissions may also be used, including the use of batteries, fuel cells, power inverter/chargers for on-shore electrical power, on-shore electric power infrastructure also known as truck stop electrification, and other technologies that produce minimal or no emissions. With the exception of battery and fuel cell powered APSs, power inverter/chargers, and electric power infrastructure, the use of other technologies are subject to advance Executive Officer approval and must be at least as effective in reducing idling emissions as the technologies described in subsections (c)(3)(A), above, or the NOx idling emission standard specified in title 13, CCR, section 1956.8(a)(6)(C). The Executive Officer shall use good engineering judgment and test data to determine if an idle reduction technology provides idling emission controls equivalent to the standards specified in subsection (c)(3)(A) above, or in title 13, CCR, section 1956.8(a)(6)(C).

(D) *Labeling Requirements.* 2007 and subsequent model year commercial diesel vehicles equipped with an internal combustion APS meeting the requirements specified in subsection (c)(3)(A) shall have a label affixed to the hood of the vehicle to allow operation of the APS in California. The labels shall meet the requirements specified in section 35.B.4 of the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as incorporated by reference in title 13, CCR, section 1956.8(b).

(d) ~~Exceptions.~~ Exceptions.

- (1) Except when a vehicle is located within 100 feet of a restricted area, subsection (c)(1)(A) does not apply, if the vehicle is equipped with
- (A) a primary diesel engine meeting the optional NOx idling emission standard pursuant to title 13, CCR, section 1956.8(a)(6)(C); and
 - (B) a label meeting the requirements pursuant to section 35.B.4 of the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as incorporated by reference in title 13, CCR, section 1956.8(b).
- (2) Subsection (c)(1) does not apply for the period or periods during which
- (4A) a bus is idling for
 - (A1) up to 10.0 minutes prior to passenger boarding, or
 - (B2) when passengers are onboard;
 - (2B) prior to January 1, 2008, idling of the primary diesel engine is necessary to power a heater, air conditioner, or any ancillary equipment during sleeping or resting in a sleeper berth. This provision does not apply when operating within 100 feet of a restricted area;
 - (3C) idling when the vehicle must remain motionless due to traffic conditions, an official traffic control device, or an official traffic control signal over which the driver has no control, or at the direction of a peace officer, or operating a diesel-fueled APS or other device at the direction of a peace officer;
 - (4D) idling when the vehicle is queuing that at all times is beyond 100 feet from any restricted area;
 - (5E) idling of the primary diesel engine, ~~or~~ operating a diesel-fueled APS, or operating other devices when forced to remain motionless due to immediate adverse weather conditions affecting the safe operation of the vehicle or due to mechanical difficulties over which the driver has no control;
 - (6F) idling to verify that the vehicle is in safe operating condition as required by law and that all equipment is in good working order, either as part of a daily vehicle inspection or as otherwise needed, provided that such engine idling is mandatory for such verification;

(7G) idling of the primary diesel engine, ~~or operating a diesel-fueled APS, or operating other devices~~ is mandatory for testing, servicing, repairing, or diagnostic purposes, including regeneration or maintenance of the exhaust emission control device during engine idling when the dashboard indicator light, if so equipped, is illuminated indicating that regeneration or maintenance is in progress;

(8H) idling when positioning or providing a power source for equipment or operations, other than transporting passengers or propulsion, which involve a power take off or equivalent mechanism and is powered by the primary engine for:

(A1) controlling cargo temperature, operating a lift, crane, pump, drill, hoist, mixer (such as a ready mix concrete truck), or other auxiliary equipment;

(B2) providing mechanical extension to perform work functions for which the vehicle was designed and where substitute alternate means to idling are not reasonably available; or

(C3) collection of solid waste or recyclable material by an entity authorized by contract, license, or permit by a school or local government;

(9I) idling of the primary diesel engine, ~~or operating a diesel-fueled APS, or operating other devices~~ when operating defrosters, heaters, air conditioners, or other equipment solely to prevent a safety or health emergency;

(10J) idling of the primary diesel engine, ~~or operating a diesel-fueled APS, or operating other devices~~ by authorized emergency vehicles while in the course of providing services for which the vehicle is designed;

(11K) idling of military tactical vehicles during periods of training, testing, and deployment; and

(12L) idling when operating equipment such as a wheelchair or people assist lift as prescribed by the Americans with Disabilities Act;

(e) ~~Relationship to Other Law.~~ Relationship to Other Law.

Nothing in this section allows idling in violation of other applicable law, including, but not limited to:

(1) California Vehicle Code Section 22515;

- (2) Title 13, Section 2480, California Code of Regulations;
 - (3) California Health and Safety Code Section 40720; or
 - (4) any applicable ordinance, rule, or requirement as stringent as, or more stringent than, this section.
- (f) ~~Enforcement.~~ Enforcement. This section may be enforced by the Air Resources Board; peace officers as defined in California Penal Code, title 3, chapter 4.5, Sections 830 et seq. and their respective law enforcement agencies' authorized representatives; and air pollution control or air quality management districts.
- (g) ~~Penalties.~~ Penalties. For violations of subsection (c)(1), (c)(2) or (c)(23), the driver of a subject vehicle is subject to a minimum civil penalty of 100 dollars and to criminal penalties as specified in the Health and Safety Code and the Vehicle Code.
- (h) ~~Definitions.~~ Definitions.

The following definitions apply to this section:

- (1) "Authorized emergency vehicle" is as defined in Vehicle Code Section 165.
- (2) "Auxiliary power system" or "APS" means any device that is permanently dedicated to the vehicle on which it is installed and provides electrical, mechanical, or thermal energy to the primary diesel engine, truck cab, and/or sleeper berth, bus's passenger compartment or any other commercial vehicle's cab, as an alternative to idling the primary diesel engine.
- (3) "Bus" means any vehicle defined in Title 13, California Code of Regulations, Section 2480, subsections (h) (13)-(16), inclusive or as defined in the Vehicle Code Section 233.
- (4) "Commercial Motor Vehicle" means any vehicle or combination of vehicles defined in Vehicle Code Section 15210(b) and any other motor truck or bus with a gross vehicle weight rating of 10,001 pounds or more, except the following:
 - (A) a zero emission vehicle; or
 - (B) a pickup truck as defined in Vehicle Code Section 471.
- (5) "Driver" is as defined in Vehicle Code Section 305.
- (6) "Fuel-fired heater" means a fuel burning device that creates heat for the purpose of (1) warming the cab or sleeper berth compartment of a vehicle

or (2) warming the engine oil and/or coolant for easy start-up of the vehicle's engine but does not contribute to the propulsion of the vehicle.

(~~6~~7) "Gross vehicle weight rating" is as defined in Vehicle Code Section 350.

(~~7~~8) "Highway" is as defined in Vehicle Code Section 360.

(~~8~~9) "Idling" means the vehicle engine is running at any location while the vehicle is stationary.

(~~9~~10) "Motor truck" or "motortruck" means a motor vehicle designed, used, or maintained primarily for the transportation of property.

(~~40~~11) "Official traffic control device" is as defined in Vehicle Code Section 440.

(~~41~~12) "Official traffic control signal" is as defined in Vehicle Code Section 445.

(~~42~~13) "Owner" is as defined in Vehicle Code Section 460.

(~~43~~14) "Primary diesel engine" means the diesel-fueled engine used for vehicle propulsion.

(~~44~~15) "Queuing" means (A) through (C)

(A) the intermittent starting and stopping of a vehicle;

(B) while the driver, in the normal course of doing business, is waiting to perform work or a service; and

(C) when shutting the vehicle engine off would impede the progress of the queue and is not practicable.

(D) Queuing does not include the time a driver may wait motionless in line in anticipation of the start of a workday or opening of a location where work or a service will be performed.

(~~45~~16) "Restricted area" means any real property zoned for individual or multifamily housing units that has one or more of such units on it.

(~~46~~17) "Safety or health emergency" means:

(A) a sudden, urgent, or usually unforeseen, occurrence; or

(B) a foreseeable occurrence relative to a medical or physiological condition.

(~~47~~18) "Sleeper berth" is as defined in Title 13, California Code of Regulations, Section 1265.

(~~48~~19) "Vehicle" is as defined in the Vehicle Code Section 670.

Authority: Sections 39600, 39601, 39614(b)(6)(A), 39658, 39667, 43000.5(d), 43013(b), 43013(h), 43018(b) and 43018(c), Health and Safety Code; and *Western Oil & Gas Assn. v. Orange County Air Pollution Control Dist.* (1975) 14 Cal.3d.411.

Reference: Sections 39002, 39003, 39027, 39500, 39600, 39650, 39655, 39656, 39657, 39658, 39659, 39662, 39665, 39674, 39675, 39667, 42400, 42400.1, 42400.2, 42400.3, 42402, 42402.1, 42402.2, 42402.3, 42403.5, 42410, 43000.5(d), 43013 and 43018, Health and Safety Code; Sections 305, 336, 350, 440, 445, 545, 546, 642, 680, 21400, 22452, 22515, 27153, 40001 and 40001(b)(5), Vehicle Code; and Sections 1201, 1900, 1962 and 2480, Title 13, California Code of Regulations.

Enclosure 1

Clean Copy of Title 13 California Code of Regulations Section 2485.

Note: The ARB is submitting only the operational restrictions included in 13CCR sections 2485(a) through (c)(1) and (d) through (h) as a SIP revision.

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- (a) *Purpose.* The purpose of this airborne toxic control measure is to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles.
- (b) *Applicability.* This section applies to diesel-fueled commercial motor vehicles that operate in the State of California with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. This specifically includes:
 - (1) California-based vehicles; and
 - (2) Non-California-based vehicles.
- (c) *Requirements.*

- (1) *Idling Restriction.*

On or after February 1, 2005, the driver of any vehicle subject to this section shall comply with the following requirements, except as noted in subsection (d) below:

- (A) the driver shall not idle the vehicle's primary diesel engine for greater than 5.0 minutes at any location.
 - (B) the driver shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 100 feet of a restricted area.

- (2) *Use of Alternative Technologies.*

- (A) On or after January 1, 2008, the driver shall not operate an internal combustion APS on any vehicle equipped with a 2007 and subsequent model year primary diesel engine unless the vehicle is:
 - 1. equipped with an APS meeting the emissions performance requirements found in subsection (c)(3)(A), below; and
 - 2. the vehicle is equipped with a label meeting the requirements pursuant to section 35.B.4 of the "California Exhaust Emission Standards and Test Procedures for 2004

and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” as incorporated by reference in title 13, CCR, section 1956.8(b).

- (B) On or after January 1, 2008, the driver shall not operate a fuel-fired heater on any vehicle equipped with a 2007 and subsequent model year primary diesel engine unless the fuel-fired heater meets the emissions performance requirements found in subsection (c)(3)(B), below;
 - (C) On or after January 1, 2008, the driver of a vehicle equipped with a 2006 or older model year primary diesel engine may use and operate in California any certified internal combustion APS with or without the additional PM control specified in subsection (c)(3)(A)1. or any other certified alternative idling reduction technology.
- (3) *Compliance Requirements.* As an alternative to idling the primary engine, diesel engines/vehicles may, as an option, be equipped with alternative technologies, as listed and defined below in (A), (B), and (C) of this subsection. If so equipped, these technologies are subject to the following requirements:
- (A) *Internal Combustion APS.*
 - 1. In order to operate in California, an APS utilizing an internal combustion engine must comply with applicable California off-road and/or federal non-road emission standards and test procedures for its fuel type and power category. In addition, diesel-fueled APSs installed on vehicles equipped with primary engines certified to the 2007 and subsequent model year heavy-duty diesel engine standards, pursuant to section 1956.8(a)(2)(A) of title 13, CCR, shall either,
 - a. be equipped with a verified Level 3 in-use strategy for particulate matter control (see title 13, CCR, sections 2700 to 2710), or
 - b. have its exhaust routed directly into the vehicle’s exhaust pipe, upstream of the diesel particulate matter aftertreatment device.
 - 2. With advance Executive Officer approval, a certifying/verifying APS manufacturer may petition for an alternate compliance strategy other than described in (A)1.a. or b. in this subsection above. However, this provision is

limited to manufacturers that can demonstrate, to the satisfaction of the Executive Officer, that their alternative strategy is equivalent (or “cleaner”), from an emissions standpoint, compared to the requirement described in (A)1.a. or b. in this subsection above. As an example, strategies that can use the available electric power infrastructure, instead of solely operating a diesel-fueled APS for engine and/or cab heating and cooling, may be able to use such a strategy to demonstrate compliance with these requirements.

- (B) *Fuel-Fired Heaters.* Fuel-fired heaters must comply with the applicable California emission standards and test procedures as specified in the Low Emission Vehicle program requirements found in title 13, CCR, subsections 1961(a)(15) and (d), or in Part I.E.1.13 of the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” as incorporated by reference in title 13, CCR, section 1961(d). However, the specified requirement that limits fuel-fired heaters from being operated above 40°F does not apply.
- (C) *Other Idle Reduction Technologies.* Other technologies that will reduce idling emissions may also be used, including the use of batteries, fuel cells, power inverter/chargers for on-shore electrical power, on-shore electric power infrastructure also known as truck stop electrification, and other technologies that produce minimal or no emissions. With the exception of battery and fuel cell powered APSs, power inverter/chargers, and electric power infrastructure, the use of other technologies are subject to advance Executive Officer approval and must be at least as effective in reducing idling emissions as the technologies described in subsections (c)(3)(A), above, or the NOx idling emission standard specified in title 13, CCR, section 1956.8(a)(6)(C). The Executive Officer shall use good engineering judgment and test data to determine if an idle reduction technology provides idling emission controls equivalent to the standards specified in subsection (c)(3)(A) above, or in title 13, CCR, section 1956.8(a)(6)(C).
- (D) *Labeling Requirements.* 2007 and subsequent model year commercial diesel vehicles equipped with an internal combustion APS meeting the requirements specified in subsection (c)(3)(A) shall have a label affixed to the hood of the vehicle to allow operation of the APS in California. The labels shall meet the requirements specified in section 35.B.4 of the “California Exhaust Emission Standards and Test Procedures

for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” as incorporated by reference in title 13, CCR, section 1956.8(b).

(d) *Exceptions.*

- (1) Except when a vehicle is located within 100 feet of a restricted area, subsection (c)(1)(A) does not apply, if the vehicle is equipped with
 - (A) a primary diesel engine meeting the optional NOx idling emission standard pursuant to title 13, CCR, section 1956.8(a)(6)(C); and
 - (B) a label meeting the requirements pursuant to section 35.B.4 of the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” as incorporated by reference in title 13, CCR, section 1956.8(b).
- (2) Subsection (c)(1) does not apply for the period or periods during which
 - (A) a bus is idling for
 - (1) up to 10.0 minutes prior to passenger boarding, or
 - (2) when passengers are onboard;
 - (B) prior to January 1, 2008, idling of the primary diesel engine is necessary to power a heater, air conditioner, or any ancillary equipment during sleeping or resting in a sleeper berth. This provision does not apply when operating within 100 feet of a restricted area;
 - (C) idling when the vehicle must remain motionless due to traffic conditions, an official traffic control device, or an official traffic control signal over which the driver has no control, or at the direction of a peace officer, or operating a diesel-fueled APS or other device at the direction of a peace officer;
 - (D) idling when the vehicle is queuing that at all times is beyond 100 feet from any restricted area;
 - (E) idling of the primary diesel engine, operating a diesel-fueled APS, or operating other devices when forced to remain motionless due to immediate adverse weather conditions

affecting the safe operation of the vehicle or due to mechanical difficulties over which the driver has no control;

- (F) idling to verify that the vehicle is in safe operating condition as required by law and that all equipment is in good working order, either as part of a daily vehicle inspection or as otherwise needed, provided that such engine idling is mandatory for such verification;
- (G) idling of the primary diesel engine, operating a diesel-fueled APS, or operating other devices is mandatory for testing, servicing, repairing, or diagnostic purposes, including regeneration or maintenance of the exhaust emission control device during engine idling when the dashboard indicator light, if so equipped, is illuminated indicating that regeneration or maintenance is in progress;
- (H) idling when positioning or providing a power source for equipment or operations, other than transporting passengers or propulsion, which involve a power take off or equivalent mechanism and is powered by the primary engine for:
 - (1) controlling cargo temperature, operating a lift, crane, pump, drill, hoist, mixer (such as a ready mix concrete truck), or other auxiliary equipment;
 - (2) providing mechanical extension to perform work functions for which the vehicle was designed and where substitute alternate means to idling are not reasonably available; or
 - (3) collection of solid waste or recyclable material by an entity authorized by contract, license, or permit by a school or local government;
- (I) idling of the primary diesel engine, operating a diesel-fueled APS, or operating other devices when operating defrosters, heaters, air conditioners, or other equipment solely to prevent a safety or health emergency;
- (J) idling of the primary diesel engine, operating a diesel-fueled APS, or operating other devices by authorized emergency vehicles while in the course of providing services for which the vehicle is designed;
- (K) idling of military tactical vehicles during periods of training, testing, and deployment; and

- (L) idling when operating equipment such as a wheelchair or people assist lift as prescribed by the Americans with Disabilities Act.

(e) *Relationship to Other Law.*

Nothing in this section allows idling in violation of other applicable law, including, but not limited to:

- (1) California Vehicle Code Section 22515;
 - (2) Title 13, Section 2480, California Code of Regulations;
 - (3) California Health and Safety Code Section 40720; or
 - (4) any applicable ordinance, rule, or requirement as stringent as, or more stringent than, this section.
- (f) *Enforcement.* This section may be enforced by the Air Resources Board; peace officers as defined in California Penal Code, title 3, chapter 4.5, Sections 830 et seq. and their respective law enforcement agencies' authorized representatives; and air pollution control or air quality management districts.
- (g) *Penalties.* For violations of subsection (c)(1), (c)(2) or (c)(3), the driver of a subject vehicle is subject to a minimum civil penalty of 300 dollars and to criminal penalties as specified in the Health and Safety Code and the Vehicle Code.
- (h) *Definitions.*

The following definitions apply to this section:

- (1) "Authorized emergency vehicle" is as defined in Vehicle Code Section 165.
- (2) "Auxiliary power system" or "APS" means any device that is permanently dedicated to the vehicle on which it is installed and provides electrical, mechanical, or thermal energy to the primary diesel engine, truck cab, and/or sleeper berth, bus's passenger compartment or any other commercial vehicle's cab, as an alternative to idling the primary diesel engine.
- (3) "Bus" means any vehicle defined in Title 13, California Code of Regulations, Section 2480, subsections (h) (13)-(16), inclusive or as defined in the Vehicle Code Section 233.

- (4) "Commercial Motor Vehicle" means any vehicle or combination of vehicles defined in Vehicle Code Section 15210(b) and any other motor truck or bus with a gross vehicle weight rating of 10,001 pounds or more, except the following:
 - (A) a zero emission vehicle; or
 - (B) a pickup truck as defined in Vehicle Code Section 471.
- (5) "Driver" is as defined in Vehicle Code Section 305.
- (6) "Fuel-fired heater" means a fuel burning device that creates heat for the purpose of (1) warming the cab or sleeper berth compartment of a vehicle or (2) warming the engine oil and/or coolant for easy start-up of the vehicle's engine but does not contribute to the propulsion of the vehicle.
- (7) "Gross vehicle weight rating" is as defined in Vehicle Code Section 350.
- (8) "Highway" is as defined in Vehicle Code Section 360.
- (9) "Idling" means the vehicle engine is running at any location while the vehicle is stationary.
- (10) "Motor truck" or "motortruck" means a motor vehicle designed, used, or maintained primarily for the transportation of property.
- (11) "Official traffic control device" is as defined in Vehicle Code Section 440.
- (12) "Official traffic control signal" is as defined in Vehicle Code Section 445.
- (13) "Owner" is as defined in Vehicle Code Section 460.
- (14) "Primary diesel engine" means the diesel-fueled engine used for vehicle propulsion.
- (15) "Queuing" means (A) through (C)
 - (A) the intermittent starting and stopping of a vehicle;
 - (B) while the driver, in the normal course of doing business, is waiting to perform work or a service; and
 - (C) when shutting the vehicle engine off would impede the progress of the queue and is not practicable.
 - (D) Queuing does not include the time a driver may wait motionless in line in anticipation of the start of a workday or opening of a location where work or a service will be performed.

- (16) "Restricted area" means any real property zoned for individual or multifamily housing units that has one or more of such units on it.
- (17) "Safety or health emergency" means:
 (A) a sudden, urgent, or usually unforeseen, occurrence; or
 (B) a foreseeable occurrence relative to a medical or physiological condition.
- (18) "Sleeper berth" is as defined in Title 13, California Code of Regulations, Section 1265.
- (19) "Vehicle" is as defined in the Vehicle Code Section 670.

Authority: Sections 39600, 39601, 39614(b)(6)(A), 39658, 39667, 43000.5(d), 43013(b), 43013(h), 43018(b) and 43018(c), Health and Safety Code; and *Western Oil & Gas Assn. v. Orange County Air Pollution Control Dist.* (1975) 14 Cal.3d.411.

Reference: Sections 39002, 39003, 39027, 39500, 39600, 39650, 39655, 39656, 39657, 39658, 39659, 39662, 39665, 39674, 39675, 39667, 42400, 42400.1, 42400.2, 42400.3, 42402, 42402.1, 42402.2, 42402.3, 42403.5, 42410, 43000.5(d), 43013 and 43018, Health and Safety Code; Sections 305, 336, 350, 440, 445, 545, 546, 642, 680, 21400, 22452, 22515, 27153, 40001 and 40001(b)(5), Vehicle Code; and Sections 1201, 1900, 1962 and 2480, Title 13, California Code of Regulations.

C

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS
TITLE 13. MOTOR VEHICLES
DIVISION 3. AIR RESOURCES BOARD
CHAPTER 14. VERIFICATION PROCEDURE, WARRANTY AND IN-USE COMPLIANCE
REQUIREMENTS FOR IN-USE STRATEGIES TO CONTROL EMISSIONS FROM DIESEL ENGINES

This database is current through 12/26/08, Register 2008, No. 52

§ 2701. Definitions.

(a) The definitions in [Section 1900\(b\), Chapter 1, Title 13 of the California Code of Regulations](#) are incorporated by reference herein. The following definitions shall govern the provisions of this chapter:

(1) "15 ppmw or less sulfur fuel" means diesel fuel with a sulfur content equal to or less than 15 parts per million by weight (ppmw).

(2) "Alternative Diesel Fuel" means any fuel used in diesel engines that is not commonly or commercially known, sold or represented as diesel fuel No. 1- D or No. 2-D, pursuant to the specifications in ASTM Standard Specification for Diesel Fuel Oils D975-81, and does not require engine or fuel system modifications for the engine to operate, although minor modifications (e.g. recalibration of the engine fuel control) may enhance performance. Examples of alternative diesel fuels include, but are not limited to, biodiesel, Fischer Tropsch fuels, and emulsions of water in diesel fuel. Natural gas is not an alternative diesel fuel. An emission control strategy using a fuel additive will be treated as an alternative diesel fuel based strategy unless:

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

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

(C) The additive and base fuel are not mixed until vehicle or engine fueling commences, and no more ad-

ditive plus base fuel combination is mixed than required for a single fueling of a single engine or vehicle.

(3) "Approach Light System with Sequenced Flasher Lights in Category 1 and Category 2 Configurations" (ALSF-1 and ALSF-2) mean high intensity approach lighting systems with sequenced flashers used at airports to illuminate specified runways during category II or III weather conditions, where category II means a decision height of 100 feet and runway visual range of 1,200 feet, and category III means no decision height or decision height below 100 feet and runway visual range of 700 feet.

(4) "Applicant" means the entity that has applied for or has been granted verification under this Procedure.

(5) "Auxiliary Emission Control Device" (AECD) means any device or element of design that senses temperature, vehicle speed, engine revolutions per minute (RPM), transmission gear, manifold vacuum, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of the emission control system.

(6) "Average" means the arithmetic mean.

(7) "Backpressure Monitor" means a device that includes a sensor for measuring the engine backpressure upstream of a hardware-based diesel emission control system or component thereof installed in the exhaust system and an indicator to notify the operator when the backpressure exceeds specified high and in some cases low backpressure limits, as defined by the engine manufacturer or the applicant for verification of a diesel emission control strategy.

(8) "Baseline" means the test of a vehicle or engine without the diesel emission control strategy implemented.

(9) "Cold Start" means the start of an engine only after the engine oil and water temperatures are stabilized between 68 and 86 degrees F for a minimum of 15 minutes.

13 CCR § 2701

Cal. Admin. Code tit. 13, § 2701

(10) "Diesel emission control strategy" or "Diesel emission control system" means any device, system, or strategy employed with an in-use diesel vehicle or piece of equipment that is intended to reduce emissions. Examples of diesel emission control strategies include, but are not limited to, particulate filters, diesel oxidation catalysts, selective catalytic reduction systems, fuel additives used in combination with particulate filters, alternative diesel fuels, and combinations of the above.

(11) "Diesel Emission Control Strategy Family Name." See Section 2706(g)(2).

(12) "Diesel Engine" means an internal combustion engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The primary means of controlling power output in a diesel cycle engine is by limiting the amount of fuel that is injected into the combustion chambers of the engine. A diesel cycle engine may be petroleum-fueled (i.e., diesel-fueled) or alternate-fueled.

(13) "Durability" means the ability of the applicant's diesel emission control strategy to maintain a level of emissions below the baseline and maintain its physical integrity over some period of time or distance determined by the Executive Officer pursuant to these regulations. The minimum durability testing periods contained herein are not necessarily meant to represent the entire useful life of the diesel emission control strategy in actual service.

(14) "Emergency Standby Engine" means a diesel engine operated solely for emergency use, except as otherwise provided in airborne toxic control measures adopted by the ARB.

(15) "Emergency Use" means using a diesel engine to provide electrical power or mechanical work during any of the following events and subject to the following conditions:

(A) The failure or loss of all or part of normal electrical power service or normal natural gas supply to the facility,

(B) The failure of a facility's internal power distribu-

tion system,

(C) The pumping of flood water or sewage to prevent or mitigate a flood or sewage overflow,

(D) The pumping of water for fire suppression or protection,

(E) The powering of ALSF-1 and ALSF-2 airport runway lights under category II or III weather conditions,

(F) Other conditions as specified in airborne toxic control measures adopted by the ARB.

(16) "Emission control group" means a set of diesel engines and applications determined by parameters that affect the performance of a particular diesel emission control strategy. The exact parameters depend on the nature of the diesel emission control strategy and may include, but are not limited to, certification levels of engine emissions, combustion cycle, displacement, aspiration, horsepower rating, duty cycle, exhaust temperature profile, and fuel composition. Verification of a diesel emission control strategy and the extension of existing verifications are done on the basis of emission control groups.

(17) "Executive Officer" means the Executive Officer of the Air Resources Board or the Executive Officer's designee.

(18) "Executive Order" means the document signed by the Executive Officer that specifies the verification level of a diesel emission control strategy for an emission control group and includes any enforceable conditions and requirements necessary to support the designated verification.

(19) "Fuel Additive" means any substance designed to be added to fuel or fuel systems or other engine-related 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 entire vehicle or one of its component parts, or any combination thereof; or assists diesel emission control strategies in decreasing emissions, or improving

13 CCR § 2701

Cal. Admin. Code tit. 13, § 2701

fuel economy or increasing performance of a vehicle or component part, or any combination thereof. Fuel additives used in conjunction with diesel fuel may be treated as an alternative diesel fuel. See Section 2701 (a)(2).

(20) "Hot Start" means the start of an engine within four hours after the engine is last turned off. The first hot start test run should be initiated 20 minutes after the cold start for Federal Test Procedure testing following [Section 86.1327-90 of the Code of Federal Regulations, Title 40, Part 86](#).

(21) "Portable Engine" means an engine designed and capable of being carried or moved from one location to another, except as defined in section 2701(a)(24). Engines used to propel mobile equipment of a motor vehicle of any kind are not portable. Indicators of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. A portable engine cannot remain at the same facility location for more than 12 consecutive rolling months or 365 rolling days, whichever occurs first, not including time spent in a storage facility. If it does remain at the facility for more than 12 months, it is considered to be a stationary engine. The definitions in [Title 13 California Code of Regulations section 2452\(g\)](#) and [section 2452\(x\)](#) are incorporated by reference herein.

(22) "Regeneration", in the context of diesel particulate filters, means the periodic or continuous combustion of collected particulate matter that is trapped in a particulate filter through an active or passive mechanism. Active regeneration requires a source of heat other than the exhaust itself to regenerate the particulate filter. Examples of active regeneration strategies include, but are not limited to, the use of fuel burners and electrical heaters. Passive regeneration does not require a source of heat for regeneration other than the exhaust stream itself. Examples of passive regeneration strategies include, but are not limited to, the use of fuel additives and the catalyst-coated particulate filter. In the context of NOx reduction strategies, "regeneration" means the desorption and reduction of NOx from NOx adsorbers (or NOx traps) during rich operation conditions.

(23) "Revoke" means to cancel the verification status of

a diesel emission control strategy. If a diesel emission control strategy's verification status is revoked by the Executive Officer, the applicant must immediately cease and desist selling the diesel emission control strategy to end-users.

(24) "Stationary Engine" means an engine that is designed to stay in one location, or remains in one location. An engine is stationary if any of the following are true:

(A) The engine or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. Any engine that replaces engine(s) at a location, and is intended to perform the same or similar function as the engine(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s), including the time between the removal of the original engine(s) and installation of the replacement engine(s), will be counted toward the consecutive time period; or

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

(C) The engine is moved from one location to another in an attempt to circumvent the residence time requirements [Note: The period during which the engine is maintained at a storage facility shall be excluded from the residency time determination.] The definitions in [Title 13 California Code of Regulations section 2452\(g\)](#) and [section 2452\(x\)](#) are incorporated by reference herein.

(25) "Verification" means a determination by the Executive Officer that a diesel emission control strategy meets the requirements of this Procedure. This determination is based on both data submitted or otherwise known to the Executive Officer and engineering judge-

13 CCR § 2701

Cal. Admin. Code tit. 13, § 2701

ment.

<General Materials (GM) - References, Annotations, or
Tables>43000, 43009.5, 43013, 43018, 43101, 43104, 43105,
43106, 43107 and 43204-43205.5, Health and Safety
Code; and Title 17 California Code of Regulations Sec-
tion 93000.

Note: Authority cited: Sections 39002, 39003, 39500,
39600, 39601, 39650-39675, 40000, 43000, 43000.5,
43011, 43013, 43018, 43105, 43600 and 43700, Health
and Safety Code. Reference: Sections 39650-39675,

HISTORY

1. New section filed 5-12-2003; operative 6-11-2003 (Register 2003, No. 20).

2. Amendment of subsection (a)(2) filed 7-15-2004; operative 8-14-2004
(Register 2004, No. 29).

3. New subsections (a)(3), (a)(14)-(a)(15)(F), (a)(21) and (a)(24)-(a)(24)(C),
repealer of subsections (a)(13), (a)(19) and (a)(22) and subsection renumbering
filed 12-2-2004; operative 1-1-2005 (Register 2004, No. 49).

13 CCR § 2701, 13 CA ADC § 2701**13 CA ADC § 2701**

END OF DOCUMENT

FINAL REGULATION ORDER
LSI FLEET REQUIREMENTS REGULATION

Note: The proposed modifications are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions, compared to the preexisting regulatory language.

Amend Article 2, Large Sparks Ignition (LSI) Engine Fleet Requirements, within Chapter 15, Division 3, Title 13, California Code of Regulations, sections 2775, 2775.1, and 2775.2 to read as follows:

§ 2775. Applicability.

- (a) General Applicability. This article applies to operators of off-road large spark-ignition (LSI) engine forklifts, sweepers/scrubbers, industrial tow tractors or airport ground support equipment operated within the State of California in the conduct of business with:
 - (1) 25 horsepower or more (greater than 19 kilowatts for 2005 and later model year engines), and
 - (2) greater than 1.0 liter displacement.
- (b) Exemptions.
 - (1) Small Fleets as defined in subsection (d).
 - (2) Rental or lease equipment operated in California no more than 30 aggregated calendar days per year shall be exempt from the requirements of this article.
 - (3) Off-road military tactical vehicles or equipment exempt from regulation under the federal national security exemption, 40 CFR, subpart J, section 90.908, are exempt from the requirements of this article. Vehicles and equipment covered by the definition of military tactical vehicle that are commercially available and for which a federal certificate of conformity has been issued under 40 CFR Part 90, subpart B, shall also be exempt from the requirements of this article.
 - (4) In-field equipment shall be exempt from the requirements of this article.
- (c) Each part of this article is severable, and in the event that any part of this chapter or article is held to be invalid, the remainder of the article shall remain in full force and effect.
- (d) Definitions. The definitions in Section 1900 (b), Chapter 1, and Section 2431 (a), Chapter 9 of Title 13 of the California Code of Regulations apply to this article. In addition, the following definitions apply to this article:

- (1) “Aggregated Operations” means all of an operator’s California facilities for which equipment purchasing decisions are centrally made. Facilities that budget and make equipment purchasing decisions independent of a government or corporate headquarters are assumed to be independent and therefore are not required to be aggregated for the purpose of determining fleet size.
- (2) “Agricultural Crop Preparation Services” means packinghouses, cotton gins, nut hullers and processors, dehydrators, feed and grain mills, and other related activities that fall within the United States Census Bureau NAICS (North American Industry Classification System) definition for Industry 115114 – “Postharvest Crop Activities,” as published in the North American Industry Classification System – United States, 2002. For forest operations, “Agricultural Crop Preparation Services” means milling, peeling, producing particleboard and medium density fiberboard, and producing woody landscape materials and other related activities that fall within the United States Census Bureau NAICS definition for Industries 321113 (Sawmills) and 321219 (Reconstituted Wood Product Manufacturing,” as published in the North American Industry Classification System – United States, 2007.
- (3) “Agricultural Operations” means (1) the growing or harvesting of crops from soil (including forest operations) and the raising of plants at wholesale nurseries, but not retail nurseries, or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution, or (2) agricultural crop preparation services.

For purposes of this regulation, a piece of equipment that is used by its operator for both agricultural and non-agricultural operations is considered to be a piece of equipment engaged in agricultural operations, only if over half of its annual operating hours are for agricultural operations.

- (4) “Airport Ground Support Equipment,” “Ground Service Equipment,” or “GSE” means any large spark-ignition engine or electric- motor powered equipment capable of and used for performing the work normally performed by an LSI engine-powered piece of equipment contained in the 24 categories of equipment included in section B.3. of Appendix 2 of the South Coast Ground Support Equipment Memorandum of Understanding, dated November 27, 2002 except that equipment that falls into the “other” category shall not be considered GSE for the purposes of this regulation. Specifically included in this definition are those categories of GSE equipment designed for on-road use, but not licensed for on-road use (“On-Road Equivalent” GSE).
- (5) “Baseline Inventory” means an inventory of equipment as defined in this subdivision that reflects all equipment ~~owned~~ operated at the time of the inventory.

- (6) “Boneyard” means a grouping of decommissioned or retired pieces of equipment at a location geographically separated from operational fleets subject to the fleet average requirements and intended for transfer, sale, spare parts, or scrap. These pieces of equipment are not generally operational.
- (7) “Certification Standard” means the level to which an LSI engine is certified, in grams per kilowatt-hour of hydrocarbon and oxides of nitrogen, combined, as identified in an Executive Order (EO) issued by the Executive Officer of the California Air Resources Board.
- (8) “Dehydrators” means sun drying of fruits, vegetables, tomatoes, dates, prunes, raisins and olives, or artificially drying and dehydrating fruits, vegetables, tomatoes, dates, prunes, raisins, grapes, and olives.
- (9) “Emission Control System” means any device or system employed with a new or in-use off-road LSI-engine ~~vehicle or~~ powered piece of equipment that is intended to reduce emissions. Examples of LSI emission control systems include, but are not limited to, closed-loop fuel control systems, fuel injection systems, three-way catalysts, and combinations of the above.
- (10) “Equipment” or “Pieces of Equipment” means one or more forklifts, industrial tow tractors, sweeper/scrubbers, or pieces of airport ground support equipment as defined in this section powered by an LSI engine or electric motor.
- (11) “Executive Officer” means the Executive Officer of the California Air Resources Board, or his or her delegate.
- (12) “Executive Order” means a document signed by the Executive Officer that specifies the standard to which a new LSI engine is certified or the level to which an LSI retrofit emission control system is verified.
- (13) “Facility” means any structure, appurtenance, installation, and improvement on land that operates and/or garages one or more pieces of equipment.
- (14) “Facility Sample” means the selection of one or more individual facilities from an operator’s California facilities for comparison to the operator’s aggregate fleet inventory for fleet average calculation.
- (15) “Fleet Average Emission Level” means the arithmetic mean of the combined hydrocarbon plus oxides of nitrogen emissions certification standard or verification absolute emissions level for each ~~piece of~~ applicable LSI engine with an emission control system equipment and the default emission rate for each uncontrolled LSI engine comprising an operator’s fleet. LSI engines installed in equipment meeting the boneyard or retired equipment definitions shall not be included in fleet average emission level compliance calculations. For the purposes of calculating the fleet average, electric- motor powered equipment shall be considered to have combined hydrocarbon plus oxides of nitrogen emissions level of zero (0). Electric- motor powered equipment of less than 19

kilowatts shall be allowed to be included in the fleet average calculation provided that it meets the airport ground support equipment, forklift, industrial tow tractor, or sweeper/scrubber definition and the operator can demonstrate that the equipment performs, with similar efficiency, the same function as the work equivalent of an LSI engine-powered piece of equipment. For the purposes of calculating the fleet average for a non-forklift fleet, each piece of On-Road Equivalent GSE shall be considered to have a combined hydrocarbon plus oxides of nitrogen emissions level as follows: 1.1 g/bhp-hr (1.5 g/kW-hr) for purposes of determining compliance with the 1/1/2009 standard; 0.8 g/bhp-hr (1.1 g/kW-hr) for purposes of determining compliance with the 1/1/2011 standard; and 0.7 g/bhp-hr (0.9 g/kW-hr) for purposes of determining compliance with the 1/1/2013 standard. For the purpose of calculating the fleet average, fleet operators shall be permitted to exclude at their discretion any electric- motor powered equipment that could otherwise be used to lower the LSI fleet's average emission level.

- (16) “Forest operations” means (A) forest fire prevention activities performed by public agencies, including but not limited to construction and maintenance of roads, fuel breaks, firebreaks, and fire hazard abatement or (B) cutting or removal or both of timber, other solid wood products, including Christmas trees, and biomass from forestlands for commercial purposes, together with all the work incidental thereto, including but not limited to, construction and maintenance of roads, fuel breaks, firebreaks, stream crossings, landings, skid trails, beds for falling trees, fire hazard abatement, and site preparation that involves disturbance of soil or burning of vegetation following forest removal activities. Forest operations include the cutting or removal of trees, tops, limbs and or brush which is processed into lumber and other wood products, and or for landscaping materials, or biomass for electrical power generation. Forest operations do not include conversion of forestlands to other land uses such as residential or commercial developments.
- (17) “Forklift” means an electric motor powered Class 1 or 2 rider truck or a large spark-ignition engine-powered Class 4 or 5 rider truck as defined by the Industrial Truck Association. Electric Class 3 trucks are not forklifts for the purposes of this regulation.
- (18) “Industrial Tow Tractor” means an electric motor powered or large spark-ignition engine-powered Class 6 truck as defined by the Industrial Truck Association. Industrial tow tractors are designed primarily to push or pull non-powered trucks, trailers, or other mobile loads on roadways or improved surfaces. Industrial tow tractors are commonly referred to as tow motors or tugs. Industrial tow tractors are distinct from airport ground support equipment tugs for the purposes of this regulation.
- (19) “In-field equipment” means agricultural operations or forest operations equipment that is used no more than half of its annual operating hours in agricultural crop preparation services.

- (20) “Label” means a permanent material that is welded, riveted or otherwise permanently attached to the engine block or other major component in such a way that it will be readily visible after installation of the engine in the equipment. If the equipment obscures the label on the engine, the equipment manufacturer must attach a supplemental label such that it is readily visible. The label will state the emission standard or verification absolute emissions level to which the engine or equipment was certified.
- (21) “Large Fleet” means an operator’s aggregated operations in California of 26 or more pieces of equipment.
- (22) “Leased forklift” for use in agricultural crop preparation services means a forklift under a contract or agreement for a term or period of one year or more that may include an option to purchase the forklift.
- (23) “Limited Hours of Use equipment or LHU equipment” means a piece of equipment that, on a year-by-year basis, was operated in California fewer hours than the prescribed threshold established for the preceding calendar year (the 12-month period running from January 1 to December 31). The threshold for the 2010 calendar year is 251 hours. The threshold for 2011 and subsequent calendar years is 200 hours. For example, an operator would only consider that a piece of equipment had met the requirements of the LHU provisions for exclusion from a fleet average emission level calculation performed in 2014 if the piece of equipment were used fewer than 200 hours between January 1, 2013 and December 31, 2013.
- (24) “LSI Retrofit Emission Control System” means an emission control system employed exclusively with an in-use ~~off-road~~ LSI-engine powered vehicle or piece of equipment.
- (25) “Manufacturer” means the manufacturer granted new engine certification or retrofit emission control system verification.
- (26) “Medium Fleet” means an operator’s aggregated operations in California of 4 to 25 pieces of equipment.
- (27) “Memorandum of Understanding Signatories” or “MOU Signatories” means any of the airlines that entered into the South Coast Ground Support Equipment Memorandum of Understanding, dated November 27, 2002.
- (28) “Military tactical vehicles or equipment” means vehicles or pieces equipment that meet military specifications, are owned by the U.S. Department of Defense and/or the U.S. military services or its allies, and are used in combat, combat support, combat service support, tactical or relief operations, or training for such operations.

- (29) ["Model Year" means the manufacturer's annual production period, which includes January 1 of a calendar year or, if the manufacturer has no annual production period, the calendar year.]¹
- (30) ["New Engine" means an engine's ownership has not been transferred to the ultimate consumer.]
- (31) "Non-forklift fleet" means an operator's aggregated operations in California of four (4) or more sweeper/scrubbers, industrial tow tractors, or pieces of airport ground support equipment, alone or in combination.
- (32) ["Off-Road Large Spark-ignition Engines" or "LSI Engines" means any engine that produces a gross horsepower of 25 horsepower or greater (greater than 19 kilowatts for 2005 and later model years) or is designed (e.g., through fueling, engine calibrations, valve timing, engine speed modifications, etc.) to produce 25 horsepower or greater (greater than 19 kilowatts for 2005 and later model years). If an engine family has models at or above 25 horsepower (greater than 19 kilowatts) and models below 25 horsepower (at or below 19 kilowatts), only the models at or above 25 horsepower (above 19 kilowatts) would be considered LSI engines. The engine's operating characteristics are significantly similar to the theoretical Otto combustion cycle with the engine's primary means of controlling power output being to limit the amount of air that is throttled into the combustion chamber of the engine. LSI engines or alternate fuel-powered LSI internal combustion engines are designed for powering, but not limited to powering, forklift trucks, sweepers, generators, and industrial equipment and other miscellaneous applications. All engines and equipment that fall within the scope of the preemption of Section 209(e)(1)(A) of the Federal Clean Air Act, as amended, and as defined by regulation of the Environmental Protection Agency, are specifically excluded from this category. Specifically excluded from this category are: 1) engines operated on or in any device used exclusively upon stationary rails or tracks; 2) engines used to propel marine vessels; 3) internal combustion engines attached to a foundation at a location for at least 12 months; 4) off-road recreational vehicles and snowmobiles; and 5) stationary or transportable gas turbines for power generation.]
- (33) "Operations equipment" as used in the "Operator" definition means equipment that is operated by a person whose usual and customary business is the rental, leasing, or sale of equipment and is used more than 50 percent of the time for rental or lease, or is designated for sale.
- (34) "Operator" means a person with legal right of possession and use of LSI engine a piece of equipment other than including a person whose usual and customary business is the rental, or leasing, or sale of LSI engine equipment as provided below. ~~Operator includes a person whose usual and customary business is the~~

¹ Bracketed definitions are replicated for ease of use and presentation clarity from Section 1900 (b), Chapter 1, or Section 2431 (a), Chapter 9, of Title 13 of the California Code of Regulations.

~~rental or leasing of LSI engine equipment for any LSI engine equipment not solely possessed or used for rental or leasing.~~

A person whose usual and customary business is the rental, leasing, or sale of equipment will be deemed an operator of:

(A) all service equipment (as defined in section 2775(d)(40) regardless of hours of operation, and

(B) any operations equipment (as defined in section 2775(d)(33) they use more than 50 hours per year.

(35) “Rental forklift” for use in agricultural crop preparation services means a forklift under a contract or agreement for a term or period of less than one year that may include an option to renew the contract or agreement.

(36) “Repower” means a new or remanufactured engine and parts offered by the OEM or by a non-OEM rebuilder that has been demonstrated to the ARB to be functionally equivalent from a durability standpoint to the OEM engine and components being replaced.

(37) “Retired equipment” means equipment with an operational non-resettable hour meter that has been removed from service and rendered inoperable using the following procedures:

1.(A) Remove fuel and the starter battery from the piece of equipment. For propane-fueled LSI engines, the operator may simply remove the fuel canister.

2.(B) Remove the steering wheel from the piece of equipment.

3.(C) Store the retired equipment at a central location, apart from operational equipment, either within the facility or elsewhere, and employ lockout/tagout controls. At a minimum, place a lockout box on either the propane connector or the positive cable to the starter battery. Operators planning to scrap a piece of equipment need not use a lockout box, but may instead sever the positive battery cable more than six inches from the connector.

4.(D) Record the initial hour meter reading at the time of decommission and write the date of decommission and the initial meter reading in permanent ink in a readily visible location on a non-removable surface of the piece of equipment. Additionally, record the hour meter serial number, if available. Continue to record meter readings at quarterly intervals (every three months), and sign under penalty of perjury. Retain records in accordance with the LSI record keeping requirements in section 2775.2.

5.(E) Develop an inventory for all retired pieces of equipment at the date of first retirement and sign, under penalty of perjury, that the equipment is retired for the purposes of the LSI Fleet Regulation.

Retired equipment may remain at the facility for up to one year. After one year, the retired equipment must either be removed from the facility or reentered into FAEL standards calculations.

- (38) “Retrofit” means the application of an emission control system to a non-new LSI engine.
- (39) “Serial Number” means an engine serial number and date of engine manufacture (month and year) that are stamped on the engine block or stamped on a metal label riveted or permanently attached to the engine block. Engine manufacturers must keep records such that the engine serial number can easily be used to determine if an engine was certified for the applicable model year, and beginning January 1, 2007, the standard to which the engine was certified.
- (40) “Service equipment” as used in the “Operator” definition means equipment that is operated by a person whose usual and customary business is the rental, leasing, or sale of equipment and is used more than 50 percent of the time for yard operations necessary to support the equipment rental, leasing, or sales business.
- (41) “Small Fleet” means an operator’s aggregated operations in California of 1 to 3 forklifts and/or 1 to 3 pieces of non-forklift equipment.
- (42) “Sweeper/scrubber” means an electric motor powered or large spark-ignition engine-powered piece of industrial floor cleaning equipment designed to brush and vacuum up small debris and litter or scrub and squeegee the floor, or both.
- (43) “Specialty Equipment” means a piece of equipment with unique or specialized performance capabilities that allow it to perform prescribed tasks and as approved by the Executive Officer.
- (44) [“Ultimate Purchaser” means the first person who in good faith purchases a new LSI engine or equipment using such engine for purposes other than resale.]
- (45) “Uncontrolled LSI Engine” means pre-2001 uncertified engines and 2001-2003 certified uncontrolled LSI engines. The default emission rate for an uncontrolled LSI engine is 12.0 grams per brake horsepower-hour (16.0 grams per kilowatt-hour) of hydrocarbon plus oxides of nitrogen.
- (46) “Verification” means a determination by the Executive Officer that the LSI emission control system meets the requirements of this Procedure. This determination is based on both data submitted or otherwise known to the Executive Officer and engineering judgement.
- (47) “Verification Level” means one of four emission reduction classifications that apply to the performance capability of retrofit emission control systems as described in Title 13, California Code of Regulations, Section 2782(f), Table 1, as set forth in Table 1:

Table 1. LSI Engine Retrofit System Verification Levels

<i>Classification</i>	<i>Percentage Reduction (HC+NOx)</i>	<i>Absolute Emissions (HC+NOx)</i>
LSI Level 1 ⁽¹⁾	> 25% ⁽²⁾	Not Applicable
LSI Level 2 ⁽¹⁾	> 75% ⁽³⁾	3.0 g/bhp-hr ⁽³⁾ (4.0 g/kW-hr)
LSI Level 3a ⁽¹⁾	> 85% ⁽⁴⁾	0.5, 1.0, 1.5, 2.0, 2.5 g/bhp-hr (0.7, 1.3, 2.0, 2.7, 3.4 g/kW- hr)
LSI Level 3b ⁽⁵⁾	Not Applicable	0.5, 1.0, 1.5, 2.0 g/bhp-hr (0.7, 1.3, 2.0, 2.7 g/kW- hr)

Notes:

- (1) Applicable to uncontrolled engines only
- (2) The allowed verified emissions reduction is capped at 25% regardless of actual emission test values
- (3) The allowed verified reduction for LSI Level 2 is capped at 75% or 3.0 g/bhp-hr (4.0 g/kW-hr) regardless of actual emission test values
- (4) Verified in 5% increments, applicable to LSI Level 3a classifications only
- (5) Applicable to emission-controlled engines only

NOTE: Authority cited: Sections 39600, 39601, 43013, and 43018, Health and Safety Code. Reference: Sections 43013, 43017, and 43018, Health and Safety Code.

§ 2775.1. Standards.

- (a) Operators of forklift and/or non-forklift fleets shall first determine the size of their fleets, using the equipment definitions in Section 2775. Equipment meeting the boneyard and retired equipment definitions shall not be included in fleet size determinations. Then, except as provided in subdivisions (c), (d), (e), and (f), operators of medium and large forklift fleets and operators of non-forklift fleets with more than three pieces of equipment shall comply with the fleet average emission level standards in Table 2 by the specified compliance dates.

**Table 2: Fleet Average Emission Level Standards
in grams per kilowatt-hour (brake-horsepower-hour)
of hydrocarbons plus oxides of nitrogen**

Fleet Type	Initial Compliance Date		
	1/1/2009	1/1/2011	1/1/2013
Large Forklift Fleet	3.2 (2.4)	2.3 (1.7)	1.5 (1.1)
Medium Forklift Fleet	3.5 (2.6)	2.7 (2.0)	1.9 (1.4)
Non-forklift Fleet	4.0 (3.0)	3.6 (2.7)	3.4 (2.5)

- (1) Fleet operators subject to the fleet average provisions shall include in their fleet average calculations any piece of equipment that the operator has rented or leased or reasonably expects to rent or lease for a period of one year or more.
- (2) Fleet operators may exclude from the fleet average calculation uncontrolled 2003 and 2004 model year rental equipment (if the equipment is rented for a period of less than one year) until January 1, 2010.
- (3) In addition to the provisions of (a)(2) above, fleet operators may exclude from the fleet average calculation rental or leased equipment if:
 - (A) the rental or lease is for a period of less than one year, and
 - (B) the rental or lease component comprises no more than 20 percent of the operator's equipment at any time, and
 - (C) the equipment rented or leased during the period from January 1, 2009 through December 31, 2010 is controlled to a 4.0 g/kW-hr (3.0 g/bhp-hr) standard or better and equipment rented or leased on or after January 1, 2011 is controlled to a 2.7 g/kW-hr (2.0 g/bhp-hr) standard or better.
- (4) Fleet operators shall comply with the applicable fleet average standard in Table 2 with the following exceptions:
 - (A) if through business expansion, a fleet meets the definition of a larger size category, the fleet may continue to comply with the applicable fleet standard for the initial size category until the subsequent compliance date, at which time the fleet must meet the applicable fleet standard for the new fleet size category, or

- (B) if through retirement or other fleet size reduction mechanism the fleet would otherwise be required to comply with a less stringent fleet standard, then the less stringent fleet standard becomes effective immediately.
- (b) Operators of mixed fleets comprised of forklifts and non-forklift equipment shall determine fleet size individually for forklift fleets and non-forklift fleets; a mixed fleet with three or fewer forklifts and three or fewer non-forklift pieces of equipment shall be considered to be a small fleet.
- (c) Except as provided in subdivisions (d), (e) and (f), each operator of a forklift fleet used in agricultural crop preparation services shall address emissions from their owned forklifts with uncontrolled forklifts LSI engines as follows:
- (1) by January 1, 2009, identify that portion of the 1990 and newer LSI engine powered forklift fleet for which retrofit emission control systems have been verified and control 20 percent of that portion as prescribed in ~~subdivision (d)(1)(D)(i)~~ subsection (3) below; and
- (2) by January 1, 2012, control 100 percent of the ~~owned~~ 1990 and newer LSI engine powered forklift fleet for which retrofit emission control systems have been verified as prescribed in ~~subdivision (d)(1)(D)(i)~~ subsection (3) below.
- (3) To comply with subsections (1) and (2) of this section, operators shall retrofit or repower the LSI engine powered forklift to a Level 2 or Level 3 verification level as described in Title 13, California Code of Regulations, Section 2782 (f).
- ~~(3)~~(4) Operators of fleets used in agricultural crop preparation services may exclude from their LSI engine powered forklift fleet:
- (A) leased forklifts provided the forklifts meet a 4.0 g/kW-hr (3.0 g/bhp-hr) standard or better. Forklifts under a lease agreement that was initiated prior to May 25, 2006 may also be excluded from the 4.0 g/kW-hr standard for the life of the lease, or until January 1, 2010, whichever is earlier, and
- (B) rental forklifts rented on or after January 1, 2009, provided the forklifts meet a 4.0 g/kW-hr standard or better. Forklifts with an uncontrolled 2003 or 2004 model year engine may be excluded from the requirements of this subpart until January 1, 2010.
- (d) Limited Hours of Use Provisions.
- (1) Forklift and non-forklift equipment in medium and large fleets shall be exempted from the provisions of subdivision (a) of this section provided that:
- (A) the equipment meets the limited hours of use equipment definition as defined in section 2775(d)(23) ~~is used, on average over any three year period, less than 251 hours per year~~, and

- (B) the equipment is equipped with an operational non-resettable hours of use meter, and
- (C) the operator maintains hours of use records for the piece of equipment at a facility, ~~and,~~
- ~~(D) the operator addresses the emissions by January 1, 2011, through option (i) or (ii) below:~~
 - ~~(i) retrofit or repower the equipment to a Level 2 or Level 3 verification level as described in Title 13, California Code of Regulations, Section 2782 (f), or~~
 - ~~(ii) retire the equipment or replace the equipment with a new or used piece of equipment certified to a 4.0 g/kW-hr (3.0 g/bhp-hr) hydrocarbon plus oxides of nitrogen standard.~~
- (2) Forklifts used in agricultural crop preparation services fleets shall be exempted from the provisions of subdivision (c) of this section provided that they are used, on average over any three year period, less than 251 hours per year and meet the requirements of subdivisions (d)(1)(A)(B) through and (d)(1)(C).
- (e) Specialty Equipment Exemption.
 - (1) Forklift and non-forklift specialty equipment shall be exempt from the requirements of subdivisions (a) through (c) of this section provided that:
 - (A) the replacement cost exceeds the replacement cost of a “typical” piece of equipment from that category by 50 percent or the retrofit cost exceeds the “typical” retrofit cost of a piece of equipment from that category by 100 percent, and
 - (B) they are used, on average over any three year period, less than 251 hours per year and meet the requirements of subdivisions (d)(1)(A)(B) through and (d)(1)(C), and
 - (C) the Executive Officer approves the listing of the piece of equipment as specialty equipment.
- (f) Alternate Compliance Option for Operators of Fleets used in Agricultural Crop Preparation Services.
 - (1) Operators of forklift fleets used in agricultural crop preparation services shall be exempted from the provisions of subdivision (c) of this section provided that the forklift fleet complies with a 4.0 g/kW-hr (3.0 g/bhp-hr) fleet average emission level.
- (g) Use of Experimental Emission Control Strategies.

- (1) An operator may use an experimental emission control strategy provided by or operated by the manufacturer in no more than ten percent of his total fleet for testing and evaluation purposes. The operator shall keep documentation of this use in records as specified in Section 2775.2(b).
- (i) Severability. If any provision of this section or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the section that can be given effect without the invalid provision or application, and to this end the provisions of this section are severable.

NOTE: Authority cited: Sections 39600, 39601, 43013, and 43018, Health and Safety Code. Reference: Sections 43013, 43017, and 43018, Health and Safety Code.

§ 2775.2. Compliance Requirements for Fleet Operators.

- (a) Fleet operators subject to the fleet average emission level requirements contained in Table 2 of section 2775.1(a) shall conduct a baseline inventory of their fleet within six months of May 12, 2007 and shall maintain records at their facilities of their baseline inventory and subsequent inventories indicating accessions and retirements until June 30, 2016.
- (b) At a minimum, fleet operators subject to the fleet average emission level requirements contained in Table 2 of section 2775.1(a) shall record and maintain on file for each piece of equipment operated at their facilities, information on the equipment type, make, model, serial number, and emission certification standard or retrofit verification level. ~~Fleet operators shall also maintain on file, for a period of three years, information on the quality of propane fuel they purchased for their fleet that includes a written statement, product delivery ticket, or receipt from the fuel supplier, if obtainable, that the fuel supplied to the operator meets all applicable state and federal laws for use in their engines.~~ Operators that maintain multiple facilities may aggregate the records at a centralized facility or headquarters. Records for all equipment at all facilities shall be made available to the Air Resources Board within 30 calendar days upon request. Compliance staff may then select a facility sample for inspection purposes.
- (c) Medium and large fleets shall be required to demonstrate at any time between January 1, 2009 and December 31, 2015, based on actual inventory, and reconciled against inventory records, that they meet the applicable fleet average emission level standard in Section 2775.1(a).
- (d) Agricultural crop preparation services fleets shall be required to demonstrate at any time on or after June 1, 2007, based on actual inventory and reconciled against inventory records, that they have addressed their 1990 and newer uncontrolled LSI engines as prescribed in Section 2775.1(c).

(e) Compliance Extensions. An operator may be granted an extension to a compliance deadline specified in Section 2775.1 for one of the following reasons:

(1) Compliance Extension based on No Verified Retrofit Emission Control System

(A) If the Executive Officer has not verified a retrofit emission control system, or if one is not commercially available for a particular engine and equipment combination, the Executive Officer may grant a ~~two~~^{one}-year extension in compliance if prior to each compliance deadline specified in subsections 2775.1(a), (c), and (d), the Executive Officer finds that insufficient numbers of retrofit emission control systems are projected to be available. If the Executive Officer still finds that insufficient numbers of retrofit emission control systems are projected to be available near the end of the first two-year extension, the Executive Officer may grant a subsequent two-year extension in compliance. At the conclusion of the approved extension(s), the operator must include the LSI piece of equipment in their FAEL standards calculations.

(2) Compliance Extensions for GSE

(A) Compliance Extension based on no Verified or Commercially Available Retrofit Emission Control Systems for GSE. GSE of model year 1990 or newer with an uncontrolled LSI engine for which there is no verified retrofit as of January 1, 2007, or for which such verified retrofits are not commercially available by that date, shall be excluded from the GSE fleet average emission level standards contained in section 2775.1(a) until January 1, 2011. GSE of model year 1990 or newer with an uncontrolled LSI engine for which there is still no verified retrofit as of January 1, 2009, or for which such verified retrofits are not commercially available by that date, shall be excluded from the GSE fleet average emission level standards contained in section 2775.1(a) until January 1, 2013.

(B) Other Compliance Extensions for GSE. Operators may apply to the Executive Officer for an initial compliance extension of up to two years and one or more compliance extension renewals of up to one year in circumstances other than those addressed in subsection 2(A) above. The Executive Officer shall grant such applications if the applicant has made a good faith effort to comply with the fleet average emission level standards contained in section 2775.1(a) in advance of the compliance dates contained in the same section and documents either that it meets one of the following criteria independently, or that, when considering any combination of the criteria, the documentation justifies granting the application:

(i) due to conditions beyond the reasonable control of the applicant, sufficient numbers of tested and reliable emission-controlled GSE are not projected to be available at a commercially reasonable cost;

(ii) due to conditions beyond the reasonable control of the applicant,

use of available emission-controlled GSE would result in significant operational or safety issues;

- (iii) any other criterion that reasonably relates to whether the application should be granted.

(C) Compliance extensions granted under subsections (e)(2)(A) and (e)(2)(B) shall not extend beyond January 1, 2013. After January 1, 2013, all uncontrolled GSE shall be included in calculations for determining compliance with the GSE fleet average emission level standards contained in section 2775.1(a).

- (3) If an extension to the compliance deadline is granted by the Executive Officer, the operator shall be deemed to be in compliance as specified by the Executive Officer's authorization.
- (f) Continuous Compliance. An operator is required to keep his equipment in compliance with this regulation, once it is in compliance, so long as the operator is operating the equipment in California.
- (g) Severability. If any provision of this section or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the section that can be given effect without the invalid provision or application, and to this end the provisions of this section are severable.

NOTE: Authority cited: Sections 39600, 39601, 43013, and 43018, Health and Safety Code. Reference: Sections 43013, 43017, and 43018, Health and Safety Code.

PART 11

FINAL REGULATION ORDER

**In-Use Compliance Requirements
for Retrofits of Large Spark-Ignition Engines**

Title 13

California Code of Regulations

Sections 2783 and 2784

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FINAL REGULATION ORDER

Note: This document is written in a style to indicate changes from the existing provisions. All existing regulatory language is indicated by plain type. All additions to the regulatory language are indicated by underlined type. All deletions to the regulatory language are indicated by ~~strikeout~~. Only those portions containing modifications from existing provisions are included. All other portions remain unchanged and are indicated by the symbol [* * * *] for reference.

Article 3. Verification Procedure, Warranty, and In-Use Compliance Requirements for Retrofits to Control Emissions from Off-Road Large Spark-Ignition Engines

Amend §§ 2783 and 2784, title 13, California Code of Regulations, to read as follows:

§ 2783. Emissions Reduction Testing Requirements.

* * * * *

(d) *Test Fuel.*

(1) The test fuel used shall be consistent with the fuel specifications as outlined in the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium- Duty Vehicles,” as incorporated by reference in section 1961(d). If the engine is tested using the U.S. EPA test fuel, as outlined in 40 CFR Part 1065, the manufacturer shall demonstrate that the emission results are consistent with these Test Procedures.

(2) Gasoline-fueled, large spark-ignition engines that are tested during the 2013-2019 calendar years have the option of using the test fuel referenced in section 2783(d)(3) for demonstrating exhaust emission compliance with the requirements of this section.

(3) Gasoline-fueled, large spark-ignition engines that are tested during 2020 and later calendar years must be exhaust emission tested using a test fuel that is consistent with the fuel specifications as outlined in title 13, section 1961.2; and, the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” adopted March 22, 2012, which is incorporated by reference herein. The test fuel specifications should remain consistent from batch to batch. Optionally, manufacturers may use other renewable fuel blends under this paragraph that have been certified by ARB as yielding test results equivalent, or more stringent than, those resulting from the fuel specified by 13 CCR 1961.2, and which are appropriate for the certification of large spark-ignition engines.

(2)(4) During all engine tests, the engine shall employ lubricating oil consistent with the engine manufacturer's specifications for that particular engine. These specifications shall be recorded and declared in the verification application.

* * * * *

NOTE: Authority cited: Sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600 and 43700, Health and Safety Code. Reference: Sections: 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107, 43204, 43205 and 43205.5, Health and Safety Code.

§ 2784. Durability Demonstration Requirements.

* * * * *

(c) Test Fuel.

(1) Except as outlined in (c)(2), the test fuel used shall be consistent with the fuel specifications as outlined in the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium- Duty Vehicles,” as incorporated by reference in section 1961(d). If the engine is tested using the U.S. EPA test fuel, as outlined in 40 CFR Part 1065, the manufacturer shall demonstrate that the emission results are consistent with ARB Test Procedures. Manufacturers can use “commercially available fuels” to accumulate service hours but emission testing must be conducted using test fuel as specified in this section.

(2) Gasoline-fueled, large spark-ignition engines that are tested during the 2013-2019 calendar years have the option of using the test fuel referenced in section 2784(c)(3) for demonstrating exhaust emission compliance with the requirements of this section.

(3) Gasoline-fueled, large spark-ignition engines that are tested during 2020 and later calendar years must be exhaust emission tested using a test fuel that is consistent with the fuel specifications as outlined in title 13, section 1961.2; and, the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,” adopted March 22, 2012, which is incorporated by reference herein. The test fuel specifications should remain consistent from batch to batch. Optionally, manufacturers may use other renewable fuel blends under this paragraph that have been certified by ARB as yielding test results equivalent, or more stringent than, those resulting from the fuel specified by 13 CCR 1961.2, and which are appropriate for the certification of large spark-ignition engines.

(2)(4) During all engine tests, the engine shall employ lubricating oil consistent with the engine manufacturer's specifications for that particular engine. These specifications shall be recorded and declared in the verification application.

* * * * *

NOTE: Authority cited: 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600 and 43700, Health and Safety Code. Reference: Sections: 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107, 43204, 43205 and 43205.5, Health and Safety Code.