

Final Regulation Order

Diesel Particulate Matter Control Measure for On-road Heavy-duty Diesel-fueled Residential and Commercial Solid Waste Collection Vehicles

Adopt article 4, Diesel Particulate Matter Control Measures, within Chapter 1, Division 3, Title 13, California Code of Regulations, and new sections 2020, 2021, 2021.1, and 2021.2, to read as follows: (Note: The entire text of sections 2020, 2021, 2021.1, and 2021.2 set forth below is new language proposed to be added to the California Code of Regulations.)

Section 2020. Purpose and Definitions of Diesel Particulate Matter Control Measures

(a) **Purpose.** Diesel particulate matter was identified in 1998 as a toxic air contaminant. According to California law, an airborne toxic control measure using the best available control technology shall, therefore, be employed to reduce the public's exposure to diesel particulate matter.

(b) **Definitions.** For the purposes of the rules specified in article 4, the following definitions apply:

"Alternative fuel" means natural gas, propane, ethanol, methanol, gasoline (when used in hybrid electric buses 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 fuels.

"Commercially available" means available for purchase and installation at a reasonable cost.

"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 an energy equivalent basis. An engine that can operate or idle solely on diesel fuel at any time does not meet this definition.

"Level" means one of three categories of Air Resources Board-verified diesel emission control strategies: 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 particulate matter per brake horsepower-hour.

“Municipality” means a city, county, city and county, special district, or a public agency of the United States of America or the State of California, and any department, division, public corporation, or public agency of this State or of the United States, or two or more entities acting jointly, or the duly constituted body of an Indian reservation or rancheria.

“Owner” means the same as in title 13, California Code of Regulations, section 2180.1(a)(21).

“Retirement” or “Retire” means an engine or vehicle will be withdrawn from an active fleet in California. The engine may be sold outside of California, scrapped, or used in a backup vehicle.

“Terminal” means any place or places where a vehicle is regularly garaged or maintained, or from which it is operated or dispatched, which may include a private business or residence.

“Verified” means that a diesel emission control strategy or system has received approval from the Executive Officer according 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, and incorporated by reference.

“Warranty Period” means the same as in title 13, California Code of Regulations, section 2707.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code.
Reference: Sections 39002, 39003, 39650 through 39675, 43000, 43013, 43018, 43101, 43102, 43104, 43105 and 43700, Health and Safety Code.

Section 2021. Solid Waste Collection Vehicles

- (a) **Scope and Applicability.** Sections 2021 and 2021.1 shall apply to municipalities that have a contract with owners for residential and commercial solid waste collection service. Sections 2021 and 2021.2 shall apply to solid waste collection vehicle owners, both private and government entities. These regulations mandate the reduction of diesel particulate matter emissions from 1960 to 2006 model year engines in on-road diesel-fueled heavy-duty residential and commercial solid waste collection vehicles with a manufacturer’s gross vehicle weight rating greater than 14,000 pounds.
- (b) **Definitions.** The definitions in Section 2020 shall apply to sections 2021, 2021.1, and 2021.2. In addition, the following definitions apply only to sections 2021, 2021.1, and 2021.2.

“Active fleet” means the total, by terminal, of an owner’s collection vehicles, excluding backup vehicles.

“Backup vehicle” means a collection vehicle that is driven fewer than 1000 miles annually.

“Contract” means an agreement between an owner and a municipality to perform residential or commercial solid waste collection services, in which the contractor’s compensation for providing services, or a formula for determining compensation, is specified.

“Contractor” means an owner with a contract as defined in this section.

“Residential and commercial solid waste” means all putrescible and nonputrescible solid, and semisolid wastes, including garbage, trash, refuse, rubbish, ashes, yard waste, recyclable materials, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes originating from single-family or multiple family dwellings, stores, offices, and other commercial sources, and construction and demolition projects in residential and commercial zones, not including hazardous, radioactive, or medical waste.

“Roll off vehicle” means any heavy-duty vehicle used for transporting waste containers such as open boxes or compactors that may be removed from the tractor.

“Solid waste collection vehicle or collection vehicle” means an on-road heavy-duty vehicle with a manufacturer’s gross vehicle weight rating of greater than 14,000 pounds used for the purpose of collecting residential and commercial solid waste for a fee, including roll off vehicles.

“Total Fleet” means the total of an owner’s collection vehicles, excluding backup vehicles.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code.
Reference: Sections 39002, 39003, 39650 through 39675, 43000, 43013, 43018, 43101, 43102, 43104, 43105, and 43700, Health and Safety Code.

Section 2021.1. Methods for Determining Compliance for a Municipality that Contracts with Owners for Solid Waste Collection.

- (a) **Compliance Requirement.** A municipality shall include language requiring the contractor be in compliance with all applicable air pollution control laws in any new contract that has an effective date of December 31, 2004 or later.
- (b) **Reporting Requirement.** A municipality shall submit an annual report to the Executive Officer by January 31, 2005, and by each January 31 through 2013, as described below:

(1) A listing of its contractor(s) as of January 1 of each applicable year, and including the following information:

(A) Municipality name, address, telephone number, fax number, contact name and electronic mail address;

(B) For each contract, the contractor name, owner name, contact name, if different from owner name, business address, business telephone number, business fax number, contact electronic mail address, and the address of each terminal in the jurisdiction that houses collection vehicles, serving the municipality.

(c) **Non-Compliance.** Any violations of this section may carry civil penalties as specified in state law and regulations.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code.
Reference: Sections 39002, 39003, 39650 through 39675, 43000, 43013, 43018, 43101, 43102, 43104, 43105 and 43700, Health and Safety Code.

Section 2021.2. Methods for Determining Compliance for an Owner of Solid Waste Collection Vehicles.

(a) **Compliance Requirements.** Beginning with the applicable effective dates, an owner who operates an active fleet of one or more collection vehicles is required to comply with this diesel particulate matter control measure. Compliance requires all of the following:

(1) Use of a best available control technology for each collection vehicle in the active fleet as specified in subsection (b),

(2) Implementation for collection vehicles in the active fleet as specified in subsection (c), and

(3) If a compliance deadline extension is granted by the Executive Officer per subsection (d), the owner shall be deemed to be in compliance as specified by the Executive Officer's authorization; and

(4) Special circumstances that may apply when a diesel emission control strategy is used as a best available control technology as specified in subsection (e); and

(5) Records must be kept as specified in subsection (f).

(6) **Continuous Compliance.** An owner is required to keep his collection vehicle in compliance with this regulation, once it is in compliance, so long as the owner is operating the collection vehicle in California.

(b) **Best Available Control Technology.** Each owner shall use one of the following best available control technologies on each engine or collection vehicle in his fleet as required by the implementation schedule in subsection (c):

(1) An engine or power system certified to the optional 0.01 g/bhp-hr particulate emission standard as specified in title 13, California Code of Regulations, section 1956.8(a)(2), or the 0.01 g/bhp-hr particulate emission standard as specified in title 13, California Code of Regulations, section 1956.8(a), when effective; or

(2) An engine or power system certified to the 0.1 g/bhp-hr particulate emission standard, as specified in title 13, California Code of Regulations, section 1956.8, used in conjunction with the highest level diesel emission control strategy as defined in subsection (b)(4) applied by the implementation schedule in subsection (c); or

(3) An alternative fuel or heavy-duty pilot ignition engine; model year 2004 – 2006 alternative fuel engines must be certified to the optional, reduced emission standards as specified in title 13, California Code of Regulations, section 1956.8 (a)(2)(A); or

(4) The highest level diesel emission control strategy per title 13, California Code of Regulations, section 2702 (f), Table 1, that is verified for a specific engine to reduce diesel particulate matter and which the diesel emission control strategy manufacturer or authorized dealer agrees can be used on a specific engine and collection vehicle combination, without jeopardizing the original engine warranty in effect at the time of application.

(c) **Implementation Schedule.** The owner shall comply with the schedule in Table 1 - Implementation Schedule for Solid Waste Collection Vehicles, Model Years 1960 to 2006, for the specified percentage of collection vehicles by each applicable compliance deadline.

Table 1 - Implementation Schedule for Solid Waste Collection Vehicles, Model Years 1960 to 2006.

Group	Engine Model Years	Percentage of Group to Use Best Available Control Technology	Compliance Deadline
1	1988 – 2002	10	December 31, 2004
		25	December 31, 2005
		50	December 31, 2006
		100	December 31, 2007
2a ^a	1960 – 1987 (Total fleet ≥ 15 collection vehicles)	15	December 31, 2005
		40	December 31, 2006
		60	December 31, 2007
		80	December 31, 2008
		100	December 31, 2009
2b	1960 – 1987 (Total fleet < 15 collection vehicles)	25	December 31, 2007
		50	December 31, 2008
		75	December 31, 2009
		100	December 31, 2010
3	2003 – 2006 (Includes dual-fuel and bi-fuel engines)	50	December 31, 2009
		100	December 31, 2010

^aGroup 2a: An owner may not use Level 1 technology as best available control technology on Group 2a engines or collection vehicles.

(1) Calculating Number of Collection Vehicles Required for Implementation based on Active Fleet Size. The owner shall calculate the size of his active fleet as of January 1 of each year (#SWCV) based on the model year of each engine (#Engines) plus the number of engines removed from the model year group by retirement in prior years (TotRetire) and determine the number of collection vehicles required for implementation as follows.

$$\#SWCV = \#Engines + TotRetire$$

(A) The owner shall determine the total number of collection vehicles required to be in compliance by the compliance deadline in Table 1 (TotVeh) by multiplying "Percentage of Group to Use Best Available Control Technology" (Group%BACT) for that year by the sum of the number of collection vehicles in an engine model year group (#SWCV) as in this following expression:

$$TotVeh = (Group\%BACT) \times (\#SWCV)$$

(B) After the first compliance deadline for each group, the owner shall determine the additional number of collection vehicles to be brought into compliance each subsequent year (TotAddComp) by subtracting the number

of engines or collection vehicles brought into compliance the previous years using the method listed in subsection (b)(4) (TotRetrofit) or by retirement (TotRetire) from the total number of collection vehicles required to be in compliance (TotVeh), as in the following expression:

$$\text{TotAddComp} = \text{TotVeh} - \text{TotRetrofit} - \text{TotRetire}$$

(C) Notwithstanding subsection (B) above, in the 100 percent compliance deadline year for each engine model year group the owner shall bring the remaining engines and collection vehicles into compliance.

(D) If the TotVeh or TotAddComp is not equal to a whole number of collection vehicles, the owner shall round up to the nearest collection vehicle when the fractional part of TotAddComp is greater than or equal to one-half of a collection vehicle, and round down to the nearest collection vehicle when the fractional part of TotAddComp is less than one-half of a collection vehicle.

(d) **Compliance Extensions.** An owner may be granted an extension to a compliance deadline specified in subsection (c) for one of the following reasons:

(1) **Compliance Extension based on Early Implementation.** An owner will be granted an extension based on compliance with one or more of the following early implementation schedules, provided the Executive Officer has received a letter by the applicable early compliance deadline stating the owner's intent to comply with one of the following conditions:

(A) If an owner has implemented best available control technology on fifty percent or more of his Group 1 total fleet of collection vehicles, at least fifty percent of which are the owner's oldest collection vehicles in Group 1, by July 1, 2005, then the owner may delay the final compliance deadline for Group 1 to December 31, 2009.

(B) If an owner has implemented best available control technology on fifty percent or more of his Group 2a total fleet of collection vehicles by December 31, 2005, then the owner may delay the intermediate and final compliance deadlines for Group 2a to December 31, 2010.

(C) If an owner has implemented best available control technology on fifty percent or more of his Group 2b total fleet of collection vehicles by December 31, 2006, then the owner may delay the intermediate and final compliance deadlines for Group 2b to December 31, 2011.

(2) **Compliance Extension based on No Verified Diesel Emission Control Strategy.** If the Executive Officer has not verified a diesel emission control strategy, or one is not commercially available, for a particular engine and

vehicle combination, an annual extension in compliance may be granted by the Executive Officer under one of the conditions specified below:

(A) Executive Officer Compliance Extension. The Executive Officer shall grant a blanket one-year compliance extension if a diesel emission control strategy is not verified for an engine ten months prior to each compliance deadline specified in subsection (c).

- (i) For a Group 1 collection vehicle engines, the Executive Officer shall grant an annual extension through 2007, after which the owner shall comply with subsection (b) by December 31, 2008.
- (ii) For a Group 2a collection vehicle engine, the Executive Officer shall grant an annual extension through 2008, after which the owner shall comply with subsection (b) by December 31, 2009.
- (iii) For a Group 2b or 3 collection vehicle engines, the Executive Officer shall grant an annual extension through 2010, after which the owner shall comply with subsection (b) by December 31, 2011.

(B) Owner Application Compliance Extension. An owner may apply to the Executive Officer for a compliance extension for an engine six months prior to each compliance deadline specified in subsection (c). The owner must first apply best available control technology to all applicable engines as required before requesting an extension. The owner shall meet the following application conditions and documentation requirements by providing the following to the Executive Officer:

- (i) Identification of each engine, by vehicle identification number, engine manufacturer, model year, family, and series; and type of collection vehicle, for which no diesel emission control strategy has been verified, or
- (ii) Identification of each engine, by vehicle identification number, engine manufacturer, model year, family, and series; and type of collection vehicle, 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
- (iii) Identification of each engine and vehicle combination, by vehicle identification number; engine manufacturer, model year, family, and series; and type of collection vehicle, 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

- (iv) A description of the reason for the request for a compliance extension for each engine or engine and collection vehicle combination, and
 - (v) A copy of the statement of compliance as required in subsection (f)(1)(H) for all applicable collection vehicles, and
 - (vi) Submission of the application for compliance extension to the Executive Officer no later than July 31 annually beginning 2004. For a Group 1 collection vehicle engine, the Executive Officer will accept an annual compliance extension application until July 31, 2007, after which the owner shall comply with subsection (b) by December 31, 2008. For a Group 2a collection vehicle engine, the Executive Officer will accept an annual compliance extension application until July 31, 2008, after which the owner shall comply with subsection (b) by December 31, 2009. For a Groups 2b or 3 collection vehicle engine, the Executive Officer will accept an annual compliance extension application until July 31, 2010, after which the owner shall comply with subsection (b) by December 31, 2011. The Executive Officer will grant a compliance extension for only one year for an engine in Group 2a or 2b.
- (3) Compliance Extension for an Owner with a Total Fleet of Fewer than Four Solid Waste Collection Vehicles. An owner with three or fewer collection vehicles in his total fleet may delay the intermediate compliance deadline of any engine to its applicable final compliance deadline.
- (4) Compliance Extension for an Owner of a Dual-Fuel or Bi-Fuel Engine. An owner may delay implementation of a Group 1 dual-fuel or bi-fuel engine to the Group 3 compliance deadlines.
- (5) Compliance Extension for an Engine near Retirement. If an owner has applied best available control technology to all applicable engines as required, and the next applicable engine is scheduled to be retired from the active fleet within one year of the applicable compliance deadline, then the owner is exempt from applying the best available control technology as defined in subsection (b) to that engine for a maximum of one year, provided documentation of expected retirement date is kept in records as specified in subparagraph (f) and the engine is retired as of the stated expected date.
- (6) Use of Experimental Diesel Particulate Matter Emission Control Strategies. An owner may use an experimental diesel particulate matter emission control strategy provided by or operated by the manufacturer in no more than 20 collection vehicles, or ten percent, of his total fleet, whichever is less, for testing and evaluation purposes. The owner shall keep documentation of this use in records as specified in subsection (f). Each collection vehicle will be considered to be in compliance for the duration of the experiment, or a

maximum of two years. The owner must bring the collection vehicle into compliance within six months of the end of the testing and evaluation period. No experimental diesel particulate matter emission control strategy may be used on a collection vehicle after December 31, 2010.

- (e) **Diesel Emission Control Strategy Special Circumstances.** An owner shall maintain the original level of best available control technology on each engine once that engine is in compliance, and is not required to upgrade to a higher level of best available control technology, except under specified special circumstances, as follows:
- (1) **Diesel Emission Control Strategy Failure or Damage.** In the event of a failure or damage of a diesel emission control strategy, the following conditions apply:
- (A) **Failure or Damage during the Warranty Period.** If a diesel emission control strategy fails or is damaged within its warranty period and the diesel emission control strategy manufacturer or authorized dealer determines it can not be repaired, the owner shall replace the diesel emission control strategy with either the same level diesel emission control strategy or another best available control technology as defined in subsection (b).
- (B) **Failure or Damage Outside of Warranty Period.** If a diesel emission control strategy fails or is damaged outside of its warranty period, and it cannot be repaired, the owner shall apply the best available control technology at the time of replacement, as defined in subsection (b).
- (2) **Discontinuation of Fuel Verified as a Diesel Emission Control Strategy.** If an owner discontinues use of a fuel verified as a diesel emission control strategy, the owner shall apply best available control technology within 30 days of the date of discontinuation or submit a compliance plan to the Executive Officer no later than 30 days after discontinuation that demonstrates how the owner will bring his collection vehicles into compliance within six months of the date of discontinuation.
- (3) **Limited Use of Level 1 Diesel Emission Control Strategy.** If a Level 1 diesel emission control strategy is identified as the best available control technology pursuant to subsection (b), an owner is subject to the following limitations:
- (A) **Group 1.** An owner may use a Level 1 diesel emission control strategy in a Group 1 engine for up to ten years, after which the owner shall replace the Level 1 diesel emission control strategy with the best available control technology from subsection (b), except that a Level 1 diesel emission control strategy cannot be installed.

(B) Group 2a. An owner with 15 or more collection vehicles in his total fleet may not use a Level 1 diesel emission control strategy on any Group 2a engine.

(C) Group 2b. An owner with fewer than 15 collection vehicles in his total fleet may use a Level 1 diesel emission control strategy in a Group 2b engine for up to ten years, after which the owner shall replace the Level 1 diesel emission control strategy with the best available control technology from subsection (b), except that a Level 1 diesel emission control strategy cannot be installed.

(D) Group 3. An owner may use a Level 1 diesel emission control strategy in a Group 3 engine for up to five years, after which the owner shall replace the Level 1 diesel emission control strategy with the best available control technology from subsection (b), except that a Level 1 diesel emission control strategy cannot be installed.

(f) **Record Keeping Requirement.** Beginning December 31, 2004, an owner shall maintain the following records. The owner shall provide the following records to an agent or employee of the Air Resources Board upon request for all collection vehicles in his total fleet subject to compliance with this regulation.

(1) **Records Accessible at Terminal.** The owner shall keep the following records accessible either in hard copy format or computer records at the terminal where a collection vehicle normally resides:

(A) A list by vehicle identification number of collection vehicles identifying each vehicle type; engine manufacturer, model year, family, and series; and status as active fleet or back-up vehicle, and

(B) Correlated to each collection vehicle, the installed diesel emission control strategy, its serial number, manufacturer, model, level, installation date, and if using a Level 1 or Level 2 verified diesel emission control strategy, the reason for the choice, and

(C) Records of maintenance for each installed diesel emission control strategy, and

(D) For fuel or fuel additives used as a diesel emission control strategy, the most recent two years worth of records of purchase that demonstrate usage, and

(E) For each backup vehicle, its mileage as of January 1 of each year beginning January 1, 2005 correlated to the information in paragraph (1)(A) above, and

(F) For each engine for which an owner is claiming an exemption pursuant to paragraph (d)(5), the retirement date correlated to the information in paragraph (1)(A) above, and

(G) For each engine for which an owner is claiming an extension pursuant to paragraph (d)(6), 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 (1)(A) above, and

(H) A statement of compliance, prepared beginning January 1, 2005, and renewed each January 1 thereafter until January 1, 2013, certifying that the owner's engines are in compliance as required, including the following:

- (i) "The solid waste collection vehicles at terminal (insert terminal identification number) are in compliance with title 13, California Code of Regulations, section 2021.2;" and
- (ii) The owner's name, business address, business telephone; and
- (iii) The signature of the owner or owner's agent and date signed.

(2) Records Kept in the Solid Waste Collection Vehicle. For each collection vehicle, the owner shall keep the following information affixed to the driver's side door jamb, or another readily accessible location known by the driver of each collection vehicle, in the form of a legible and durable label:

(A) For a collection vehicle operated under contract to a municipality, the name of the municipality or municipalities, and

(B) For each installed diesel emission control strategy, label information as specified in title 13, California Code of Regulations, section 2706 (g), and the installation date, or

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

(D) Designation as a backup vehicle and its mileage as of January 1 of each year beginning January 1, 2005, or

(E) Engine model year and retirement date for an engine for which an owner is claiming an exemption pursuant to paragraph (d)(5), or

(F) Engine model year and beginning and ending date of the test plan for an engine for which an owner is claiming an extension pursuant to paragraph (d)(6).

(3) Each owner shall maintain these records for each collection vehicle until it is sold outside of the State of California or is no longer used as a collection vehicle for the purpose of residential or commercial solid waste collection in the State of California. If ownership is transferred, the seller shall convey the records to the buyer.

(g) **Non-Compliance.** Any violations of this section may carry civil penalties as specified in state law and regulations, including, but not limited to, Health and Safety Code Section 39674.

NOTE: Authority cited: Sections 39600, 39601, and 39658, Health and Safety Code.
Reference: Sections 39002, 39003, 39650 through 39675, 43000, 43013, 43018, 43101, 43102, 43104, 43105 and 43700, Health and Safety Code.