

## FINAL REGULATION ORDER FOR TRACTOR TRAILER GREENHOUSE GAS AMENDMENTS

Amend sections 95300, 95301, 95302, 95303, and 95305, title 17, California Code of Regulations, to read as follows:

Note: Set forth below are the proposed amendments to title 17, California Code of Regulations, subarticle 1, sections 95300, 95301, 95302, 95303, and 95305. Proposed amendments to existing sections are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions. Subsections for which no changes are proposed in this rulemaking are indicated with [No change] or “\* \* \* \*”.

### **Subarticle 1: Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Regulation**

#### **§95300. Purpose.**

The purpose of this subarticle is to reduce greenhouse gas emissions from heavy-duty (HD) tractors and 53-foot or longer box-type semitrailers (trailers) that transport freight on a highway within California by establishing emission standards and other requirements applicable to both new 2011 and subsequent model year HD tractors and trailers and to 2010 and earlier model year HD tractors and trailers. The use of compliant aerodynamic technologies and low-rolling resistance tires will ensure reductions of greenhouse gas emissions from affected HD tractors and trailers by reducing the aerodynamic drag and tire rolling resistance forces acting on such HD tractors and trailers.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560 and 38560.5, Health and Safety Code.  
Reference: Sections 39600, 38560, 38560.5 and 38580, Health and Safety Code.

#### **§95301. Applicability.**

\* \* \* \*

(b) The requirements in this subarticle do not apply to the following ~~vehicle~~trailer types and the tractors that pull them:

- (1) drop-frame trailers;
- (2) chassis trailers;
- (3) curtain-side trailers;
- (4) livestock trailers;

- (5) refuse trailers;
- (6) box-type trailers less than 53 feet in length;
- (7) emergency vehicles; and
- (8) military tactical support vehicles.

\* \* \* \*

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560 and 38560.5, Health and Safety Code.  
Reference: Sections 39600, 38560, 38560.5 and 38580, Health and Safety Code.

**§95302. Definitions.**

- (a) The following definitions apply to this subarticle:

\* \* \* \*

(19.1) “Emission standard,” as it applies to the compliance with the requirements and standards set forth in this section, and the remedies provided for in the Health and Safety Code for noncompliance, relates to the emission characteristics of a motor vehicle or motor vehicle engine and means:

(A) a numerical limit on the amount of a given pollutant that a motor vehicle or motor vehicle engine may emit into the atmosphere; or

(B) a requirement that a motor vehicle or motor vehicle engine be equipped with a certain type of pollution-control device or some other design feature related to the control of emissions.

(19.2) “Evaporative emission standards” are a subset of emission standards that refer to the specific motor vehicle fuel evaporative emission standards and test procedures incorporated by reference in title 13, CCR section 1976 to which the engine is certified.

(19.3) “Exhaust emission standards” or “tailpipe emission standards” are a subset of emission standards that collectively refer to the specific standards or family certification Level (FCL) and family emission limit (FEL) emission levels to which an engine is certified.

\* \* \* \*

(43.1) “Phase 1 Certified Tractor” means a tractor that has been certified in accordance with either the Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles, as

adopted by the USEPA (76 Fed. Reg. 57106 (September 15, 2011)); or the Greenhouse Gas Emission Requirements for New 2014 and Subsequent Model Heavy-Duty Vehicles, as adopted by the California Air Resources Board, sections 95660 to 95664, Subarticle 12, title 17, California Code of Regulations.

\* \* \* \*

(53) *“Sleeper-cab tractor”* means a HD tractor originally manufactured with a tractor body that has a compartment, typically containing a bed, located behind the driving compartment.

\* \* \* \*

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560 and 38560.5, Health and Safety Code.  
Reference: Sections 39600, 38560, 38560.5 and 38580, Health and Safety Code.

### **§95303. Requirements and Compliance Deadlines.**

#### *(a) Tractor Requirements.*

(1) Except as provided in section 95305, *Exemptions*, beginning January 1, 2010, no 2011 through 2013~~or subsequent~~ model year sleeper-cab HD tractor pulling a 53-foot or longer box-type trailer shall operate on a highway within California unless such tractor is either:

(A) a U.S. EPA SmartWay Certified Tractor, or

(B) a U.S. EPA SmartWay Certified Tractor that has been modified provided:

1. the modification is necessary for the tractor to perform its designed job function,
2. there is no reasonable alternative to the modification that would involve or require a lesser degree of modifications to the tractor, and
3. the Executive Officer has previously approved the modification.

a. An applicant requesting an exemption pursuant to section 95303(a)(1)(B) must submit information to the Executive Officer that describes the proposed modification(s), the need therefor, and the absence or lack of reasonable alternatives to the modification. Such information includes, without limitation, engineering drawings, blueprints, schematics, scientific or technical articles, contract specifications, etc.

b. The Executive Officer will approve or disapprove a request for an exemption pursuant to section 95303(a)(1)(B) upon information submitted by an applicant as specified in section 95303(a)(1)(B)3.a. and good engineering judgment.

- (2) Except as provided in section 95305, *Exemptions*, beginning January 1, 2010, no 2011 ~~through 2013~~ or subsequent model year HD tractor, including but not limited to sleeper-cab HD tractors, pulling a 53-foot or longer box-type trailer shall operate on a highway within California unless such tractor's tires are U.S. EPA SmartWay Verified Technologies.
- (3) Except as provided in section 95305, *Exemptions*, beginning January 1, 2013, no 2010 or previous model year HD tractor, pulling a 53-foot or longer box-type trailer shall operate on a highway within California unless such tractor's tires are U.S. EPA SmartWay Verified Technologies.

\* \* \* \*

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560 and 38560.5, Health and Safety Code. Reference: Sections 39600, 38560, 38560.5 and 38580, Health and Safety Code.

**§95305. Exemptions.**

(a) *Short-Haul Tractor Exemption Requirements.* ~~To qualify, the following must be met:~~

- (1) A short-haul tractor pulling a 53-foot or longer box-type trailer on a California highway is exempt from the requirements of sections 95303(a) (1), 95303(a)(2), and 95303(a)(3), as applicable, if the short-haul tractor
  - (A) has been registered in accordance with the requirements of section 95306, *Short-Haul Tractor, Local-Haul Tractor, Local-Haul Trailer, and Storage Trailer Registration Requirements*, and
  - (B) is driven less than 50,000 miles annually, including all miles accrued both inside and outside of California.

\* \* \* \*

(9) A 2014 or subsequent model year tractor that meets the requirements of sections 95305(a)(1)(A) and 95305(a)(1)(B) is an exempt short-haul tractor.

(b) *Local-Haul Tractor Exemption Requirements.*

- (1) A local-haul tractor pulling a 53-foot or longer box-type trailer is exempt from the requirements of sections 95303(a)(1), but still must comply with the requirements of sections 95303(a)(2) and 95303(a)(3), as applicable, if

- (A) the local-haul tractor has been registered in accordance with the requirements of section 95306, *Short-Haul Tractor, Local-Haul Tractor, Local-Haul Trailer, and Storage Trailer Registration Requirements*, and
- (B) the tractor-trailer combination is traveling within 100 miles of the local-haul tractor's local-haul base.

\* \* \* \*

(8) A 2014 or subsequent model year tractor that meets the requirements of sections 95305(b)(1)(A) and 95305(b)(1)(B) is an exempt local-haul tractor.

\* \* \* \*

(d) *Drayage Tractor-Trailer Exemption Requirements.*

- (1) A drayage tractor pulling a 53-foot or longer box-type trailer on a California highway within 100 miles of a port or intermodal railyard, and the trailer it pulls, are exempt from sections 95303(a) and 95303(b), as applicable, provided:
  - (A) the trailer was off-loaded from an ocean-going vessel or rail car at the port or intermodal railyard prior to being pulled by the drayage tractor, and the driver has documentation indicating the port or intermodal railyard of origin; or
  - (B) the drayage tractor is transporting the trailer to the port or intermodal railyard to be loaded onto an ocean-going vessel or rail car, and the driver has documentation indicating the port or intermodal railyard of destination.

\* \* \* \*

(f) *Relocation Pass for Trailers.*

- (1) An owner that obtains a Relocation Pass for a registered local-haul trailer or a registered storage trailer may operate that vehicle in accordance with the provisions of sections 95305(f)(1)(A) or 95305(f)(1)(B) for a specified period, as determined by the Executive Officer, not to exceed five consecutive days.
  - (A) A registered local-haul trailer traveling under a Relocation Pass may transport freight on a California highway further than 100 miles from its local-haul base while en route to a new local-haul base that is located

further than 100 miles from its current local-haul base, or en route to an out-of-state location.

- (B) A registered storage trailer traveling under a Relocation Pass may transport freight on a California highway while en route to a new storage trailer location, or en route to an out-of-state location.

\* \* \* \*

(i) *Trailer Aerodynamic Equipment Compliance Delay*

- (1) An owner of a dry-van or refrigerated-van trailer that is subject to the requirements of section 95303(b) may apply for a Trailer Aerodynamic Equipment Compliance Delay if the trailer is configured such that existing aerodynamic technologies necessary to meet the requirements defined in sections 95303(b)(1)(B)2. or 95303(b)(3)(B)2. for dry-van trailers, or 95303(b)(2)(B)2. or 95303(b)(3)(C)2. for refrigerated-van trailers, cannot be installed.

~~(2) A trailer identified in a Trailer Aerodynamic Equipment Compliance Delay is subject to the following compliance deadlines~~

~~(A) For a trailer not participating in an optional trailer fleet compliance schedule, the applicable compliance date is one year from the trailer's current compliance date, or one year from the Trailer Aerodynamic Equipment Compliance Delay approval date, whichever is later.~~

~~(B) For a trailer participating in an optional trailer fleet compliance schedule as defined in section 95307, *Optional Trailer Fleet Compliance Schedules*, the applicable compliance date is one year from the applicable Conformance Threshold Deadline for that trailer, provided all other trailers in the fleet have been brought into compliance.~~

~~(23) To apply for a Trailer Aerodynamic Equipment Compliance Delay, an owner must provide the Executive Officer the following information~~

~~(A) Owner contact information~~

- ~~1. Trailer owner's name, and if a corporate entity or governmental agency owns the trailer, the responsible official and title (if applicable);~~
- ~~2. Street address of owner or owner's company including city, state or province, zip code, colonia (Mexico only), and country;~~

3. Mailing address including city, state or province, zip code, colonia (Mexico only), and country;
4. Owner contact person's name;
5. Telephone number of contact person;
6. Email address of contact person (if available);
7. TRUCRS identification number (if applicable)

(B) Trailer Information (for each candidate trailer for compliance delay)

1. Trailer vehicle identification number (VIN).
2. Trailer participating in Optional Compliance Schedule? (Y or N)
3. Current scheduled compliance dates of trailers.
4. Narrative description of why exemption is necessary. Description should clearly explain why all available aerodynamic technologies that meet the requirements defined in sections 95303(b)(1)(B)2. or 95303(b)(3)(B)2. for dry-van trailers, or 95303(b)(2)(B)2. or 95303(b)(3)(C)2. for refrigerated-van trailers ~~95303(b)(1)(B)2.a. or 95303(b)(2)(B)2.a.~~ cannot be installed on the trailer, and why modification of such technologies is infeasible without compromising the aerodynamic effectiveness of the technology or technologies.
5. Additional supporting materials as requested by the Executive Officer.

(34) Applications for a Trailer Aerodynamic Equipment Compliance Delay may be submitted to the Executive Officer in written or electronic format no sooner than one year prior to the trailer's current compliance date.

(45) The Executive Officer will respond to the application for a Trailer Aerodynamic Equipment Compliance Delay within 30 days of receipt of the application, and notify the applicant in writing of the decision.

(A) The Executive Officer will review the existing list of U.S. EPA SmartWay verified aerodynamic technologies and determine if any of the existing technologies can be installed to meet the requirements defined in sections 95303(b)(1)(B)2. or 95303(b)(3)(B)2. for dry-van trailers, or 95303(b)(2)(B)2. or 95303(b)(3)(C)2. for refrigerated-van trailers.

~~(AB)~~ If the Executive Officer determines that the candidate trailer(s) identified in the application can be equipped with an aerodynamic technology that meets the requirements defined in sections 95303(b)(1)(B)2. or 95303(b)(3)(B)2. for dry-van trailers, or 95303(b)(2)(B)2. or 95303(b)(3)(C)2. for refrigerated-van trailers ~~95303(b)(1)(B)2. or 95303(b)(2)(B)2.~~, the application will be denied.

~~(BC)~~ If approved, the Executive Officer will notify the applicant in writing of the new effective compliance dates for those trailers identified in the application Trailer Aerodynamic Compliance Delay will remain in effect until the Executive Officer notifies the applicant that the U.S. EPA has verified an aerodynamic technology that can be installed on the trailer(s) to meet the requirements defined in sections 95303(b)(1)(B)2. or 95303(b)(3)(B)2. for dry-van trailers, or 95303(b)(2)(B)2. or 95303(b)(3)(C)2. for refrigerated-van trailers. The Executive Officer will use the owner contact information provided in accordance with section 95305(i)(2)(A) to contact the applicant. Once notified, the applicant will be required to install the aerodynamic technology on the trailer(s) within one year from notification.

~~(6)~~ The applicant may request an extension to an approved Trailer Aerodynamic Equipment Compliance Delay no sooner than 30 days prior to the new effective compliance dates.

\* \* \* \*

(m) Tractor Exemption for Phase 1 Certified Tractors

(1) A 2013 model year Phase 1 Certified Tractor is exempt from the requirements of section 95303(a).

(n) Exemption for New Trailers

(1) A 53-foot or longer box-type trailer is exempt from the requirements of section 95303(b) for three consecutive months following the month of its manufacture. For example, if the month of manufacture is September 2013, the exemption would apply through December 2013.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560 and 38560.5, Health and Safety Code.  
Reference: Sections 39600, 38560, 38560.5 and 38580, Health and Safety Code.



Note: Set forth below is the proposed adoption to title 17, California Code of Regulations (CCR), new subarticle 12, title 17, CCR, sections 95660, 95661, 95662, 95663, 95664,. Sections 95660, 95661, 95662, 95663, 95664, are new sections, shown without underline for easier reading.

**Adopt new subarticle 12, section 95660, 95661, 95662, 95663, 95664, title 17, CCR, to read as follows:**

(Note: The entire text of sections 95660 to 95664 set forth below is new language proposed to be added to the CCR.)

Title 17. Public Health

Division 3. Air Resources

Chapter 1. Air Resources Board

Subchapter 10. Climate Change

Article 4. Regulations to Achieve Greenhouse Gas Emission Reductions

Subarticle 12. Greenhouse Gas Emission Requirements for New 2014 and Subsequent Model Heavy-Duty Vehicles

**§95660. Purpose.**

The purpose of this subarticle is to reduce greenhouse gas (GHG) emissions from new medium- and heavy-duty vehicles by establishing emission standards and other requirements applicable to such vehicles. These greenhouse gas emissions include: carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), and hydrofluorocarbons (HFCs).

NOTE: Authority cited: Sections 38501, 38505, 38510, 38560, 39010, 39600, 39601, 43013, 43018, 43101, 43104, and 43105, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 38580, 39002, 39003, 39600, 39601, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43205, 43205.5, and 43211, Health and Safety Code.

**§95661. Applicability.**

This subarticle applies to all new 2014 and subsequent model medium- and heavy-duty vehicles, including vehicles fueled by conventional and alternative fuels, and electric vehicles. This subarticle contains emission standards and test procedures incorporated by reference that control greenhouse gas emissions from such vehicles.

NOTE: Authority cited: Sections 38501, 38505, 38510, 38560, 39010, 39600, 39601, 43013, 43018, 43101, 43104, and 43105, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 38580, 39002, 39003, 39600, 39601, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43205, 43205.5, and 43211, Health and Safety Code.

## §95662. Definitions.

(a) The definitions in Section 1900(b), chapter 1, title 13 of the California Code of Regulations (CCR) apply to these procedures with the following additions:

(1) "Diesel" means relating to a type of reciprocating, internal combustion engine that is not an Otto-cycle engine.

(2) "Day cab" means a type of tractor cab that is not a sleeper cab.

(3) "Deteriorated emission level" means the emission level that results from applying the appropriate deterioration factor to the official emission result of the emission-data vehicle. Note that where no deterioration factor applies, references in this part to the deteriorated emission level mean the official emission result.

(4) "Emission standard," as it applies to compliance with the Greenhouse Gas Requirements for new 2014 and subsequent model medium and heavy-duty vehicles, and the remedies provided for in the Health and Safety Code for noncompliance, relates to the emission characteristics of a motor vehicle and means:

(A) a numerical limit on the amount of a given pollutant that a motor vehicle engine may emit into the atmosphere; or

(B) a requirement that a motor vehicle engine be equipped with a certain type of pollution-control device or some other design feature related to the control of emissions.

(5) "Gross combination weight rating" (GCWR) means the value specified by the vehicle manufacturer as the maximum weight of a loaded vehicle and trailer, consistent with good engineering judgment. For example, compliance with SAE J2807 is generally considered to be consistent with good engineering judgment, especially for Class 3 and smaller vehicles.

(6) "Gross vehicle weight rating" (GVWR) means the value specified by the vehicle manufacturer as the maximum design loaded weight of a single vehicle, consistent with good engineering judgment.

(7) "Heavy-duty engine" means any engine used for (or for which the engine manufacturer could reasonably expect to be used for) motive power in a heavy-duty vehicle.

(8) "Heavy-duty vehicle" means any motor vehicle above 8,500 pounds GVWR or that has a vehicle curb weight above 6,000 pounds or that has a basic vehicle frontal area greater than 45 square feet.

(9) "Manufacturer" means any person engaged in the manufacturing or assembling of new motor vehicles or new motor vehicle engines, or importing such vehicles or engines for resale, or who acts for and is under the control of any such person in connection with the distribution of new motor vehicles and new motor vehicle engines, but shall not include any dealer with respect to new motor vehicles or new motor vehicle engines received by him in commerce. In general, this term includes any person who manufactures a vehicle or vehicle for sale in California or otherwise introduces a new motor vehicle into commerce in California. This includes importers who import vehicles or vehicles for resale.

(10) "Medium-duty engine" means any heavy-duty engine that is used to propel a medium-duty vehicle.

(11) "Medium-duty vehicle" means any heavy-duty low-emission, ultra-low-emission, super-ultra-low-emission or zero-emission vehicle certified to the standards in title 13, CCR section 1956.8(h), having a manufacturer's gross vehicle weight rating between 8,501 and 14,000 pounds.

(12) "Model year" means the manufacturer's annual new model production period, except as restricted under this definition and 40 CFR part 85, subpart X. It must include January 1 of the calendar year for which the model year is named, may not begin before January 2 of the previous calendar year, and it must end by December 31 of the named calendar year.

(A) The manufacturer who holds the Executive Order for the vehicle must assign the model year based on the date when its manufacturing operations are completed relative to its annual model year period. In unusual circumstances where completion of your assembly is delayed, we may allow you to assign a model year one year earlier, provided it does not affect which regulatory requirements will apply.

(B) Unless a vehicle is being shipped to a secondary manufacturer that will hold the Executive Order, the model year must be assigned prior to introduction of the vehicle into California commerce. The certifying manufacturer must redesignate the model year if it does not complete its manufacturing operations within the originally identified model year. A vehicle introduced into California commerce without a model year is deemed to have a model year equal to the calendar year of its introduction into California commerce unless the certifying manufacturer assigns a later date.

(13) "Motor vehicle" has the meaning given in Health and Safety Code section 39039.

(14) "Sleeper cab" means a type of tractor cab that has a compartment behind the driver's seat intended to be used by the driver for sleeping. This includes cabs accessible from the driver's compartment and those accessible from outside the vehicle.

(15) "Otto-cycle" means relating to a gasoline-fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Otto-cycle engines usually use a throttle to regulate intake air flow to control power during normal operation.

(16) "Tractor" has the meaning given for "truck tractor" in 49 CFR §571.3. This includes most heavy-duty vehicles specifically designed for the primary purpose of pulling trailers but does not include vehicles designed to carry other loads. For purposes of this definition "other loads" would not include loads carried in the cab, sleeper compartment, or toolboxes. Examples of vehicles that are similar to tractors but that are not tractors under this part include dromedary tractors, automobile haulers, straight trucks with trailer hitches, and tow trucks. Note that the provisions of this part that apply for tractors do not apply for tractors that are classified as vocational tractors under 40 CFR §1037.630.

(17) "Useful life" means the period during which a vehicle is required to comply with all applicable emission standards.

(18) "Vehicle" means equipment intended for use on highways that meets the criteria of paragraph (A)1. or (A)2. of this definition, as follows:

(A) The following equipment are vehicles:

1. A piece of equipment that is intended for self-propelled use on highways becomes a vehicle when it includes at least an engine, a transmission, and a frame. (Note: For purposes of this definition, any electrical, mechanical, and/or hydraulic devices attached to engines for the purpose of powering wheels are considered to be transmissions.)

2. A piece of equipment that is intended for self-propelled use on highways becomes a vehicle when it includes a passenger compartment attached to a frame with axles.

(B) Vehicles may be complete or incomplete vehicles as follows:

1. A complete vehicle is a functioning vehicle that has the primary load carrying device or container (or equivalent equipment) attached. Examples of equivalent equipment would include fifth wheel trailer hitches, firefighting equipment, and utility booms.

2. An incomplete vehicle is a vehicle that is not a complete vehicle. Incomplete vehicles may also be cab-complete vehicles. This may include vehicles sold to secondary vehicle manufacturers.

3. The primary use of the terms "complete vehicle" and "incomplete vehicle" are to distinguish whether a vehicle is complete when it is first sold as a vehicle.

4. You may ask us to allow you to certify a vehicle as incomplete if you manufacture the engines and sell the unassembled chassis components, as long as you do not produce and sell the body components necessary to complete the vehicle.

(C) Equipment such as trailers that are not self-propelled are not “vehicles” under 40 CFR part 1037.

(19) “Vocational tractor” means a vehicle classified as a vocational tractor under 40 CFR §1037.630. Vocational vehicle means relating to a vehicle subject to the standards of 40 CFR §1037.105 (including vocational tractors).

NOTE: Authority cited: Sections 38501, 38505, 38510, 38560, 39010, 39600, 39601, 43013, 43018, 43101, 43104, and 43105, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 38580, 39002, 39003, 39600, 39601, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43205, 43205.5, and 43211, Health and Safety Code.

**§95663. Greenhouse Gas Exhaust Emission Standards and Test Procedures for New 2014 and Subsequent Model Heavy-Duty Vehicles.**

(a) GHG Exhaust Emission Standards for New 2014 and Subsequent Model Heavy-Duty Vehicles over 14,000 Pounds GVWR

(1) Diesel and Otto-Cycle Vocational Vehicles.

(A) The CO<sub>2</sub> emissions for new 2014 and subsequent model heavy-duty vehicles shall not exceed:

<b>GVWR (pounds)</b>	<b>CO<sub>2</sub> standard (g/ton-mile) for model years 2014 - 2016</b>	<b>CO<sub>2</sub> standard (g/ton-mile) for model year 2017 and later</b>
GVWR ≤ 19,500	388	373
19,500 < GVWR ≤ 33,000	234	225
GVWR > 33,000	226	222

1. *Averaging, Banking, and Trading and Credits.* The requirements for the optional averaging, banking, and trading program and for generating credits are described in the applicable test procedures incorporated by reference in section (c).
2. *Useful Life Requirements.* Heavy-duty vocational vehicles must comply with the emission standards in this subsection (a)(1)(A) throughout the full useful life, as follows:
  - a. 110,000 miles or 10 years, whichever comes first, for vehicles at or below 19,500 pounds GVWR.
  - b. 185,000 miles or 10 years, whichever comes first, for vehicles above 19,500 pounds GVWR and at or below 33,000 pounds GVWR.
  - c. 435,000 miles or 10 years, whichever comes first, for vehicles above 33,000 pounds GVWR.

(2) Diesel and Otto-Cycle Tractors above 26,000 Pounds GVWR.

(A) The CO<sub>2</sub> emissions for new 2014 and subsequent model tractors above 26,000 pounds GVWR shall not exceed:

<b>GVWR (pounds)</b>	<b>Sub-Category</b>	<b>CO<sub>2</sub> standard (g/ton-mile) for model years 2014 – 2016</b>	<b>CO<sub>2</sub> standard (g/ton-mile) for model year 2017 and later</b>
26,000 < GVWR ≤ 33,000	Low-Roof (all cab styles)	107	104
	Mid-Roof (all cab styles)	119	115
	High-Roof (all cab styles)	124	120
GVWR > 33,000	Low-Roof Day Cab	81	80
	Low-Roof Sleeper Cab	68	66
	Mid-Roof Day Cab	88	86
	Mid-Roof Sleeper Cab	76	73
	High-Roof Day Cab	92	89
	High-Roof Sleeper Cab	75	72

1. *Averaging, Banking, and Trading Program and Credits.* The requirements for the optional averaging, banking, and trading program and for generating credits are described in the applicable test procedures incorporated by reference in section (c).
2. *Useful Life Requirements.* Heavy-duty tractors must comply with the emission standards in this subsection (a)(2)(A) throughout the full useful life, as follows:
  - a. 185,000 miles or 10 years, whichever comes first, for vehicles above 26,000 pounds GVWR and at or below 33,000 pounds GVWR.
  - b. 435,000 miles or 10 years, whichever comes first, for vehicles above 33,000 pounds GVWR.

(B) *Air Conditioning Leakage.* Loss of refrigerant from air conditioning systems from 2014 and later heavy-duty tractors may not exceed 1.50 percent per year, except as allowed by subsections (a)(2)(B)1 and (a)(2)(B)2 below.

1. For air condition refrigerants other than HFC–134a, the leakage rate is adjusted by multiplying it by the global warming potential of the refrigerant and dividing the product by 1430 (which is the global warming potential of HFC–134a).
2. If the total refrigerant capacity is less than 734 grams, the leakage rate may exceed 1.50 percent, as long as the total leakage rate does not exceed 11.0 grams per year.

(b) GHG Exhaust Emission Standards for New 2014 and Subsequent Model Diesel and Otto-Cycle Medium-Duty Vehicles between 8,501 to 14,000 Pounds GVWR

(1) Diesel and Otto-Cycle Vehicles between 8,501 to 14,000 Pounds GVWR.

(A) Diesel Fleet-Average Emission Standards.

1. *CO<sub>2</sub> Fleet-Average Standards.* For each model year, a manufacturer's national fleet-average CO<sub>2</sub> emissions for its diesel medium-duty vehicles shall not exceed the CO<sub>2</sub> fleet-average standard. The CO<sub>2</sub> fleet-average standard is calculated by a national production-weighted average of target values and rounded to the nearest 0.1 grams per mile, as follows:

$$\text{Fleet Average Standard} = \frac{\sum[\text{Target}_i \times \text{Volume}_i]}{\sum[\text{Volume}_i]}$$

The target values, for each vehicle configuration, are calculated as follows:

$$\text{CO}_2 \text{ Target} \left( \frac{\text{g}}{\text{mile}} \right) = 0.0416 \times \text{WF} + 320$$

where WF is the work factor.

$$\text{WF} = 0.75 \times (\text{GVWR} - \text{Curb Weight} + \text{xwd}) + 0.25 \times (\text{GCWR} - \text{GVWR})$$

Where:

xwd = 500 pounds if the vehicle has four-wheel drive or all-wheel drive; xwd = 0 pounds for all other vehicles.

- a. *Phase-In Provisions.* A manufacturer must choose either Option A or Option B below for phasing in the diesel fleet-average CO<sub>2</sub> target of this subsection (b)(1)(A).

<b>Option A Phase-In Provisions for Diesel Fleet-Average CO<sub>2</sub> Target</b>	
Vehicle model year	Option A CO <sub>2</sub> target (g/mile)
2014	[0.0478 × (WF)] + 368
2015	[0.0474 × (WF)] + 366
2016	[0.0460 × (WF)] + 354
2017	[0.0445 × (WF)] + 343
2018 and subsequent	[0.0416 × (WF)] + 320
<b>Option B Phase-In Provisions for Diesel Fleet-Average CO<sub>2</sub> Target</b>	
Vehicle model year	Option B CO <sub>2</sub> target (g/mile)
2014	[0.0478 × (WF)] + 368
2015	[0.0474 × (WF)] + 366

2016 – 2018	$[0.0440 \times (WF)] + 339$
2019 and subsequent	$[0.0416 \times (WF)] + 320$

b. *Useful Life Provisions.* A medium-duty vehicle must comply with the emission standards in this subsection (b)(1)(A) throughout its full useful life, of 11 years or 120,000 miles, whichever occurs first.

c. *Production and In-use CO<sub>2</sub> standards.* Each vehicle a manufacturer produces that is subject to the standards of this section has an “in-use” CO<sub>2</sub> standard that is calculated from the test result and that applies for selective enforcement audits and in-use testing. This in-use CO<sub>2</sub> standard for each vehicle is equal to the applicable deteriorated emission level multiplied by 1.10 and rounded to the nearest 0.1 g/mile.

2. *N<sub>2</sub>O and CH<sub>4</sub> Emission Standards.* The N<sub>2</sub>O emissions for new 2014 and subsequent model medium-duty vehicles shall not exceed 0.05 g/mi, and CH<sub>4</sub> emissions for new 2014 and subsequent model medium-duty vehicles shall not exceed 0.05 g/mi. Alternate standards using CO<sub>2</sub> emission credits may be used and are described in the “California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles,” incorporated by reference in section (c).

(B) *Otto-Cycle Fleet-Average Emission Standards.*

1. *CO<sub>2</sub> Fleet-Average Standards.* For each model year, a manufacturer’s national fleet-average CO<sub>2</sub> emissions for its Otto-cycle medium-duty vehicles shall not exceed the CO<sub>2</sub> fleet-average standard. The CO<sub>2</sub> fleet-average standard is calculated by a national production-weighted average of target values and rounded to the nearest 0.1 grams per mile, as follows:

$$\text{Fleet Average Standard} = \frac{\sum[\text{Target}_i \times \text{Volume}_i]}{\sum[\text{Volume}_i]}$$

The target values, for each vehicle configuration, are calculated as follows:

$$\text{CO}_2 \text{ Target } \left( \frac{\text{g}}{\text{mile}} \right) = 0.0440 \times WF + 339$$

where WF is the work factor.

$$WF = 0.75 \times (GVWR - \text{Curb Weight} + xwd) + 0.25 \times (GCWR - GVWR)$$

Where:



xwd = 500 pounds if the vehicle has four-wheel drive or all-wheel drive; xwd = 0 pounds for all other vehicles.

a. *Phase-In Provisions.* A manufacturer must choose either Option A or Option B below for phasing in the Otto-cycle fleet-average CO<sub>2</sub> target of this subsection (b)(1)(B).

<b>Option A Phase-In Provisions for Otto-Cycle Fleet-Average CO<sub>2</sub> Target</b>	
Vehicle model year	Option A CO <sub>2</sub> target (g/mile)
2014	$[0.0482 \times (WF)] + 371$
2015	$[0.0479 \times (WF)] + 369$
2016	$[0.0469 \times (WF)] + 362$
2017	$[0.0460 \times (WF)] + 354$
2018 and subsequent	$[0.0440 \times (WF)] + 339$
<b>Option B Phase-In Provisions for Otto-Cycle Fleet-Average CO<sub>2</sub> Target</b>	
Vehicle model year	Option B CO <sub>2</sub> target (g/mile)
2014	$[0.0482 \times (WF)] + 371$
2015	$[0.0479 \times (WF)] + 369$
2016–2018	$[0.0456 \times (WF)] + 352$
2019 and subsequent	$[0.0440 \times (WF)] + 339$

b. *Useful Life Provisions.* A medium-duty vehicle must comply with the emission standards in this subsection (b)(1)(B) throughout its full useful life, which is 11 years or 120,000 miles, whichever occurs first.

c. *Production and In-use CO<sub>2</sub> standards.* Each vehicle a manufacturer produces that is subject to the standards of this section has an “in-use” CO<sub>2</sub> standard that is calculated from the test result and that applies for selective enforcement audits and in-use testing. This in-use CO<sub>2</sub> standard for each vehicle is equal to the applicable deteriorated emission level multiplied by 1.10 and rounded to the nearest 0.1 g/mile.

2. *N<sub>2</sub>O and CH<sub>4</sub> Emission Standards.* The N<sub>2</sub>O emissions for new 2014 and subsequent model medium-duty vehicles shall not exceed 0.05 g/mi, and CH<sub>4</sub> emissions for new 2014 and subsequent model medium-duty vehicles shall not exceed 0.05 g/mi. Alternate standards using CO<sub>2</sub> emission credits may be used and are described in the applicable test procedures incorporated by reference in section (c).

(C) *Air Conditioning Leakage*. Loss of refrigerant from air conditioning systems from 2014 and later medium-duty vehicles may not exceed 1.50 percent per year, except as allowed by subsections (b)(1)(C)(1) and (b)(1)(C)(2) below.

1. For air condition refrigerants other than HFC–134a, the leakage rate is adjusted by multiplying it by the global warming potential of the refrigerant and dividing the product by 1430 (which is the global warming potential of HFC–134a).
2. If the total refrigerant capacity is less than 734 grams, the leakage rate may exceed 1.50 percent, as long as the total leakage rate does not exceed 11.0 grams per year.

(c) The test procedures for determining compliance with GHG emission standards applicable to 2014 and subsequent model medium- and heavy-duty vehicles are set forth in the “California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles,” adopted October 21, 2014, which is incorporated by reference herein.

NOTE: Authority cited: Sections 38501, 38505, 38510, 38560, 39010, 39600, 39601, 43013, 43018, 43101, 43104, and 43105, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 38580, 39002, 39003, 39600, 39601, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43205, 43205.5, and 43211, Health and Safety Code.

#### **§95664. Severability.**

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

NOTE: Authority cited: Sections 38501, 38505, 38510, 38560, 39010, 39600, 39601, 43013, 43018, 43101, 43104, and 43105, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 38580, 39002, 39003, 39600, 39601, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43205, 43205.5, and 43211, Health and Safety Code.