

**FINAL REGULATION ORDER FOR
PHASE 1 GREENHOUSE GAS REGULATIONS**

Note: Set forth below are the proposed amendments to title 13, California Code of Regulations (CCR), sections 1900, 1956.8, 2036, 2037, 2112, 2139, 2140, and 2147 and the proposed adoption of subarticle 12, title 17, CCR, sections 95660 to 95664. 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 “* * * *”. Sections 95660 to 95664 are new sections, shown without underline for easier reading.

Amend section 1900, 1956.8, 2036, 2037, 2112, 2139, 2140, and 2147, title 13, CCR, to read as follows:

§ 1900. Definitions.

(a) ~~[no change]~~ The definitions of this section supplement and are governed by the definitions set forth in chapter 2 (commencing with section 39010), part 1, division 26 of the Health and Safety Code, unless a specific definition set forth therein has been revised in section (b) below to conform to federal law pursuant to Health and Safety Code section 39601. The definitions set forth in the applicable model-year new vehicle certification and assembly-line test procedures adopted in this chapter are hereby incorporated by reference.

(b) In addition to the definitions incorporated under subdivision (a), the following definitions shall govern the provisions of this chapter;

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(3) “Emission standard” as it applies to compliance with the requirements applicable to motor vehicles and motor vehicle engines set forth in Article 2, Chapter 1, Division 3 of Title 13, California Code of Regulations, and the associated remedies provided in the Health and Safety Code for noncompliance, 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.

(4) “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 a vehicle is certified.

(5) “Exhaust emission standards” or “tailpipe emission standards” are a subset of emission standards that collectively refer to the specific standards to which a motor vehicle or motor vehicle engine is certified.

(~~36~~) “Emissions-related part” ***** [No change]

(~~47~~) “Gaseous fuels” ***** [No change]

(~~58~~) “Heavy-duty engine” ***** [No change]

(~~69~~) “Heavy-duty vehicle” ***** [No change]

(~~710~~) “Identical device” ***** [No change]

(~~811~~) “Independent low volume manufacturer”***** [No change]

(~~912~~) “Intermediate volume manufacturer” ***** [No change]

* * * *

(~~1013~~) “Large volume manufacturer” ***** [No change]

(~~1414~~) “Light-duty truck” ***** [No change]

(~~1215~~) “Medium-duty passenger vehicle” ***** [No change]

(~~1316~~) “Medium-duty vehicle” ***** [No change]

(~~1417~~) “Modified part” ***** [No change]

(~~1518~~) “Motorcycle Engine” ***** [No change]

(~~1619~~) [Reserved] ***** [No change]

(~~1720~~) “Passenger car” ***** [No change]

(~~1821~~) “Reactivity adjustment factor” ***** [No change]

(~~1922~~) “Recall” means: ***** [No change]

* * * *

(~~2023~~) “Replacement part” ***** [No change]

(~~2124~~) “Subgroup” ***** [No change]

(~~2225~~) “Small volume manufacturer” ***** [No change]

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NOTE: Authority cited: Sections 39010, 39600, 39601, 43013, 43018, 43101, and 43104, Health and Safety Code; Reference: Sections 39002, 39003, 39010, 39500, 40000, 43000, 43013, 43018.5, 43100, 43101, 43101.5, 43102, 43103, 43104, 43106, and 43204, Health and Safety Code; and Section 27156, Vehicle Code.

§ 1956.8. Exhaust Emission Standards and Test Procedures - 1985 and Subsequent Model Heavy-Duty Engines and Vehicles.

(a)(1) *[Exhaust emission standards for new 1985 through 2003 model heavy-duty diesel engines, heavy-duty natural-gas-fueled and liquefied-petroleum-gas-fueled engines derived from diesel-cycle engines and for new 1993 through 2003 model heavy-duty methanol-fueled diesel engines – No change]*

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(a)(7) Greenhouse Gas Emission Standards for new 2014 and Subsequent Model Heavy-Duty Diesel Engines, Heavy-Duty Natural Gas-Fueled and Liquefied-Petroleum-Gas-Fueled Engines Derived from Diesel-Cycle Engines, and Heavy-Duty Methanol-Fueled Diesel Engines.

(A) The CO₂ emissions from new 2014 and subsequent model heavy-duty diesel engines, heavy-duty natural gas-fueled and liquefied-petroleum-gas-fueled engines derived from diesel-cycle engines, and heavy-duty methanol-fueled diesel engines, except in all cases engines used in medium-duty vehicles, shall not exceed:

CO₂ Emission Standards for 2014 and Subsequent Model Heavy-Duty Diesel Engines^{A, B, C}

(in g/hp-hr)

<u>Model Years</u>	<u>Light heavy-duty – vocational</u>	<u>Medium heavy-duty – vocational</u>	<u>Heavy heavy-duty – vocational</u>	<u>Medium heavy-duty – tractor</u>	<u>Heavy heavy-duty – tractor</u>
<u>2014-2016</u>	<u>600</u>	<u>600</u>	<u>567</u>	<u>502</u>	<u>475</u>
<u>2017 and later</u>	<u>576</u>	<u>576</u>	<u>555</u>	<u>487</u>	<u>460</u>

^A Family Certification Levels. A Family Certification Level (FCL) must be specified for each engine family, which may not be less than the certified emission level for the engine family. The Family Emission Limit (FEL) for the engine family is equal to the FCL multiplied by 1.03. The FCL serves as the CO₂ emission standard for the engine family with respect to certification and confirmatory testing instead of the standards specified in this subsection (a)(7)(A). The FEL serves as the emission standard for the engine family with respect to all other testing.

^B 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 subsection (b).

^C Alternate Phase-in Emission Standards. Alternate phase-in emission standards may be used in lieu of the required CO₂ emission standards in the table above. To qualify for these alternate phase-in emission standards, the manufacturer must begin certifying all of its model year 2013 diesel engines within a given primary intended service class to the applicable alternate emission standards of this footnote (c) and continue through model year 2016. This means that once a manufacturer chooses to certify a primary intended service class to the alternate emission standards of this footnote (c), it is not allowed to opt out of these standards. Engines certified to these alternate emission standards are not eligible for early credits. Note that these alternate emission standards for 2016 and later are the same as the otherwise applicable required emission standards for model year 2017 and later.

Alternate Phase-in CO₂ Emission Standards (in g/hp-hr)					
<u>Model Years</u>	<u>Light heavy-duty – vocational</u>	<u>Medium heavy-duty – vocational</u>	<u>Heavy heavy-duty – vocational</u>	<u>Medium heavy-duty – tractor</u>	<u>Heavy heavy-duty – tractor</u>
2013-2015	618	618	577	512	485
2016	576	576	555	487	460

^D Alternate Emission Standards Based on 2011 Model Year Engines. For model years 2014 through 2016, heavy-duty diesel engines may be certified to these alternate emission standards based on 2011 model year engines, if they are not part of an averaging set in which a balance of banked credits remain. These alternate standards are determined from the measured emission rate of the test engine of the applicable baseline 2011 engine family(ies) as described in the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles,” as incorporated by reference in section (b). The alternate CO₂ standard for light and medium heavy-duty vocational-certified engines is equal to the baseline 2011 emission rate multiplied by 0.975. The alternative CO₂ standard for tractor-certified engines and all other heavy heavy-duty engines is equal to the baseline 2011 emission rate multiplied by 0.970.

(B) The methane (CH₄) emissions from new 2014 and subsequent model heavy-duty diesel engines, heavy-duty natural gas-fueled and liquefied-petroleum-gas-fueled engines derived from diesel-cycle engines, and heavy-duty methanol-fueled diesel engines, except in all cases engines used in medium-duty vehicles, shall not exceed 0.10 g/hp-hr.

(C) The nitrous oxide (N₂O) emissions from new 2014 and subsequent model heavy-duty diesel engines, heavy-duty natural gas-fueled and liquefied-petroleum-gas-fueled engines derived from diesel-cycle engines, and heavy-duty methanol-fueled diesel engines, except in all cases engines used in medium-duty vehicles, shall not exceed 0.10 g/hp-hr.

(b) Test Procedures. The test procedures for determining compliance with standards applicable to 1985 and subsequent model heavy-duty diesel engines and vehicles and the requirements for participating in the averaging, banking and trading programs, are set forth in the “California Exhaust Emission Standards and Test Procedures for 1985 through 2003 Model Heavy-Duty Diesel-Engines and Vehicles,” adopted April 8, 1985, as last amended December 12, 2002, the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles,” adopted December 12, 2002, as last amended April 18, 2013 October 21, 2014, and the “California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric Vehicles, in the Urban Bus and Heavy-Duty

Vehicle Classes,” adopted October 24, 2002, which are incorporated by reference herein.

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(c)(4) Greenhouse Gas Emission Standards for New 2016 and Subsequent Model Heavy-Duty Otto-Cycle Engines.

(A) The CO₂ emissions from new 2016 and subsequent model heavy-duty Otto-cycle engines, except in all cases engines used in medium-duty vehicles, shall not exceed 627 g/hp-hr. An FCL must be specified for each engine family, which may not be less than the certified emission level for the engine family. The FEL for the engine family is equal to the FCL multiplied by 1.03. The FCL serves as the CO₂ emission standard for the engine family with respect to certification and confirmatory testing instead of the standard specified in this subsection (c)(4)(A). The FEL serves as the emission standard for the engine family with respect to all other testing. 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 subsection (d).

(B) The CH₄ emissions from new 2016 and subsequent model heavy-duty Otto-cycle engines, except in all cases engines used in medium-duty vehicles, shall not exceed 0.10 g/hp-hr.

(C) The N₂O emissions from new 2016 and subsequent model heavy-duty Otto-cycle engines, except in all cases engines used in medium-duty vehicles, shall not exceed 0.10 g/hp-hr.

(d) The test procedures for determining compliance with standards applicable to 1987 and subsequent model heavy-duty Otto-cycle engines and vehicles are set forth in the “California Exhaust Emission Standards and Test Procedures for 1987 through 2003 Model Heavy-Duty Otto-Cycle Engines and Vehicles,” adopted April 25, 1986, as last amended December 27, 2000, the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines,” adopted December 27, 2000, as last amended ~~April 18, 2013~~ October 21, 2014, the “California Non-Methane Organic Gas Test Procedures,” adopted July 12, 1991, as last amended December 6, 2012, and the “California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric Vehicles, in the Urban Bus and Heavy-Duty Vehicle Classes,” adopted October 24, 2002, which are incorporated by reference herein.

(e) A manufacturer may elect to certify complete heavy-duty vehicles of 14,000 pounds or less maximum gross vehicle weight rating as medium-duty vehicles under section 1960.1 or section 1961 of this chapter, in which event the heavy-duty emission standards and test procedures in this section shall not apply.

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(h)(6) Greenhouse Gas Emission Standards for New 2014 and Subsequent Model Heavy-Duty Diesel Engines and 2016 and Subsequent Heavy-Duty Otto-Cycle Engines Used in Medium-Duty Low-Emission Vehicles, Ultra-Low-Emission Vehicles, and Super-Ultra-Low-Emission Vehicles.

(A) The CO₂ emissions from new 2014 and subsequent model heavy-duty diesel engines and new 2016 and subsequent heavy-duty Otto-cycle engines used in medium-duty low-emission vehicles, ultra-low-emission vehicles, and super-ultra-low-emission vehicles shall not exceed:

CO₂ Emission Standards for 2014 and Subsequent Model Heavy-Duty Diesel Engines and 2016 and Subsequent Model Heavy-Duty Otto-Cycle Engines Used in Medium-Duty Low-Emission Vehicles, Ultra-Low-Emission Vehicles, and Super-Ultra-Low Emission Vehicles^{A, B}
(in g/hp-hr)

<u>Model Years</u>	<u>Diesel Engines^C</u>	<u>Otto-Cycle Engines</u>
<u>2014</u>	<u>600</u>	<u>-</u>
<u>2015</u>	<u>600</u>	<u>-</u>
<u>2016</u>	<u>600</u>	<u>627</u>
<u>2017 and later</u>	<u>576</u>	<u>627</u>

^A Family Certification Levels. An FCL must be specified for each engine family, which may not be less than the certified emission level for the engine family. The FEL for the engine family is equal to the FCL multiplied by 1.03. The FCL serves as the CO₂ emission standard for the engine family with respect to certification and confirmatory testing instead of the standards specified in this subsection (h)(6)(A). The FEL serves as the emission standard for the engine family with respect to all other testing.

^B 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 subsection (b).

^C Alternate Emission Standards Based on 2011 Model Year Engines. For model years 2014 through 2016, heavy-duty diesel engines may be certified to these alternate emission standards if they are not part of an averaging set in which a balance of banked credits remain. These alternate standards are determined from the measured emission rate of the test engine of the applicable baseline 2011 engine family(ies) as described in the California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles, as incorporated by reference in section (b). The alternate CO₂ standard for light heavy-duty vocational-certified engines is equal to the baseline 2011 emission rate multiplied by 0.975.

(B) The CH₄ emissions from new 2014 and subsequent model heavy-duty diesel engines and new 2016 and subsequent heavy-duty Otto-cycle engines used in medium-duty low-emission vehicles, ultra-low-emission vehicles, and super-ultra-low-emission vehicles shall not exceed 0.10 g/hp-hr.

(C) The N₂O emissions from new 2014 and subsequent model heavy-duty diesel engines and new 2016 and subsequent heavy-duty Otto-cycle engines used

in medium-duty low-emission vehicles, ultra-low-emission vehicles, and super-ultra-low-emission vehicles shall not exceed 0.10 g/hp-hr.

(i) Definitions Specific to this Section. The following definitions apply to this section 1956.8.

(1) "Certified emission level" means the highest deteriorated emission level in an engine family for a given pollutant from the applicable transient and/or steady-state testing, rounded to the same number of decimal places as the applicable standard. Note that there may be two certified emission levels for CO₂ if a family is certified for both vocational and tractor use.

(2) "Emission standard," as it applies to the compliance with the 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.

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

(4) "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.

(5) "Family certification level" (FCL) means a CO₂ emission level declared by the manufacturer that is at or above emission test results for all emission-data engines. The FCL serves as the emission standard for the engine family with respect to certification testing if it is different than the otherwise applicable standard. The FCL must be expressed to the same number of decimal places as the emission standard it replaces.

(6) "Family emission limit" (FEL) means an emission level declared by the manufacturer to serve in place of an otherwise applicable emission standard (other than CO₂ standards) under the Average, Banking, and Trading Program. The FEL must be expressed to the same number of decimal places as the emission standard it replaces. The FEL serves as the emission standard for the engine family with respect to all required testing except certification testing for CO₂. The CO₂ FEL is equal to the CO₂ FCL multiplied by 1.03 and rounded to the same number of decimal places as the standard (e.g., the nearest whole g/hp-hr for the 2016 CO₂ standards).

(7) "Heavy heavy-duty engine" means an engine used in a vehicle that normally exceeds 33,000 pounds GVWR. Heavy heavy-duty engines are

designed for multiple rebuilds and have cylinder liners. Vehicles in this group are normally tractors, trucks, and buses used in inter-city, long-haul applications.

(8) "Light heavy-duty engine" means an engine used in a vehicle that is normally below 19,500 pounds GVWR. Light heavy-duty engines usually are not designed for rebuild and do not have cylinder liners. Vehicle body types in this group might include any heavy-duty vehicle built for a light-duty truck chassis, van trucks, multi-stop vans, motor homes and other recreational vehicles, and some straight trucks with a single rear axle. Typical applications would include personal transportation, light-load commercial delivery, passenger service, agriculture, and construction.

(9) "Medium heavy-duty engine" mean an engine used in a vehicle that is normally between 19,500 to 33,000 pounds GVWR. Medium heavy-duty engines may be designed for rebuild and may have cylinder liners. Vehicle body types in this group would typically include school buses, straight trucks with dual rear axles, city tractors, and a variety of special purpose vehicles such as small dump trucks, and refuse trucks. Typical applications would include commercial short haul and intra-city delivery and pickup.

(10) "Primary intended service class" means the class that best describes the vehicle for which the manufacturer designs and markets the engine. The three primary intended service classes are light heavy-duty, medium heavy-duty, and heavy heavy-duty.

(11) "Tractor" means a vehicle meeting the definition of "tractor" in 40 CFR §1037.801, but not classified as a "vocational tractor" under 40 CFR §1037.630, or relating to such a vehicle.

(12) "Tractor engine" means an engine certified for use in tractors. Where an engine family is certified for use in both tractors and vocational vehicles, "tractor engine" means an engine that the engine manufacturer reasonably believes will be (or has been) installed in a tractor. Note that the Executive Officer may require a manufacturer to document how it determines that an engine is a tractor engine.

(13) "Vocational engine" means an engine certified for use in vocational vehicles. Where an engine family is certified for use in both tractors and vocational vehicles, "vocational engine" means an engine that the engine manufacturer reasonably believes will be (or has been) installed in a vocational vehicle. Note that the provisions of this part may require a manufacturer to document how it determines that an engine is a vocational engine.

(14) "Vocational vehicle" means a vehicle meeting the definition of "vocational" vehicle in 40 CFR §1037.801.

NOTE: Authority cited: Sections 38501, 38505, 38510, 38560, 39500, 39600, 39601, 43013, 43018, 43100, 43101, 43102, 43104, 43105, 43106, 43107 and 43806, Health and Safety Code; and Section 28114, Vehicle Code. Reference: Sections 38501, 38505, 38510, 38560, 38580, 39002, 39003, 39500, 39600, 39601, 39610, 39667, 43000, 43000.5, 43009.5, 43013, 43017, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43107, 43202, 43204, 43205, 43205.5, 43206, 43210, 43211, 43212, 43213 and 43806, Health and Safety Code; and Section 28114, Vehicle Code.

§ 2036. Defects Warranty Requirements for 1979 Through 1989 Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles; 1979 and Subsequent Model Motorcycles and Heavy-Duty Vehicles; and Motor Vehicle Engines Used in Such Vehicles.

* * * *

(c) Warranty Period.

* * * *

(4) In the case of diesel-powered heavy-duty vehicles (except medium-duty vehicles), and motor vehicle engines used in such vehicles, a period of use of five years, 100,000 miles, or 3000 hours of operations, whichever first occurs. However, in no case may this period be less than the basic mechanical warranty that the manufacturer provides (with or without additional charge) to the purchaser of the engine. Extended warranties on select parts do not extend the emissions warranty requirements for the entire engine but only for those parts. In cases where responsibility for an extended warranty is shared between the owner and the manufacturer, the emissions warranty shall also be shared in the same manner as specified in the warranty agreement.

(4.1) In the case of diesel-powered heavy-duty vehicles below 19,500 pound GVWR (except medium-duty vehicles) certified to the GHG emission standards of section 95663, title 17, and motor vehicle engines used in such vehicles, a period of use of five years or 50,000 miles, whichever first occurs, for GHG emission control components, as set forth in 40 CFR 1037.120, as adopted November 14, 2011.

(4.2) In the case of diesel-powered heavy-duty vehicles at or above 19,500 pound GVWR certified to the GHG emission standards of section 95663, title 17, and motor vehicle engines used in such vehicles, a period of use of five years or 100,000 miles, whichever first occurs, for GHG emission control components, as set forth in 40 CFR 1037.120, as adopted November 14, 2011.

* * * *

(8) In the case of heavy-duty vehicles and motor vehicle engines used in such vehicles, (except for diesel-powered heavy-duty vehicles or all medium-duty vehicles, and motor vehicle engines used in such vehicles,) a period of use of five years or 50,000 miles, whichever first occurs. However, in no case may this period be less than the basic mechanical warranty period that the manufacturer provides (with or without additional charge) to the purchaser of the engine. Extended warranties on select parts do not extend the emissions warranty requirements for the entire engine but only for those parts. In cases where responsibility for an extended warranty is shared between the owner and the manufacturer, the emissions warranty shall also be shared in the same manner as specified in the warranty agreement.

(8.1) In the case of heavy-duty vehicles certified to the GHG emission standards of section 95663, title 17, and motor vehicle engines used in such vehicles, (except for diesel-powered heavy-duty vehicles or all medium-duty vehicles, and motor vehicle engines used in such vehicles), a period of use of five years or 50,000 miles, whichever first occurs, for GHG emission control components, as set forth in 40 CFR 1037.120, as adopted November 14, 2011.

* * * *

Note: Authority cited: Sections 38501, 38505, 38510, 38560, 39600 and 39601, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 43106, 43204, 43205.5, 44004, 44010, 44011, 44012, 44015, and 44017, Health and Safety Code.

§ 2037. Defects Warranty Requirements for 1990 and Subsequent Model Passenger Cars, Light-Duty Trucks, Medium-Duty Vehicles, and Motor Vehicle Engines Used in Such Vehicles.

(a) Applicability.

This section shall apply to 1990 and subsequent model passenger cars, light-duty trucks, medium-duty vehicles, and motor vehicle engines used in such vehicles. The warranty period shall begin on the date the vehicle is delivered to an ultimate purchaser, or if the vehicle is first placed in service as a “demonstrator” or “company” car prior to delivery, on the date it is first placed in service.

(a.1) This section shall apply to medium-duty vehicles certified to the GHG emission standards of section 95663, title 17, for GHG emission control components, as set forth in 40 CFR 1037.120, as adopted November 14, 2011.

(b) General Emissions Warranty Coverage.

The manufacturer of each motor vehicle or motor vehicle engine shall warrant to the ultimate purchaser and each subsequent purchaser that the vehicle or engine is:

(1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board pursuant to its authority in chapters 1 and 2, part 5, division 26 of the Health and Safety Code; and

(2) Free from defects in materials and workmanship which cause the failure of a warranted part to be identical in all material respects to the part as described in the vehicle or engine manufacturer's application for certification, including any defect in materials or workmanship which would cause the vehicle's on-board diagnostic malfunction indicator light to illuminate, for a period of three years or 50,000 miles, whichever first occurs; and

(3) Free from defects in materials and workmanship which cause the failure of a warranted part described in section (c) below for seven years or 70,000 miles, whichever first occurs.

* * * *

Note: Authority cited: Sections 38501, 38505, 38510, 38560, 39600 and 39601, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 43106, 43204, 43205, 44004, 44010, 44011, 44012, 44015, and 44017, Health and Safety Code.

§ 2112. Definitions.

* * * *

(l) "Useful life" means, for the purposes of this article:

* * * *

(19) For 2004 and subsequent model-year light heavy-duty diesel engines, for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbons emissions standards, a period of use of 10 years or 110,000 miles, whichever first occurs, or any alternative useful life period approved by the Executive Officer.

(19.1) For 2004 and subsequent model-year light heavy-duty diesel engines certified to the Greenhouse Gas emission standards in section 1956.8(a)(7), title 13, CCR, for carbon dioxide, nitrous oxide, and methane emission standards, a period of use of ten years or 110,000 miles, whichever first occurs, or any alternative useful life period approved by the Executive Officer.

(20) For 2004 and subsequent model-year medium heavy-duty diesel engines, for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbons emissions standards, a period of use of ten years or 185,000 miles, whichever first occurs; or any alternative useful life period approved by the Executive Officer.

(20.1) For 2004 and subsequent model-year medium heavy-duty diesel engines certified to the Greenhouse Gas emission standards in section 1956.8(a)(7), title 13, CCR, for carbon dioxide, nitrous oxide, and methane emission standards, a period of use of ten years or 185,000 miles, whichever first occurs, or any alternative useful life period approved by the Executive Officer.

(21) For 2004 and subsequent model-year heavy heavy-duty diesel engines, 2004 and subsequent model-year heavy-duty diesel urban buses, 2004 and subsequent model-year heavy-duty diesel engines to be used in urban buses, and 2004 and subsequent model year hybrid-electric urban buses for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbon emissions standards, a period of use of 10 years or 435,000 miles, or 22,000 hours, whichever first occurs, or any

alternative useful life period approved by the Executive Officer, except as provided in paragraphs (2021)(A) and (2021)(B).

(21.1) For 2004 and subsequent model-year heavy heavy-duty diesel engines certified to the Greenhouse Gas emission standards in section 1956.8(a)(7), title 13, CCR, for carbon dioxide, nitrous oxide, and methane emission standards, a period of use of ten years or 435,000 miles, or 22,000 hours, whichever first occurs, or any alternative useful life period approved by the Executive Officer, except as provided in paragraphs (21)(A) and (21)(B).

(A) The useful life limit of 22,000 hours in paragraph (19) of this definition is effective as a limit to the useful life only when an accurate hours meter is provided by the manufacturer with the engine and only when such hours meter can reasonably be expected to operate properly over the useful life of the engine.

(B) For an individual engine, if the useful life hours limit of 22,000 hours is reached before the engine reaches 10 years or 100,000 miles, the useful life shall become 10 years or 100,000 miles, whichever occurs first, as required under Clean Air Act section 202(d) (42 U.S.C. 7521(d)).

(22) For 2004 and subsequent model-year heavy-duty Otto-cycle engines, for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbon emissions standards, a period of use of 10 years or 110,000 miles, whichever first occurs.

(22.1) For 2004 and subsequent model-year heavy-duty Otto-cycle engines certified to the Greenhouse Gas emission standards in section 1956.8(h)(6), title 13, CCR, for carbon dioxide, nitrous oxide, and methane emissions standards, the useful life shall be a period of use of ten years or 110,000 miles, whichever first occurs.

* * * *

(25) For 2014 and subsequent model-year heavy-duty vehicles at or below 19,500 pounds GVWR, certified to the GHG emission standards of section 95663, title 17, CCR, the useful life shall be ten years or 110,000 miles, whichever first occurs.

(26) For 2014 and subsequent model-year heavy-duty vehicles above 19,500 pounds and at or below 33,000 pounds GVWR, certified to the GHG emission standards of section 95663, title 17, CCR, the useful life shall be ten years or 185,000 miles, whichever first occurs.

(27) For 2014 and subsequent model-year heavy-duty vehicles above 33,000 pounds GVWR, certified to the GHG emission standards of section 95663, title 17, CCR, the useful life shall be ten years or 435,000 miles, whichever first occurs.

* * * *

Note: Authority cited: Sections 38501, 38505, 38510, 38560, 39010, 39600, 39601, 43013, 43018, 43101, 43104, 43105 and 43806, Health and Safety Code; and Section 28114, Vehicle Code. Reference: Sections 38501, 38505, 38510, 38560, 39002, 39003, 39010, 39500, 39601, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43107, 43202, 43204-43205.5, 43206, 43210, 43211, 43212, 43213 and 43806, Health and Safety Code; and Section 28114, Vehicle Code.

§ 2139. Testing.

* * * *

(b) For medium-duty vehicles certified according to the chassis standards and test procedures specified in section 1960.1, 1961, 1961.2, or 1961.3, Title 13, California Code of Regulations and the documents incorporated by reference therein, in-use compliance emission tests shall be performed pursuant to section 1960.1, 1961, 1961.2, or 1961.3, Title 13, California Code of Regulations, as applicable.

(b.1) For medium-duty vehicles certified according to the GHG emission standards of section 95663, Title 17, California Code of Regulations, and the documents incorporated by reference therein, in-use compliance emission tests shall be performed pursuant to section 95663, Title 17, California Code of Regulations, as applicable.

(c) For medium-duty engines and vehicles certified according to the optional engine test procedures specified in section 1956.8, Title 13, California Code of Regulations and the documents incorporated by reference therein, in-use compliance emission tests shall be performed pursuant to one of the following procedures:

(c.1) For medium-duty engines and vehicles certified to the Greenhouse Gas emission standards in sections 1956.8(a)(7) and 1956.8(h)(6), Title 13, California Code of Regulations, in-use compliance emission tests shall be performed pursuant to one of the following procedures:

* * * *

(2) Medium-duty vehicles may be tested according to the chassis test procedures specified in section 1960.1(k), 1961, ~~or~~ 1961.2, Title 13, California Code of Regulations or section 95663, Title 17, California Code of Regulations, as applicable, if a manufacturer develops correlation factors which establish the relationship between engine and chassis testing for each engine family or test group and submits these correlation factors within one year after the beginning of production.

* * * *

(d) For heavy-duty engines and vehicles, in-use compliance emission tests shall be performed pursuant to section 1956.8, Title 13, California Code of Regulations. For heavy-duty vehicles certified to the GHG emission standards of section 95663, Title 17,

California Code of Regulations, in-use compliance emission tests shall be performed pursuant to section 95663, Title 17, California Code of Regulations.

* * * *

Note: Authority cited: Sections 38501, 38505, 38510, 38560, 39600, 39601, 43013, 43018, 43101, 43104 and 43105, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 39002, 39003, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43103, 43104, 43105, 43106, 43107, 43204-43205.5 and 43211-43213, Health and Safety Code.

§ 2140. Notification and Use of Test Results.

* * * *

(b) If the results of the in-use vehicle emission tests conducted pursuant to Section 2139 indicate that the average emissions of the test vehicles for any pollutant exceed the applicable emission standards specified in Title 13, California Code of Regulations, Sections 1960.1, 1961, 1961.2, 1961.3, 1956.8, 1958, 2412, 2423 or 2442 or in Title 17, California Code of Regulations, Section 95663, the entire vehicle population so represented shall be deemed to exceed such standards. The Executive Officer shall notify the manufacturer of the test results and upon receipt of the notification, the manufacturer shall have 45 days to submit an influenced recall plan in accordance with Sections 2113 through 2121, Title 13, California Code of Regulations. If no such recall plan is submitted, the Executive Officer may order corrective action including recall of the affected vehicles in accordance with Sections 2122 through 2135, Title 13, California Code of Regulations.

Note: Authority cited: Sections 38501, 38505, 38510, 38560, 39600, 39601, 43013, 43018 and 43105, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107, 43204-43205.5 and 43211-43213, Health and Safety Code.

§ 2147. Demonstration of Compliance with Emission Standards.

* * * *

(b) A manufacturer may test properly maintained in-use vehicles with the failed emission-related component pursuant to the applicable certification emission tests specified in Title 13, California Code of Regulations, Section 1960.1, 1961, 1961.2, or 1961.3, as applicable, for passenger cars, light-duty trucks, and medium-duty vehicles, Section 1956.8 for heavy-duty engines and vehicles, Section 1958 for motorcycles, and Section 2442 for sterndrive/inboard marine engines, and in Title 17, California Code of Regulations, Section 95663, for heavy-duty vehicles. The emissions shall be projected to the end of the vehicle's or engine's useful life using in-use deterioration factors. The in-use deterioration factors shall be chosen by the manufacturer from among the following:

* * * *

(3) subject to approval by the Executive Officer, a manufacturer-generated deterioration factor. The Executive Officer shall approve such deterioration factor if it is based on in-use data generated from certification emission tests performed on properly maintained and used vehicles in accordance with the procedures set forth in Section 1960.1, 1961, or 1961.2 of Title 13 of the California Code of Regulations, as applicable, for passenger cars, light-duty trucks, and medium-duty vehicles; Section 1956.8 of Title 13 of the California Code of Regulations heavy duty vehicles and engines; ~~and~~ Section 1958 of Title 13 of the California Code of Regulations for motorcycles; and Section 95663 of Title 17 of the California Code of Regulations, for heavy-duty vehicles, and if the vehicles from which it was derived are representative of the in-use fleet with regard to emissions performance and are equipped with similar emission control technology as vehicles with the failed component.

* * * *

NOTE: Authority cited: Sections 38501, 38505, 38510, 38560, 39600, 39601 and 43105, Health and Safety Code. Reference: Sections 38501, 38505, 38510, 38560, 43000, 43009.5, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code.

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 (CO₂), nitrous oxide (N₂O), methane (CH₄), 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 CO₂ emissions for new 2014 and subsequent model heavy-duty vehicles shall not exceed:

GVWR (pounds)	CO₂ standard (g/ton-mile) for model years 2014 - 2016	CO₂ standard (g/ton-mile) for model year 2017 and later
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 CO₂ emissions for new 2014 and subsequent model tractors above 26,000 pounds GVWR shall not exceed:

GVWR (pounds)	Sub-Category	CO₂ standard (g/ton-mile) for model years 2014 – 2016	CO₂ standard (g/ton-mile) for model year 2017 and later
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. *CO₂ Fleet-Average Standards.* For each model year, a manufacturer's national fleet-average CO₂ emissions for its diesel medium-duty vehicles shall not exceed the CO₂ fleet-average standard. The CO₂ 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 CO₂ target of this subsection (b)(1)(A).

Option A Phase-In Provisions for Diesel Fleet-Average CO₂ Target	
Vehicle model year	Option A CO ₂ 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
Option B Phase-In Provisions for Diesel Fleet-Average CO₂ Target	
Vehicle model year	Option B CO ₂ 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 CO₂ standards.* Each vehicle a manufacturer produces that is subject to the standards of this section has an “in-use” CO₂ standard that is calculated from the test result and that applies for selective enforcement audits and in-use testing. This in-use CO₂ 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. *N₂O and CH₄ Emission Standards.* The N₂O emissions for new 2014 and subsequent model medium-duty vehicles shall not exceed 0.05 g/mi, and CH₄ emissions for new 2014 and subsequent model medium-duty vehicles shall not exceed 0.05 g/mi. Alternate standards using CO₂ 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. *CO₂ Fleet-Average Standards.* For each model year, a manufacturer’s national fleet-average CO₂ emissions for its Otto-cycle medium-duty vehicles shall not exceed the CO₂ fleet-average standard. The CO₂ 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 CO₂ target of this subsection (b)(1)(B).

Option A Phase-In Provisions for Otto-Cycle Fleet-Average CO₂ Target	
Vehicle model year	Option A CO ₂ 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	$[0.0440 \times (WF)] + 339$
Option B Phase-In Provisions for Otto-Cycle Fleet-Average CO₂ Target	
Vehicle model year	Option B CO ₂ 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 CO₂ standards.* Each vehicle a manufacturer produces that is subject to the standards of this section has an “in-use” CO₂ standard that is calculated from the test result and that applies for selective enforcement audits and in-use testing. This in-use CO₂ 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. *N₂O and CH₄ Emission Standards.* The N₂O emissions for new 2014 and subsequent model medium-duty vehicles shall not exceed 0.05 g/mi, and CH₄ emissions for new 2014 and subsequent model medium-duty vehicles shall not exceed 0.05 g/mi. Alternate standards using CO₂ 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.