

**Appendix F-A-1**  
**Purpose and Rationale for**  
**Proposed Title 13 Regulation Order**

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## **Section 1900. Definitions**

### **Subsection (b)**

#### **Purpose**

The section contains definitions that apply to this chapter. In particular, medium-duty vehicle in subsection (b)(13) is defined to include zero-emission vehicles having a manufacturer's gross vehicle weight rating between 8,501 and 14,000 pounds. However, in this definition, the current CCR sections referenced for zero-emission vehicles do not include the most recent section that applies to 2018 and subsequent model years, section 1962.2. The proposed amendment adds section 1962.2 to the list of vehicles considered as a medium-duty vehicle. See Chapter III, section A.12 of this Staff Report for further details on the definition of medium-duty vehicles.

#### **Rationale**

The proposed amendment is necessary to explain that 2018 and later zero-emission vehicles can be certified as medium-duty vehicles.

The current requirements related to medium-duty vehicles are described in Chapter I, Section B.12 of this Staff Report; the need for medium-duty engine clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed medium-duty engine clarifications and amendments is included in Chapter III, Section A.12.

**Section 1956.8. Exhaust Emission Standards and Test Procedures -1985 and Subsequent Model Heavy-Duty Engines and Vehicles, 2021 and Subsequent Zero-Emission Powertrains and 2022 and Subsequent Model Heavy-Duty Hybrid Powertrains.**

**Purpose**

The purpose of this amendment is to include a reference to 2022 and subsequent model year heavy-duty hybrid powertrains in the title of section 1956.8.

**Rationale**

This amendment is necessary to convey the scope of applicability of §1956.8 to heavy-duty hybrid powertrains, the requirements for which are specified in subsections (a)(9) and (c)(5). This amendment enables manufacturers to more easily identify applicable requirements necessary for certifying their powertrains.

**Subsection (a)(2)(A)**

**Purpose**

The purpose of this amendment is to sunset the current exhaust emission standards for heavy-duty Diesel-cycle engines in favor of more stringent NOx and PM standards beginning in 2024.

**Rationale**

This amendment is necessary to provide manufacturers with lead time to transition to the first phase of more stringent NOx and PM exhaust emission standards proposed in subsection (a)(2)(C) for heavy-duty Diesel-cycle engines. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they comply with the more stringent standards. Subsection (a)(2)(A) contains the exhaust emission standards for 2004 through 2023 model year heavy-duty diesel engines other than urban bus engines produced from October 1, 2002 through model year 2006, and optional, reduced emission standards produced beginning October 1, 2002 through 2023 model year heavy-duty diesel engines. The proposed modification replaces the phrase “and subsequent” to “through 2023” model year in several places within this subsection including the Table and footnote L to the Table.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

**Subsection (a)(2)(B)**

**Purpose**

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The purpose of this amendment is to sunset the phase-in options for early NO<sub>x</sub> and PM compliant heavy-duty diesel engines that were produced in 2007 through 2009 model years meeting the 2007 through 2023 model year emission standards.

### **Rationale**

Early phase-in options were available for heavy-duty diesel engines certified in the 2007, 2008 and 2009 model years. These phase-in options provided flexibility to engine manufacturers certifying products meeting the preexisting emission standards. Under the proposed amendments, beginning with the 2024 model year, a more stringent set of emission standards would be applicable. As such, the early phase-in options would no longer be applicable. Changes to subsection (a)(2)(B)1 are applicable for early NO<sub>x</sub> compliant engines while changes to subsection (a)(2)(B)2 apply to early PM compliant engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (a)(2)(C)**

#### **Purpose**

The purpose of this amendment is to create a new subsection (a)(2)(C) establishing a first phase of more stringent NO<sub>x</sub> and PM exhaust emission standards for heavy-duty diesel engines used in vehicles greater than 14,000 GVWR from model years 2024 through 2026, as well as the adoption of a new certification test cycle for demonstrating emissions compliance during representative low-load engine operation. The amendment also specifies proposed optional low NO<sub>x</sub> standards that manufacturers may elect to use to certify 2024 through 2026 model year heavy-duty diesel engines.

#### **Rationale**

As described further in Chapter III, Section A.1 of the Staff Report, this amendment is necessary to establish more stringent exhaust emission standards for NO<sub>x</sub> and PM, and more stringent optional low NO<sub>x</sub> exhaust emission standards, for new 2024 through 2026 model year heavy-duty diesel engines used in vehicles greater than 14,000 GVWR. More stringent emission standards reduce emissions that can adversely affect health and welfare. Compliance with the proposed NO<sub>x</sub> standards over the proposed low-load certification test cycle would reduce emissions even further because the proposed cycle evaluates previously unaccounted for operating conditions during which NO<sub>x</sub> control is challenging due to lower exhaust temperatures at reduced loads.

Heavy-duty diesel engines are subdivided into 3 service classes designated as light heavy-duty diesel engines (LHDDE) intended for use in vehicles less than or equal to 19,500 pounds GVWR, medium heavy-duty diesel engines (MHDDE) intended for use in vehicles 19,501 to 33,000 pounds GVWR, and heavy heavy-duty diesel engines

(HHDDE) intended for use in vehicles above 33,000 pounds GVWR. For 2024 through 2026 model year engines, the same exhaust emission standards would apply for each of these heavy-duty engine categories. Meeting the proposed NO<sub>x</sub> standard for 2024 and subsequent model years would likely require manufacturers to utilize a combination of emission control strategies that provide improved thermal management such as high EGR rates, increased idle speed, EGR cooler bypass, and improved aftertreatment system efficiency which may include improved packaging and improved SCR urea dosing strategies, such as heated urea dosing systems.

A more stringent PM standard of 0.005 g/bhp-hr is proposed to ensure robust PM emission control performance based on the best available PM control technology. Current diesel particulate filters (DPF) are very effective in reducing PM emissions, providing emission levels about 90 percent below the current PM emission standard of 0.01 g/bhp-hr (as demonstrated by current CARB engine certification levels). The proposed standard of 0.005 g/bhp-hr PM should be readily feasible based on CARB certification data, DPF performance standards already required by the European Union (Euro Stage VI), and as verified in recent testing performed for CARB by the Southwest Research Institute (SwRI) (Sharp et al., 2017).

The proposed optional low-NO<sub>x</sub> standards are developed to pave the way for future standards by providing manufacturers a mechanism to certify engines to significantly lower emission standards earlier than is required. In addition, there may be incentive programs that would further encourage the purchase of certified optional low NO<sub>x</sub> engines. Since 2016, manufacturers have been certifying in California natural gas and propane-fueled low NO<sub>x</sub> engines to the optional low NO<sub>x</sub> emission standards that are 50-90 percent lower than current primary standards. For the same reasons, CARB staff is now proposing optional low NO<sub>x</sub> standards that are 60 percent lower than the proposed 2024 through 2026 model year NO<sub>x</sub> standards. These modifications are necessary in order to establish optional low NO<sub>x</sub> emission standards for new 2024 through 2026 model year LHDDEs, MHDDEs, and HHDDEs. Furthermore, the proposed amendment in footnote A regarding ABT participation is necessary to avoid double counting NO<sub>x</sub> emission reductions both by certifying to an Optional Low NO<sub>x</sub> standard thereby qualifying for an incentive funding and by taking NO<sub>x</sub> credits in the ABT. These standards, in combination with the certification procedures, are necessary to establish a process to certify these engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (a)(2)(D)**

#### **Purpose**

The purpose of this amendment is to create a new subsection (a)(2)(D) that specifies a second phase of more stringent NOx standards applicable to on-road heavy-duty engines. Unlike the first phase of more stringent standards in (a)(2)(C) which applied identically to all heavy-duty categories, the proposed NOx standards in (a)(2)(D) would apply individually based on engine category and implementation date, i.e., first for new 2027 and subsequent model year LHDDs and MHDDs, second for new 2027 through 2030 model year HHDDs, and finally for new 2031 and subsequent model year HHDDs.

### **Rationale**

This amendment is necessary to establish more stringent NOx standards for new 2027 and subsequent model year heavy-duty engines that, in combination with other proposed certification procedures such as the Low-load test cycle, will result in reduced emissions to better protect public health and welfare.

As described further in Chapter III, Section A.1 of the Staff Report, for 2027 and subsequent model year LHDDs and MHDDs, CARB staff is proposing more stringent NOx standards on the FTP, RMC-SET, and Low-load test procedures. For 2027 and subsequent model year HHDDs, CARB staff is proposing a tiered standard based on useful life mileage, one at the intermediate useful life period of 435,000 miles for all 2027 and later model year HHDDs, and a second standard at the proposed useful life period applicable to the model year (see Chapter III, Section A.5 of the Staff Report for additional information on the proposed amendments to useful life periods). Specifically, the second exhaust emission standard would apply for the proposed useful life period of 600,000 miles for model years 2027 to 2030 and for the proposed useful life period of 800,000 miles for 2031 and subsequent model year HHDDs. The proposed NOx standards have been demonstrated feasible by the SwRI with advanced aftertreatment strategies such as a dual SCR system with a close coupled SCR catalyst and dual dosing and engine calibration and hardware strategies such as cylinder deactivation or variable valve actuation.

Additionally, for the same reasons discussed in subsection (a)(2)(C) above, CARB staff is proposing to continue with more stringent optional low NOx standards that are 50 percent below the proposed 2027 NOx exhaust emission standards. The proposed optional low NOx standards apply only to heavy-duty engines used in vehicles greater than 14,000 pounds GVWR. The same engine and aftertreatment strategies and technologies used to meet the 2027 primary exhaust emission standards with incremental improvements could be used to meet the optional exhaust emission standards. Furthermore, the proposed amendment regarding ABT participation is necessary to avoid double counting NOx emission reductions both by certifying to an Optional Low NOx standard thereby qualifying for an incentive funding and by taking NOx credits in the ABT. These standards, in combination with the certification procedures, are necessary to establish a process to certify these engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine

emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (a)(6)**

#### **Purpose**

The purpose of this amendment to subsection (a)(6) is to add introductory text defining the model year and vehicle class applicability of existing idling emission control requirements for 2008 to 2023 model year heavy-duty diesel engines and vehicles and to establish the model year and vehicle class applicability of the proposed idling emission control requirements for 2024 and subsequent model year heavy-duty diesel engines and vehicles. The introduction also specifies compliance options for meeting the idling emissions control requirements.

#### **Rationale**

As discussed further in Chapter III, section A.1 of the Staff Report, this amendment to subsection (a)(6) is necessary to define the scope of applicability for heavy-duty diesel engine idling requirements by separating the requirements for 2008 through 2023 model year diesel engines from the proposed new heavy-duty diesel engine idling requirements for new 2024 and later model year diesel engines. These standards, in combination with the certification procedures, are necessary to establish a process to certify these engines to the proposed low NOx exhaust emission standards. The current requirements related to heavy-duty engine idling emission standards are described in Chapter I, Section B.1.4 of this Staff Report; the need for heavy-duty engine idling emission standard amendments is described in Chapter II, Section C.1.2; and the description of proposed heavy-duty engine idling emission standards amendments is included in Chapter III, Sections A.1.

### **Subsection (a)(6)(B)**

#### **Purpose**

The purpose of this amendment to subsection (a)(6)(B) is to sunset the exemption to the idling control requirements for heavy-duty engines used in buses, recreational vehicles, medium-duty vehicles, emergency vehicles, armored cars, and workover rigs after the 2023 model year. Heavy-duty diesel engines used in authorized emergency vehicles and military tactical vehicles will remain the sole application of the exemption for 2024 and subsequent model years. The proposed modification sets forth the existing exemption for 2008 through 2023 model year heavy-duty engines and vehicles in subsection (a)(6)(B)(1) and establishes the proposed exemptions for 2024 and later model year heavy-duty engines and vehicles in subsection (a)(6)(B)(2).

#### **Rationale**

The proposed amendment is necessary to reduce harmful emissions by reducing the number of vehicle applications exempted from the existing and proposed idling emission control requirements. As discussed further in Chapter III, Section A.1 of the Staff

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Report, CARB has idling restrictions in place that require the vehicle driver to shut off the engine after 5 minutes of continuous idling. Other restrictions include a new “clean idle” engine certification requirement that requires new 2008 and later model year heavy-duty diesel engines to be equipped with a 5-minute non-programmable automatic engine shutdown system (AESS) or optionally certify to a NOx idling standard of 30 grams per hour.

CARB’s idling regulations currently exempt some vehicle applications from the clean idle standards. Exempted vehicle applications include transit buses, tour buses, and any other bus designed to carry more than 15 passengers including the drivers, school buses, recreational vehicles, medium-duty vehicles, armored vehicles, workover rigs, emergency vehicles, and military tactical vehicles. Vehicle Code section 27156.2 and 13 CCR 1905 currently exempt emergency vehicles and military tactical vehicles, respectively, and as a result will continue to be exempted from the proposed requirements. Buses were exempted because of the need for climate control of the large volume of the passenger compartment (the use of an auxiliary power unit, or APU, was considered but deemed not practical or effective enough to meet the desired hoteling loads). The other vehicle applications were exempted because CARB determined that those vehicles could not meet the requirements through the use of a non-programmable AESS as was originally expected at the time of the rulemaking in 2005. Instead, manufacturers have met the idling regulations by certifying to clean idle standards of less than 30 grams per hour NOx by using EGR and air-fuel ratio controls. EGR rate and air-fuel ratio controls are feasible for buses, recreational vehicles, medium-duty vehicles, armored vehicles, and workover rigs, just like for any heavy-duty vehicle, and so the rationale for exempting these vehicles that existed in 2005 no longer exists. Thus, CARB staff is proposing to remove the existing exemptions to all current exempted vehicle applications except for authorized emergency and military tactical vehicles.

CARB staff believes that removing the idling regulation exemption for these vehicles would result in meaningful emission reductions based on recent testing of vehicles via CARB’s Truck and Bus Surveillance Program. Figure II-4 of the Staff Report shows CARB’s Truck and Bus Surveillance Program testing of 3 engines, two of which are tour bus engines that are exempt from the clean idle requirement and one is a truck engine subject to the clean idle requirement. The bus engine EF#2 which is the same engine family as the truck engine EF#1 has NOx idling emission rates substantially higher than emission rates from the clean idle certified truck engine and in fact nearly 10 times higher than the 30 g/hr NOx clean idle standard, which highlights the emission reductions that could be achieved via removing these exemptions..

The current requirements related to heavy-duty engine idling emission standards are described in Chapter I, Section B.1.4 of this Staff Report; the need for heavy-duty engine idling emission standard amendments is described in Chapter II, Section C.1.2; and the description of proposed heavy-duty engine idling emission standards amendments is included in Chapter III, Sections A.1.

### **Subsection (a)(6)(C)**

#### **Purpose**

The purpose of the amendment to subsection (a)(6)(C) is to restructure the existing NOx idling emission standards applicable to 2008 through 2023 model years, the proposed standards applicable to 2024 and subsequent model years, and the compliance provisions by subdividing them into compartmentalized subsections that facilitate readability. Subsection (a)(6)(C) was originally one long paragraph, lumping together the NOx idling standard and the compliance and labeling provisions. Subsection (a)(6)(c) is now split into two subsections, one describing the existing and proposed standards ((a)(6)(C)(1)) and a second one describing the compliance and labeling provisions ((a)(6)(C)(2)).

#### **Rationale**

This amendment is necessary to provide clarity to the regulated community and facilitate compliance and implementation of the idling requirements.

The current requirements related to heavy-duty engine idling emission standards are described in Chapter I, Section B.1.4 of this Staff Report; the need for heavy-duty engine idling emission standard amendments is described in Chapter II, Section C.1.2; and the description of proposed heavy-duty engine idling emission standards amendments is included in Chapter III, Sections A.1.

### **Subsection (a)(6)(C), (a)(6)(C)(1)(a) and(b)**

#### **Purpose**

The purpose of the amendment to subsection (a)(6)(C)(1)a is to sunset the existing optional NOx idling standard of 30 grams per hour for heavy-duty diesel engines after the 2023 model year in favor of a more stringent 10 grams per hour optional NOx standard for 2024 through 2026 model year engines, and an even more stringent optional NOx standard for 2027 and subsequent model year engines as described in the proposed subsection (a)(6)(C)(1)(b.).

#### **Rationale**

This amendment is necessary to increase the stringency of NOx control for manufacturers opting to comply with heavy-duty diesel engine idling requirements using optional NOx idling emission standards. More stringent standards reduce emissions to better protect public health and welfare.

As discussed further in Chapter III, section A.1 of the Staff Report, the proposed requirements to lower the NOx idling emission standards are necessary for California to meet its air quality goals. There are significant emissions benefits to be gained by reducing idling emissions from diesel engines. Technologies and strategies currently exist that can further reduce idling emissions in a cost-effective manner. Manufacturers are meeting the current idling standards using EGR and air fuel ratio controls. The same strategy could further be enhanced to provide further reductions in idling

emissions. The SwRI Stage 2 program demonstrated that idling emissions could be reduced to very low levels of approximately 3 grams per hour using engine calibration methods such as higher EGR rates, intake throttling, reduced exhaust flow rate, and late combustion phasing. Also, engine technologies such as cylinder deactivation could be used to raise the exhaust temperatures to levels that enable SCR aftertreatment to become active to reduce emissions. As shown in Figure III-2 of the Staff Report, NOx idling emission certification levels for some engines are significantly lower than the proposed standards showing the feasibility of the proposed standards.

The current requirements related to heavy-duty engine idling emission standards are described in Chapter I, Section B.1.4 of this Staff Report; the need for heavy-duty engine idling emission standard amendments is described in Chapter II, Section C.1.2; and the description of proposed heavy-duty engine idling emission standards amendments is included in Chapter III, Sections A.1.

### **Subsection (a)(6)(C)(2)a, (a)(6)(C)(2)b, and (a)(6)(C)(2)c**

#### **Purpose**

The purpose of the amendment to subsection (a)(6)(C)(2) is to provide a title “Compliance Determination” and to restructure the existing compliance provisions by subdividing them into compartmentalized subsections that facilitate readability. It also corrects the grammar by changing “this” to “these” and “standard” to “standards” since, with the proposed standards, there would be multiple standards applicable to different model year groups.

#### **Rationale**

The addition of a title in this subsection is necessary to provide information on the subsections that follow.

This amendment is necessary to facilitate manufacturers’ understanding of the varying requirements and compliance procedures corresponding to the optional NOx idling emission standards and other associated pollutants such as CO, PM, or NMHC. The addition of the title “Compliance Determination” in subsection (a)(6)(C)(2) is necessary to provide information on the subsequent subsections and it directs the regulated entities on where to find the regulatory language describing methods to determine compliance.

Compliance with the idling NOx emission standards must be demonstrated according to specified standardized test procedures. Subsection (a)(6)(C)(2)a contains existing language that sets forth the compliance procedures to be followed to meet the existing optional NOx idling standard for model years 2008 through 2023. It also establishes the same test procedures to be used to demonstrate compliance with the proposed NOx idling emission standard for model years 2024 and subsequent. Compliance with both the existing and the proposed optional NOx idling standards are to be demonstrated according to the existing idle test cycle and test procedures specified in section 86.1360-2007.B.4 of the “California Exhaust Emission Standards and Test Procedures

for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles”, as amended in September 1, 2006. Furthermore, subsection (a)(6)(C)(2)a. also provide manufacturers the flexibility to use an alternative test procedure, subject to approval by CARB, if the technology used cannot be demonstrated using the procedures in section 86.1360-2007.B.4.

Subsection (a)(6)(C)(2)b describes the compliance determination protocol for emissions of CO, PM, and NMHC associated with meeting the existing NOx idling emission standard applicable to 2008 through 2023 model years. Staff is also proposing to use the same protocol to demonstrate compliance with CO, PM, and NMHC associated with meeting the proposed NOx idling emission standard for model year 2024 and subsequent. This amendment is necessary to prevent manufacturers from using strategies that increase CO, PM, and NMHC emissions in order to meet the existing and proposed NOx idling standards. This requirement is also necessary in order to achieve the full benefits of the NOx idling emission standards, which otherwise would be offset if emissions of other pollutants are increased at the expense of reducing NOx emissions. Furthermore, the existing and proposed regulations provide the manufacturer the flexibility to use, upon CARB’s approval, an alternative method to determine compliance with the CO, PM, and NMHC requirements.

Subsection (a)(6)(C)(2)c contains existing language that requires certifying manufacturers to produce a vehicle label as defined in subsection 35.B.4 of the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” The label is necessary for enforcement purposes to identify and separate idling vehicles that meet the NOx idling standard from those that do not.

The current requirements related to heavy-duty engine idling emission standards are described in Chapter I, Section B.1.4 of this Staff Report. The need for heavy-duty engine idling emission standard amendments is described in Chapter II, Section C.1.2; and the description of proposed heavy-duty engine idling emission standards amendments is included in Chapter III, Sections A.1.

### **Subsection (a)(9)**

#### **Purpose**

The purpose of this subsection is to specify that the exhaust greenhouse gas and criteria pollutants emission standards and test procedures specified in in 13 CCR 1856.8(a) apply to new 2022 and subsequent model optionally certified hybrid powertrains that use diesel engines.

#### **Rationale**

This amendment is necessary to allow 2022 and subsequent model year diesel hybrid powertrains to be certified to applicable exhaust criteria pollutants emission standards, including test procedures and associated requirements. Without this amendment, the certification process for hybrid powertrains that use diesel engines would not be

available because currently, there is no process for manufacturers to certify heavy-duty hybrid vehicles to criteria pollutants emission standards, without having to do side-by-side, i.e., A to B, comparison testing on a chassis dynamometer. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

### **Subsection (b)**

#### **Purpose**

The purpose of this amendment is to create a placeholder for the most recent date of incorporation of CARB staff's amended "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles."

#### **Rationale**

This amendment is necessary to ensure that CARB staff's most recently amended version of the Heavy-Duty Diesel Test Procedures is properly referenced by the regulations. The proposed amended Test Procedures are a necessary complement to CARB staff's proposed amended heavy-duty diesel vehicle warranty, useful life, and maintenance requirements.

### **Subsection (c)(1)(B)**

#### **Purpose**

The purpose of this amendment is to sunset the current exhaust emission standards for heavy-duty Otto-cycle engines in favor of more stringent NOx and PM standards beginning in 2024.

#### **Rationale**

As discussed further in Chapter III, section A.1 of the Staff Report, this amendment to subsection (c)(1)(B) is necessary to provide manufacturers with lead time to transition to the more stringent NOx and PM exhaust emission standards proposed in subsection (c)(1)(C) for heavy-duty Otto-cycle engines. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they comply with the more stringent standards. Subsection (c)(1)(B) contains the exhaust emission standards for 2005 through 2023 model year heavy-duty Otto-cycle engines except those engines subject to the alternative standards in 40 CFR §86.005-10(f). The proposed amendment replaces the phrase "and subsequent" to "through 2023" model year in several places within this subsection including the Table. CARB staff is proposing new NOx and PM exhaust standards applicable to 2024 and subsequent model year Otto-cycle engines used in heavy-duty vehicles over 14,000 pounds and incomplete medium-duty vehicles 10,001 to 14,000 pounds GVWR. Thus, the proposed modification of replacing "subsequent" with "through 2023" is necessary to sunset the

existing exhaust emission standards that apply for 2005 through 2023 model year Otto-cycle engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (c)(1)(C)**

#### **Purpose**

The purpose of this amendment is to create a new subsection (c)(1)(C) establishing a phase-in of more stringent NO<sub>x</sub> and PM exhaust emission standards for heavy-duty Otto-cycle engines used in vehicles greater than 14,000 GVWR beginning with the 2024 model year. In addition, the amendment also specifies proposed optional low NO<sub>x</sub> standards that manufacturers may elect to use to certify 2024 and subsequent model year heavy-duty diesel engines.

#### **Rationale**

As discussed further in Chapter III, section A.1 of the Staff Report, these amendments are necessary to establish proposed California exhaust emission standards for new 2024 and later model year Otto-cycle heavy-duty engines used in vehicles over 14,000 pounds GVWR and Otto-cycle engines used in incomplete medium-duty vehicles 10,001 to 14,000 pounds GVWR. More stringent emission standards reduce emissions that can negatively affect health and welfare. The proposed amendments would also provide manufacturers the flexibility to certify engines used in incomplete medium-duty vehicles to the proposed standards as an alternative to the medium-duty vehicle standards specified in 13 CCR 2139(c).

The proposed primary exhaust emission standards are feasible and can be met with improved TWCs and improved air-fuel ratio controls. There are currently Otto-cycle engines that are certified to the existing optional low NO<sub>x</sub> standards which are identical to the proposed standards. However, incremental improvements of TWCs and air fuel ratio controls would be needed to meet the proposed optional NO<sub>x</sub> standards for 2027 and subsequent model year Otto-cycle engines.

Furthermore, the proposed amendments provide a clarification to manufacturers that an engine certified to the proposed standards for use in a medium-duty vehicle cannot be used in a heavy-duty vehicle over 14,000 pounds GVWR. This is because heavy-duty engines used in vehicles greater than 14,000 pounds GVWR are certified for a useful life significantly longer than the useful life for medium-duty engines. Thus, it would not be appropriate to install a medium-duty engine in a heavy-duty vehicle with GVWR greater than 14,000 pounds since it does not meet the durability demonstration requirements for heavy-duty engines.

The proposed optional low-NOx standards were developed to pave the way for future standards by providing manufacturers a mechanism to certify engines to significantly lower emission standards earlier than is required. In addition, there may be incentive programs that would further encourage the purchase of certified optional low NOx engines. Since 2016, manufacturers have been certifying in California natural gas and propane-fueled spark-ignited stoichiometric low NOx engines to the optional low NOx emission standards that are 50-90 percent lower than current primary standards. For the same reasons, CARB staff is now proposing optional low NOx standards that are 60 percent lower than the primary proposed 2024 through 2026 model year NOx emission standards and 60 percent lower than the primary proposed 2027 and subsequent model year NOx emission standards. Furthermore, the proposed amendment in footnote B regarding ABT participation is necessary to avoid double counting NOx emission reductions both by certifying to an Optional Low NOx standard thereby qualifying for an incentive funding and by taking NOx credits in the ABT. These standards, in combination with the certification procedures, are necessary to establish a process to certify these engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (c)(3)**

#### **Purpose**

The purpose of this amendment to subsection (c)(3) is to sunset the optional standards for heavy-duty engines that use Otto-cycle engines after the 2023 model year.

#### **Rationale**

This proposed amendment is necessary to establish the model year applicability of the existing optional standards for complete and incomplete heavy-duty vehicles that use heavy-duty Otto-cycle engines. CARB staff's proposed standards for 2024 and subsequent model year heavy-duty Otto-cycle engines is expected to create a discrepancy between the certification standards for the Otto-cycle engine-certified heavy-duty vehicles and the chassis-certified heavy-duty vehicles (equipped with Otto-cycle engines) meeting the LEVIII standards in 13 CCR 1961.2. Thus, grouping the two into one test group for certification would not be appropriate since the standards would become significantly different in stringency. Therefore, the proposed modification is necessary to limit the applicability of this provision to 2023 and older model year complete and incomplete heavy-duty vehicles that use Otto-cycle engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections

C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

**Subsection (c)(5)**

**Purpose**

The purpose of this subsection is to specify the exhaust greenhouse gas and criteria pollutants emission standards and test procedures applicable to new 2022 and subsequent model optionally certified hybrid powertrains that use Otto-cycle engines.

**Rationale**

This proposed amendment is necessary to allow 2022 and subsequent model year Otto-cycle hybrid powertrains to be certified to applicable exhaust criteria pollutants emission standards, including test procedures and associated requirements. Without this amendment, the certification process for hybrid powertrains that use Otto-cycle engines would not be available because currently, there is no process for manufacturers to certify heavy-duty hybrid vehicles to criteria pollutants emission standards, without having to do side-by-side, i.e., A to B, comparison testing on a chassis dynamometer. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

**Subsection (d)**

**Purpose**

The purpose of this amendment is to create a placeholder for the most recent date of incorporation of CARB staff's amended "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle-Engines and Vehicles."

**Rationale**

This amendment is necessary to ensure that CARB staff's most recently amended version of the Heavy-Duty Otto-Cycle Test Procedures is properly referenced by the regulations. The proposed amended Test Procedures are a necessary complement to CARB staff's proposed amended heavy-duty Otto-cycle vehicle warranty, useful life, and maintenance requirements.

**Subsection (h)(1)**

**Purpose**

The purpose of this amendment is to clarify the applicability of the existing Otto-cycle exhaust standards for incomplete engines used in the full weight range of medium-duty vehicles.

**Rationale**

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Although the existing requirement in subsection (h)(1) expired in 2004 and no longer affects new production engines, this amendment is necessary as a clarification of existing language that incomplete Otto-cycle engines used in the full range of medium-duty vehicles ( $8,500 < \text{GVWR} \leq 14,000$ ) are subject to the applicable emission standards of the subsection. This is necessary to differentiate between the proposed amendments to subsection (h)(2) that would only apply to a subset of medium-duty vehicles ( $10,000 < \text{GVWR} \leq 14,000$ ) beginning with 2020 model year.

The current requirements related to medium-duty engine emission standards are described in Chapter I, Section B.12 of this Staff Report; the need for medium-duty engine emission standards clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed medium-duty engine emission standards clarifications and amendments is included in Chapter III, Section A.12.

### **Subsection (h)(2)**

#### **Purpose**

The purpose of this amendment is to sunset the current exhaust emission standards for medium-duty Diesel-cycle engines based on model year and GVWR range. Subsection (h)(2) specifies the exhaust emission standards for new 1992 through 2019 model year Diesel-cycle engines used in medium-duty low-emission vehicles, ultra-low-emission vehicles, and super-ultra-low-emission vehicles from 8,501 to 14,000 GVWR and 2020 through 2023 model year diesel engines used in medium-duty low-emission vehicles, ultra-low-emission vehicles, and super-ultra-low-emission vehicles from 10,001 to 14,000 GVWR. This requirement is an existing provision and is already described in footnote A. Adding what is already in footnote A to the introductory text merely provides clarity. Furthermore, the proposed modification removes the phrase “and subsequent” and adds “through 2023” in subsection (2), in the table title, and the footnotes to the table, to limit the model year applicability of the existing standards to 2023 model year.

#### **Rationale**

This amendment is necessary to provide manufacturers with lead time to transition to the more stringent exhaust emission standards proposed in subsection (h) for low-emission medium-duty engines. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they comply with the more stringent standards. More stringent standards reduce emissions to better protect public health and welfare. As discussed further in Chapter III, Sections A.1 and A.12 of the Staff Report, CARB staff is proposing new stringent standards that would apply to 2024 and subsequent model year medium-duty engines. These modifications are necessary to set forth the model year applicability of existing standards that are currently shown in footnote A. The proposed amendment replaces the phrase “and subsequent” to “through 2023” model year in several places within this subsection including the Table and footnotes A and K to the Table.

The current requirements related to medium-duty engine emission standards are described in Chapter I, Section B.12 of this Staff Report; the need for medium-duty

engine emission standards clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed medium-duty engine emission standards clarifications and amendments is included in Chapter III, Section A.12.

### **Subsection (h)(3)**

#### **Purpose**

The purpose of this amendment is to sunset the phase-in options for early NO<sub>x</sub> and PM compliant heavy-duty Otto-cycle engines that were produced in 2007 through 2009 model years meeting the 2007 through 2023 model year emission standards.

#### **Rationale**

Early phase-in options were available for heavy-duty Otto-cycle engines certified in the 2007, 2008 and 2009 model years. These phase-in options provided flexibility to engine manufacturers certifying products meeting the preexisting emission standards. Under the proposed amendments, beginning with the 2024 model year, a more stringent set of emission standards would be applicable. As such, the early phase-in options would no longer be applicable. Changes to subsection (h)(3)(A) are applicable for early NO<sub>x</sub> compliant engines while changes to subsection (h)(3)(B) apply to early PM compliant engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (h)(5)**

#### **Purpose**

The purpose of subsection (h)(5) is to sunset the provision allowing manufacturers the option to certify incomplete heavy-duty engines together with low-emission medium-duty vehicles using a common certification test group (equivalent to an engine family) after the 2023 model year.

#### **Rationale**

This amendment is necessary to provide manufacturers with lead time to transition away from certifying these engines together and to meet the more stringent emission standards being proposed for heavy-duty engines after 2023. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they comply with the more stringent standards. More stringent standards reduce emissions to better protect public health and welfare. CARB staff's proposed standards for 2024 and subsequent model year heavy-duty diesel engines is expected to create a discrepancy between the certification standards for engine-certified heavy-duty diesel vehicles and heavy-duty diesel vehicles certified to the LEV<sub>III</sub> standards in 13 CCR 1961.2. Thus, grouping the two into one test group for certification would not be

appropriate since the standards would be significantly different in stringency. Therefore, the proposed modification is necessary to limit the applicability of this provision to 2023 and older model year complete and incomplete heavy-duty vehicles that use diesel engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (h)(7)**

#### **Purpose**

The purpose of this amendment is to create a new subsection (h)(7) establishing the phase-in of increasing stringent emission standards for Diesel-cycle engines used in medium-duty vehicles between 10,001 and 14,000 GVWR for model years 2024 through 2026, and then again for 2027 and subsequent model years. The amendments also require demonstrating compliance with the new standards on a new test cycle representative of low-load engine operation. In addition, this subsection proposes a new footnote to ensure that engines certified for use in a medium-duty vehicle shall not be used in a heavy-duty vehicle over 14,000 pounds GVWR.

#### **Rationale**

As discussed further in Chapter III, section A.1 of the Staff Report, this amendment is necessary to adopt the proposed more stringent exhaust emission standards for model year 2024 and subsequent diesel engines used in medium-duty vehicles 10,001 to 14,000 pounds GVWR. The proposed 2024 to 2026 model year NO<sub>x</sub> exhaust emission standards are 75 percent below the current standards. More stringent standards reduce emissions, and reduced emissions better protect public health and welfare. The proposed NO<sub>x</sub> standards would be met with improvements in engine calibration that reduce cold start emissions and modern generation of aftertreatment systems that have improved conversion efficiency at lower exhaust temperatures compared to previous regeneration aftertreatment systems.

A lower PM standard of 0.005 g/bhp-hr is proposed to prevent backsliding and maintain current robust PM emission control performance. The proposed PM standard is feasible with current PM filters. CARB certification data for 2019 model year engines indicate most engines have PM certification levels well below the current 0.01 g/bhp-hr PM standard and certify close to 0.001 g/bhp-hr (CARB, 2020b).

Furthermore, the proposed amendments provide a clarification to manufacturers that an engine certified to the proposed standards for use in a medium-duty vehicle cannot be used in a heavy-duty vehicle over 14,000 pounds GVWR. This is necessary because heavy-duty engines used in vehicles greater than 14,000 pounds GVWR are certified for a useful life significantly longer than the useful life for medium-duty engines. Thus, it

would not be appropriate to install a medium-duty engine in a heavy-duty vehicle with GVWR greater than 14,000 pounds since it does not meet the durability demonstration requirements for heavy-duty engines.

These standards, in combination with the certification procedures, are necessary to establish a process to certify these engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (i)(1)(A), (B), and (C)**

#### **Purpose**

The purpose of this amendment is to create a new subsection (i) that provides manufacturers with the flexibility to certify new 2024 to 2026 model year medium-duty and heavy-duty diesel and Otto-cycle engines to an optional 50-state-directed engine emission standards in lieu of certifying to the more stringent primary emission standards specified in sections (a), (c) and (h) for heavy-duty engines.

Subsection (i)(1)(A), specifies proposed 50-state directed emission standards for heavy-duty diesel engines used in vehicles over 14,000 pounds GVWR; subsection (i)(1)(B) specifies proposed 50-state directed emission standards for Otto-cycle heavy-duty engines, including engines used in incomplete medium-duty vehicles from 10,001 to 14,000 pounds GVWR; and subsection (i)(1)(C) specifies proposed 50-state directed emission standards for diesel engines used in medium-duty vehicles from 10,001 to 14,000 pounds GVWR.

#### **Rationale**

As discussed further in Chapter III, Section A.1, this amendment is necessary because it allows manufacturers to certify 2024 through 2026 model year engines to an optional standard that is less stringent than the California standard provided that the entire volume of engines including Otto-cycle and diesel cycle medium-duty and heavy-duty engines produced by the manufacturer for sale nationally meet the optional standard. This optional program would provide significant air quality benefits to California compared to the more stringent California exhaust emission standards since federally certified trucks that travel to California would be lower emitting than they otherwise would be absent this option. This is because, more than 50 percent of the heavy-duty truck vehicle miles travelled in California is from trucks initially purchased out of state. In addition, this option would allow engine manufacturers to meet California's requirements at a much lower cost since the standards are less stringent and the technologies and strategies needed to meet those standards are less complex. Furthermore, this option would allow manufacturers to make one set of national 50-state

certified engines, thereby reducing the overall cost of compliance by spreading it to a larger number of engines sold nationwide.

Furthermore, the proposed amendments provide clarification to manufacturers that an engine certified to the proposed standards for use in a medium-duty vehicle cannot be used in a heavy-duty vehicle over 14,000 pounds GVWR. This is necessary because heavy-duty engines used in vehicles greater than 14,000 pounds GVWR are certified for a useful life significantly longer than the useful life for medium-duty engines. Thus, it would not be appropriate to install a medium-duty engine in a heavy-duty vehicle with GVWR greater than 14,000 pounds since it does not meet the durability demonstration requirements for heavy-duty engines.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (i)(2)**

#### **Purpose**

The purpose of this amendment is to create a new subsection (i)(2) providing that manufacturers certifying to the optional 50-state-directed engine emission standards are not required to certify any engine family to the primary exhaust emission standards specified in subsections (a)(2)(C), (a)(2)(D), (c)(1)(C), and (h)(7) of 13 CCR 1956.8 for the model year the manufacturer seeks certification.

#### **Rationale**

This amendment is necessary because it clarifies that the proposed optional 50-state directed engine standards do not prohibit a manufacturer (but they could if they so choose) from certifying engines to the more stringent exhaust emission standards specified in subsections (a)(2)(C), (a)(2)(D), (c)(1)(C), and (h)(7) of 13 CCR 1956.8. However, the manufacturer would not be allowed to certify any diesel engines or Otto-cycle engines or hybrid powertrains to any standard or FEL above the optional 50-state-directed engine emission standards.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

### **Subsection (i)(3)**

#### **Purpose**

The purpose of this amendment to new subsection (i)(3) is to stipulate that manufacturers choosing to certify using the optional 50-state-directed engine emission standards must forfeit any credits generated from U.S. production sales.

**Rationale**

This amendment is necessary to prohibit a manufacturer that opts to participate in the optional 50-state directed engine standards from using any credits generated from U.S. production sales. Allowing a manufacturer to use credits that were generated to meet higher standards for prior model years would dilute, or even completely offset, the emissions reductions expected to be achieved from the proposed standards. Thus, the proposed provision, in combination with the certification procedures, are necessary to establish an optional process to certify these engines and to realize the expected emissions benefits from these standards.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

**Subsection (i)(4)**

**Purpose**

The purpose of this amendment to new subsection (i)(4) is to stipulate that manufacturers choosing to certify using the optional 50-state-directed engine emission standards program must comply with all applicable model year requirements under title 13, CCR, sections 1956.8, 1971.1, 2035, 2036, 2112, and 2139.

**Rationale**

This amendment is necessary to ensure that manufacturers opting to certify using the optional 50-state directed engine certification program must also meet the requirements that 2024 model year engines meeting the primary standards specified in subsections (a)(2)(C), (a)(2)(D), (c)(1)(C) are required to meet. These requirements include, but are not limited to, meeting the proposed 2024 model year NOx idling emission standard, heavy-duty in-use testing requirements, OBD requirements, warranty period, useful life period, emissions warranty information reporting requirements, and other requirements except for the exhaust emission standards specified in subsections (a)(2)(C), (a)(2)(D), (c)(1)(C).

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

**Subsection (i)(5)**

**Purpose**

The purpose of this amendment to new subsection (i)(5) is to prohibit a manufacturer who violates the requirement to certify all diesel and Otto-cycle engines produced by the manufacturer to this optional 50-state-directed engine emission standards in a given model year from participating in the optional 50-state-directed engine emission standards for any model years following the model year in which the violation was found.

**Rationale**

This amendment is necessary to hold accountable manufacturers who certify some engine families to the optional 50-state-directed engine standards or lower for NO<sub>x</sub>, but violate the requirement by certifying one or more of their engine families in a given model year to NO<sub>x</sub> emission standards higher than provided in Subsection (j). For example, by federally certifying some of the engine families to a 0.20 g/bhp-hr NO<sub>x</sub> standard, a manufacturer would be subject to enforcement action and would be banned from the optional 50-state-directed engine standard program for all future model years.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

**Subsection (j)**

**Purpose**

The purpose of this amendment to new subsection (j) is to stipulate that these exhaust emission standards and test procedures incorporated by reference into the regulations are severable from other regulatory provisions in the event of conflicting requirements, and even if any subsection, sentence, clause, phrase, or portion of this section of the regulation and test procedures were to be voided, the remainder of these requirements would remain in full force and effect.

**Rationale**

This amendment is necessary because it ensures that should a court of competent jurisdiction determine that any portion of this section of the regulation or any incorporated test procedure is invalid, that determination would not void all of the remaining requirements by default, which would therefore ensure the unaffected provisions will continue to reduce the emissions from on-road heavy duty engines that threaten the health and welfare of Californians.

The current requirements related to heavy-duty engine emission standards are described in Chapter I, Section B.1 of this Staff Report; the need for heavy-duty engine emission standards clarifications and amendments is described in Chapter II, Sections

C.1 and C.2; and the description of proposed heavy-duty engine emission standards clarifications and amendments is included in Chapter III, Sections A.1 and A.2.

**Subsection (k)(4)**

**Purpose**

This definition is added to provide a consistent terminology of “FTP cycle” with the existing federal definition specified in 40 CFR section §86.007-11(a)(2), as last amended on October 25, 2016, which is already incorporated by reference in these test procedures. FTP has been the primary transient cycle used for the emissions certification of all heavy-duty on-road engines with GVWR greater than 10,000 pounds in California. This FTP test cycle is run with both a cold- and a hot-start transient duty cycle designed to represent urban driving.

**Rationale**

As discussed further in Chapter III, Section A.1.1.1 of this Staff Report, this definition is needed to establish a specific description of this terminology, because this test cycle is used in the proposed certification emission standards tables. Note that since §86.1360, which defines the testing conditions of the FTP cycle, is already incorporated by reference in the original test procedures, the proposed addition of this definition does not change the test cycle in any way, but merely names and defines the test.

**Subsection (k)(5)**

**Purpose**

The purpose of this change is to renumber the definition of heavy heavy-duty engine.

**Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

**Subsection (k)(6)**

**Purpose**

This subsection contains the definitions specific to this section, and the purpose of the proposed amendment is to define “hybrid powertrain or optionally certified heavy-duty hybrid powertrain or heavy-duty hybrid powertrain”.

**Rationale**

This amendment is necessary to describe what is meant by “hybrid powertrain or optionally certified heavy-duty hybrid powertrain or heavy-duty hybrid powertrain” as used in this section to establish a common understanding of the components, including a rechargeable energy storage system, that are considered to be comprised of a hybrid powertrain system that is optionally certified to criteria pollutants emissions pursuant to title 13, CCR §1956.8. A rechargeable energy storage system is not limited to just battery-based systems, but can also include flywheel-, hydraulic-, ultra-capacitor-based,

and other systems. For example, a developing technology, such as a thermal energy storage system that recovers kinetic energy and uses it to power an electric heater in the aftertreatment or to power electrical accessories can be considered to be a type of “rechargeable energy storage system.” Hybrid powertrains with these or other rechargeable energy storage systems would be able to use the proposed hybrid powertrain test procedure to optionally certify to criteria pollutants emission standards. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

### **Subsection (k)(7)**

#### **Purpose**

The purpose of this change is to renumber the definition of light heavy-duty engine.

#### **Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

### **Subsection (k)(8)**

#### **Purpose**

This new definition is added to introduce the new Low-load cycle (LLC) for certification. This additional certification cycle would be used as a metric to check the performance of the engine and aftertreatment system during stop and go and low vehicle speed operations.

#### **Rationale**

As discussed further in Chapter III, Sections A.1.1.1 and A.1.1.2 of this Staff Report, the addition of this definition is needed to create a new low-load test cycle to ensure engines are tested using specified, fixed criteria and to ensure emissions reductions are occurring during stop and go as well as low vehicle speed operating conditions.

### **Subsection (k)(9)**

#### **Purpose**

The purpose of this change is to renumber the definition of medium heavy-duty engine.

#### **Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

### **Subsection (k)(10)**

#### **Purpose**

The purpose of this change is to renumber the definition of primary intended service class.

**Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

**Subsection (k)(11)**

**Purpose**

The definition is added to provide a consistent terminology of Ramped Modal Cycle “RMC” with the existing federal definition specified in 40 CFR §86.1360, as last amended on October 25, 2016. Heavy-duty diesel engine manufacturers are required to perform emissions testing using the RMC cycle which represents steady-state highway operations.

**Rationale**

As discussed further in Chapter III, Section A.1.1.1 of this Staff Report, this definition is needed to establish the specific description of the RMC cycle, because this test cycle is used in the proposed certification emission standards tables.

**Subsection (k)(12)**

**Purpose**

The purpose of this change is to renumber the definition of tractor.

**Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

**Subsection (k)(13)**

**Purpose**

The purpose of this change is to renumber the definition of tractor engine.

**Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

**Subsection (k)(14)**

**Purpose**

This new definition is added to define “Test procedure” as having all aspects of engine testing including but not limited to the duty cycle, preconditioning procedures, equipment specifications, calibrations, calculations and other protocols and specifications needed to measure emissions.

**Rationale**

The addition of this definition is needed to establish a specific description and to maintain consistency in how this new terminology is used among manufacturers for compliance with the regulation and incorporated references. The term “test procedure” is used in many parts of the regulatory language and this Staff Report including Chapter III, Sections A, A.1.1.1.2, A.1.1.3, A.3, etc.

**Subsection (k)(15)**

**Purpose**

The purpose of this change is to renumber the definition of vocational engine.

**Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

**Subsection (k)(16)**

**Purpose**

The purpose of this change is to renumber the definition of vocational vehicle.

**Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

**Subsection (k)(17)**

**Purpose**

The purpose of this change is to renumber the definition of zero-emission powertrain.

**Rationale**

Since new items have been added to the definition list in subsection (k), this definition has been renumbered.

**Subsection (k)(18)**

**Purpose**

A new definition is added to provide a definition of 50-state-directed engines where a manufacturer’s entire volume of diesel and Otto-cycle engines is produced and intended for sale nationwide using the proposed optional 50-state-directed engine emission standards. Manufacturers would certify these engine families as 50-state families.

**Rationale**

The addition of this definition is needed to establish a specific description and to maintain consistency in how this new terminology is used among manufacturers for

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compliance with the regulation. This term is necessary to define the total number of a manufacturer's engines produced and intended for sale in California and the other 49 states, including both diesel and Otto-cycle engines, in a given model year, that will be used in medium-duty vehicles, heavy-duty vehicles, and hybrid powertrains. The proposed amendments provide an optional 50-state-directed engine emission standards certification pathway to manufacturers as described in Chapter III, Section A.1.1.1.2 of this Staff Report.

**Section 1961.2. Exhaust Emission Standards and Test Procedures - 2015 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.**

**Subsection (b)(3)(A)**

**Purpose**

Subsection (b)(3) contains the LEV III Phase-In Requirements for Medium-Duty Vehicles, Other than Medium-Duty Passenger Vehicles. Subsection (b)(3)(A) specifies separate phase-in requirements for LEV III vehicles that certify to the chassis exhaust emission standards in section 1961.2 and for LEV III vehicles that optionally certify to the heavy-duty engine standards in section 1956.8. The current requirement for LEV III vehicles that optionally certify to the heavy-duty engine standards in section 1956.8 is that 100 percent of the vehicles certify to the ultra-low-emission vehicle (ULEV) standards in subsection 1956.8 (c) or (h), as applicable, for the 2015 and subsequent model years.

The proposed amendments to section 1956.8 include new exhaust emission standards that will apply to LEV III medium-duty vehicles that optionally certify to the heavy-duty engine standards in section 1956.8 in the 2024 and subsequent model years. The proposed amendments to subsection (b)(3)(A) incorporate the proposed 2024 and subsequent model year standards. (See Chapter III, section A.12 for further details on the definition of medium-duty vehicles.)

**Rationale**

Subsection (b)(3)(A) currently only allows medium-duty vehicles that optionally certify to the heavy-duty engine standards in section 1956.8 to use engines that meet the ULEV emission standards in subsections 1956.8 (c) and (h). The proposed amendment is necessary to require such medium-duty vehicles to use engines that meet the proposed more stringent standards in the 2024 and subsequent model years.

The current requirements related to medium-duty vehicles are described in Chapter I, Section B.12; the need for medium-duty engine clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed medium-duty engine clarifications and amendments is included in Chapter III, Section A.12.

**Subsections (b)(3)(A)1 and (b)(3)(A)2**

**Purpose**

The purpose of the amendments to subsections (b)(3)(A)1 and (b)(3)(A)2 is to implement the amendments described for subsection (b)(3)(A).

**Rationale**

These amendments are necessary to ensure that manufacturers that certify medium-duty vehicles to the optional engine emission standards in section 1956.8 continue to certify to the applicable standards in the 2024 and subsequent model years.

**Subsection (b)(3)(C)2, including subsections (b)(3)(C)2.a, (b)(3)(C)2.b, (b)(3)(C)2.c, and (b)(3)(C)2.d**

**Purpose**

The purpose of the amendments to these subsections is to remove language that is no longer needed.

**Rationale**

These subsections provide alternative LEV III phase-in schedules for manufacturers with a limited number of test groups that certify to the chassis standards in subsection 1961.2(a)(1). These subsections also currently show the LEV III phase-in schedules for medium-duty vehicles that certify to the optional engine emission standards in section 1956.8. Since the proposed optional engine emission standards in section 1956.8 are identical to those contained in subsection (b)(3)(A)2, it is not necessary to also show them here. The phase-in schedules for medium-duty vehicles that certify to the optional engine emission standards in section 1956.8 have, therefore, been deleted from subsections (b)(3)(C)2.a, (b)(3)(C)2.b, (b)(3)(C)2.c, and (b)(3)(C)2.d.

**Subsection (b)(3)(D)**

**Purpose**

The purpose of the amendments to this subsection is to clarify that compliance with the phase-in schedules for medium-duty vehicles that certify to the LEV III chassis standards in subsection (a)(1) is determined based only on a manufacturer's production of medium-duty vehicles that certify to the LEV III chassis standards in subsection (a)(1). And compliance with the phase-in schedule for medium-duty vehicles that use engines certifying to the optional engine standards in section 1956.8 is determined based only on a manufacturer's production of vehicles that use engines certifying to the optional medium-duty engine standards in section 1956.8.

**Rationale**

The current regulatory text is unclear on how the phase-in schedule for medium-duty vehicles that use engines certifying to the optional engine standards in section 1956.8 is determined.

**Subsection (b)(4)(C)**

**Purpose**

The purpose of this amendment is to remove unnecessary text.

**Rationale**

This amended language in this subsection references "the optional medium-duty engine emission standards in subsections 1956.8(c) or (h)." It is not necessary to include "(c) or (h)," since the optional medium-duty engine emission standards in section 1956.8 are clearly indicated.

**Subsection (d)**

**Purpose**

The purpose of this amendment is to create a placeholder for the most recent date of incorporation of CARB staff's amended "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

**Rationale**

This amendment is necessary to ensure that CARB staff's most recently amended version of the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" is properly referenced by the regulations. The proposed amended Test Procedures are a necessary complement to CARB staff's proposed amended "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles."

**Section 1965. Emission Control, Smog Index, and Environmental Performance Labels – 1979 and Subsequent Model-Year Motor Vehicles**

**Purpose**

The section contains the emission control label, smog index, and environmental performance label requirements that are part of vehicle and engine certification. The proposed amendment consists of adding a placeholder for the date of last amendment for the referenced environmental performance label specifications for medium-duty vehicles. See Chapter III, section A.11 of this Staff Report for description of the specific proposed amendments to the environmental performance label.

**Rationale**

This proposed amendment is necessary because these label specifications are being amended as part of the proposed regulations and test procedures, and the regulation approved date will need to be inserted so it is clear to regulated parties which version of the section is applicable.

The current requirements related to environmental performance labels are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to environmental performance labels is described in Chapter II, Section C.11; and the description of proposed environmental performance label amendments is included in Chapter III, Section A.11.

**Section 1968.2. Malfunction and Diagnostic System Requirements--2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines**

**Subsection (e)(17.1)**

**Purpose**

The purpose of the amendment to subsection (e)(17.1) is to indicate that Executive Officer approval is not needed to use the alternate malfunction criteria in subsection (e)(17.1.5).

**Rationale**

The proposed amendment to include mention of subsection (e)(17.1.5) is needed to correct an error, since subsection (e)(17.1) was mistakenly not amended when the provisions of subsection (e)(17.1.5) were added during the regulatory update to the OBD II regulation in 2015.

**Subsection (e)(17.1), including subsection (e)(17.1.4)**

**Purpose**

The purpose of the amendments to these subsections is to allow gasoline/spark-ignited engines used in medium-duty vehicles and certified to the proposed NOx and PM emission standards applicable for 2024 and subsequent model year engines to use alternate NOx and PM malfunction criteria in lieu of the malfunction criteria described under each of the applicable monitoring requirements in section 1968.2.

**Rationale**

The proposed amendments are needed to provide clear direction to gasoline/spark-ignited engine manufacturers regarding the applicable OBD requirements. The proposed amendments to these subsections are needed to provide modifications to the OBD malfunction criteria to accommodate the proposed lower NOx and PM standards for 2024 and subsequent model year engines. Specifically, since the current OBD malfunction criteria are based on a multiple of or additive to the NOx or PM emission standards the engine is certified to, the proposed lower NOx and PM standards would also require the OBD system to detect malfunctions at lower NOx and PM emission levels. However, staff have not yet fully evaluated the capability of OBD monitors to robustly detect failures at the lower emission levels. After discussions with engine manufacturers and suppliers, staff have determined that using the same malfunction criteria previously adopted for heavy-duty engines certified to the existing Optional Low NOx Emission standards is appropriate until staff can evaluate the use of lower malfunction thresholds in a future OBD rulemaking update. The proposed modification to the malfunction criteria would require the future low NOx certified engines to detect malfunctions at the same absolute emission levels as engines currently certified to the 0.20 g/bhp-hr NOx standard.

The current requirements related to OBD thresholds are described in Chapter I, Section B.1.5; the need for OBD threshold amendments is described in Chapter II, Section C.1.4; and the description of proposed OBD threshold amendments is included in Chapter III, Section A.1.2.

**Subsection (f)(17.1.3)**

**Purpose**

The purpose of the amendments to these subsections is to allow diesel/compression-ignition engines used in medium-duty vehicles and certified to the proposed NOx and PM emission standards applicable for 2024 and subsequent model year engines to use alternate NOx and PM malfunction criteria in lieu of the malfunction criteria described under each of the applicable monitoring requirements in section 1968.2.

**Rationale**

The proposed amendments are needed to provide clear direction to diesel/compression-ignition engine manufacturers regarding the applicable OBD requirements. The proposed amendments to these subsections are needed to provide modifications to the OBD malfunction criteria to accommodate the proposed lower NOx and PM standards for 2024 and subsequent model year engines. Specifically, since the current OBD malfunction criteria are based on a multiple of or additive to the NOx or PM emission standards the engine is certified to, the proposed lower NOx and PM standards would also require the OBD system to detect malfunctions at lower NOx and PM emission levels. However, staff have not yet fully evaluated the capability of OBD monitors to robustly detect failures at the lower emission levels. After discussions with engine manufacturers and suppliers, staff have determined that using the same malfunction criteria previously adopted for heavy-duty engines certified to the existing Optional Low NOx Emission standards is appropriate until staff can evaluate the use of lower malfunction thresholds in a future OBD rulemaking update. The proposed modification to the malfunction criteria would require the future low NOx certified engines to detect malfunctions at the same absolute emission levels as engines currently certified to the 0.20 g/bhp-hr NOx standard.

The current requirements related to OBD thresholds are described in Chapter I, Section B.1.5; the need for OBD threshold amendments is described in Chapter II, Section C.1.4; and the description of proposed OBD threshold amendments is included in Chapter III, Section A.1.2.

**Section 1971.1. On-Board Diagnostic System Requirements--2010 and Subsequent Model-Year Heavy-Duty Engines**

**Subsection (c)**

**Purpose**

The purpose of the amendment to this subsection is to add a definition for “Optional Low NOx emission standard” in subsection 1971.1(c) to match the definition currently specified in subsections 1956.8(a)(2)(A) and (c)(1)(B) of title 13, CCR.

**Rationale**

The proposed definition is needed to accommodate the proposed amendments to subsections (g)(5.2.1)(B) and (g)(5.2.2)(A).

**Subsection (g)(5.2), including subsections (g)(5.2.1) and (g)(5.2.2)**

**Purpose**

The purpose of the amendments to this subsection is to add a title “Alternate Malfunction Criteria” and divide the subsections further in subsection (g)(5.2.1) “for diesel engines” and subsection (g)(5.2.2) “for gasoline engines.”

**Rationale**

Subsection (g)(5.2) currently contains only alternate malfunction criteria for 2010 through 2012 model year diesel engines. Since more alternate malfunction criteria are being proposed with this rulemaking update for both diesel and gasoline engines, the proposed amendments are needed to make it easier to read the requirements of subsection (g)(5.2).

**Subsections (g)(5.2.1)(B) and (g)(5.2.2)(A)**

**Purpose**

The purpose of the amendments to these subsections is to allow alternate NOx malfunction criteria to match the criteria currently specified in title 13, CCR subsections 1956.8(a)(2)(A) and (c)(1)(B) for heavy-duty engines certified to the Optional Low NOx emission standards.

**Rationale**

The proposed amendments are needed to provide clear direction to engine manufacturers regarding the applicable OBD requirements. The proposed relocation of the existing NOx malfunction criteria requirements from the emission standards regulation (subsections 1956.8(a)(2)(A) and (c)(1)(B)) to the heavy-duty OBD regulation (subsections (g)(5.2.1)(B), and (g)(5.2.2)(A)) for 2015 through 2023 model year engines certified to the Optional Low NOx emission standards is needed since the heavy-duty OBD regulation is the most appropriate place to detail the malfunction criteria for these HD OBD systems.

**Subsection (g)(5.2.1)(C), (g)(5.2.1)(D), (g)(5.2.1)(E), (g)(5.2.2)(B), and (g)(5.2.2)(C)**

**Purpose**

The purpose of the amendments to these subsections is to allow heavy-duty engines certified to the proposed NO<sub>x</sub> and PM emission standards applicable for 2024 and subsequent model year engines to use alternate NO<sub>x</sub> and PM malfunction criteria in lieu of the malfunction criteria described under each of the applicable monitoring requirements in section 1971.1. Additional provisions for 2022 and 2023 model year diesel engines are also provided.

**Rationale**

The proposed amendments are needed to provide clear direction to engine manufacturers regarding the applicable OBD requirements. Similar to the rationale explained above for subsections (e)(17.1) and (f)(17.1.3) in section 1968.2, the proposed amendments to these subsections are needed to provide modifications to the OBD malfunction criteria to accommodate the proposed lower NO<sub>x</sub> and PM standards for 2024 and subsequent model year engines. Specifically, since the current OBD malfunction criteria are based on a multiple of or additive to the NO<sub>x</sub> or PM emission standards the engine is certified to, the proposed lower NO<sub>x</sub> and PM standards would also require the OBD system to detect malfunctions at lower NO<sub>x</sub> and PM emission levels. However, staff have not yet fully evaluated the capability of OBD monitors to robustly detect failures at the lower emission levels. After discussions with engine manufacturers and suppliers, staff have determined that a continuation of the same malfunction criteria previously adopted for engines certified to the existing Optional Low NO<sub>x</sub> Emission standards is appropriate until staff can evaluate the use of lower malfunction thresholds in a future OBD rulemaking update. The proposed modification to the malfunction criteria would require the future low NO<sub>x</sub> certified engines to detect malfunctions at the same absolute emission levels as engines currently certified to the 0.20 g/bhp-hr NO<sub>x</sub> standard.

Additionally, 2022 and 2023 model year diesel engines that optionally certify to the more stringent NO<sub>x</sub> and PM FTP, SET, idle and low load cycle emissions standards would be subject to alternate malfunction criteria.

The current requirements related to OBD thresholds are described in Chapter I, Section B.1.5; the need for OBD threshold amendments is described in Chapter II, Section C.1.4; and the description of proposed OBD threshold amendments is included in Chapter III, Section A.1.2.

**Section 2035. Purpose, Applicability, and Definitions.**

**Subsection (a)**

**Purpose**

Subsection (a) introduces the purpose of the section in explaining the rights and responsibilities of owners, manufacturers, and the service industry. The proposed amendments add the word “trailer” to the description of the affected parties. See Chapter III, section A.11 for further discussion of the trailer-specific amendments. Additionally, provisions for hybrid powertrains are included in this section.

**Rationale**

The proposed amendments are necessary to make clear the original Phase 2 GHG regulatory intent that this section applies to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific warranty requirements. This subsection also clarifies the rights and responsibilities of manufacturers of 2022 and subsequent model year hybrid powertrains as pertain to the emissions warranty set forth in Health and Safety Code section 43205 and 43205.5

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

**Subsection (b)(1)**

**Purpose**

The purpose of this amendment is to add clarification to the emission control warranty requirements for heavy-duty vehicles by creating isolated categories of applicability in new subsections (A), (B), (C) and (D).

**Rationale**

This amendment is necessary to accommodate changes to the applicability of heavy-duty vehicle emission control warranty requirements beginning with 2027 model years. The amendment bifurcates the original standalone subsection (b)(1) into subsections (b)(1)(A) through (b)(1)(D) to compartmentalize current and new warranty requirements according to scope of applicability and implementation dates. Subsection (A) maintains current warranty applicability indefinitely for passenger cars, light-duty trucks, and medium-duty vehicles, registered in California, but takes out heavy-duty vehicles; Subsection (B) maintains current warranty applicability for heavy-duty vehicles registered in California through 2026 model years; Subsection (C) proposes warranty

applicability for 2027 and subsequent heavy-duty vehicle model years for which California registration is no longer a prerequisite; and Subsection (D) proposes warranty applicability for 2022 and subsequent model years heavy-duty hybrid vehicles equipped with heavy-duty hybrid powertrains. The elimination of the registration requirement in Subsection (C) ensures that 2027 and later model year heavy-duty vehicles originally certified to the proposed California warranty and useful life periods in 13 CCR 2036 (c)(4) and (c)(8), even though registered out of State, would remain subject to these longer periods while operating in California as many heavy-duty vehicles routinely engage in interstate travel. Longer warranty periods provide a greater incentive for heavy-duty vehicle owners to repair malfunctioning emission-related parts in a timely manner because the owner does not have to pay for the repair, and this is especially true when the malfunctions do not adversely affect the ability of the vehicle to do work (as discussed further in Chapter I Section B.4 and Chapter III Section A.4.1.2 of this Staff Report). Chapter III Section A.4.7 provides the rationale for expanding the applicability of the California warranty coverage to California-certified vehicles even if they are not registered in California. Requiring the California warranty to stay with the vehicle would also enable vehicles to maintain a higher value commensurate with the higher purchase price paid for the California-certified vehicle compared to its federal counterpart, i.e., the longer warranty and useful life periods were paid for by the consumer at the time of sale.

The current requirements related to emissions warranties are described in Chapter I, Sections B.4 through B4.2 of this Staff Report; the need for warranty amendments is described in Chapter II, Sections C. 4 through C4.2; and the description of proposed warranty amendments is included in Chapter III, Section A.4.

### **Subsection (b)(2)**

#### **Purpose**

The purpose of this amendment is to correct the omission of a hyphen.

#### **Rationale**

This amendment improves the grammatical clarity of the provision by identifying “California-certified” as a compound term rather than standalone “California” and “certified” adjectives.

### **Subsection (b)(3)**

#### **Purpose**

The proposed amendment in subsection (b)(3) adds the applicability of 2020 and subsequent model year trailers, which are certified to the trailer emission standards in section 95663(c), title 17, CCR. See Chapter III, section A.11 for discussion of the trailer-specific amendments.

#### **Rationale**

## APPENDIX F-A-1

The proposed amendment is necessary to make clear the original Phase 2 GHG regulatory intent that this section applies to trailers certified to the Phase 2 GHG emission standards. The proposed amendment is intended to eliminate any ambiguity regarding the applicability of California-specific warranty requirements to trailers. The adopted California Phase 2 regulation clearly intended to impose warranty requirements on trailers, and CARB staff discussed those warranty requirements in Chapter III, Section A.2(d)(xi) of the California Phase 2 staff report.<sup>1</sup>

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (c)(1)**

#### **Purpose**

The proposed amendment adds the definition of a trailer.

#### **Rationale**

The addition of the definition of trailer is necessary to make specific reference to what a trailer is.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (c)(2)**

#### **Purpose**

The proposed amendment adds “trailer” to the existing definition of warrantable condition.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the addition of “trailer” is necessary to explain that warrantable conditions also pertain to trailer conditions and would trigger the manufacturer to take corrective action.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is

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<sup>1</sup> (CARB, 2017d) Staff Report: Initial Statement of Reasons for Proposed Rulemaking: “Proposed California Greenhouse Gas Emissions Standards for Medium- and Heavy-Duty Engines and Vehicles and Proposed Amendments to the Tractor-Trailer GHG Regulation,” California Air Resources Board, December 2017. <http://ww3.arb.ca.gov/react/2018/phase2/isor.pdf>

described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (c)(3)(A)**

#### **Purpose**

The purpose of this amendment is to enable changing the current definition of a “warranted part” for heavy-duty Otto-cycle engines of model year 2027 and subsequent.

#### **Rationale**

This amendment is necessary to ensure that manufacturers have sufficient lead time to comply with expanded warranty coverage brought about by the proposed (more stringent) definition of a “warranted part” for 2027 and subsequent model year vehicles greater than 14,000 GVWR equipped with 2027 and subsequent model year heavy-duty Otto-cycle engines, as further explained in CARB staff’s rationale for subsection (c)(3)(E). The current definition of a “warranted part” for Otto-cycle engines is defined primarily by an Emissions Warranty Parts List dated February 22, 1985, and does not include the phrase “any part that can affect the regulated emission of criteria pollutants,” as is already the case in subsection (c)(3)(D) for 2022 and subsequent model year diesel-powered vehicles greater than 14,000 GVWR (see Chapter III Section A.7 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018). The addition of this catch-all phrase will eliminate the need to continually update the Emissions Warranty Parts Lists whenever new technology is introduced on heavy-duty vehicles. Emission-related parts covered under warranty are more likely to be repaired in a timely manner because the vehicle owner does not have to pay for the repair. This translates into greater emissions reductions.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (c)(3)(D)**

#### **Purpose**

The purpose of this amendment is to enable changing the definition of “warranted part” for heavy-duty Otto-cycle engines of model year 2027 and subsequent, and to sunset the exclusivity to diesel-powered vehicles of the more comprehensive definition of a “warranted part,” which includes the phrase “any part that can affect the regulated emission of criteria pollutants.” As proposed, this exclusive applicability would continue through the 2027 model year for diesel-powered heavy-duty vehicles greater than 14,000 GVWR equipped with 2026 or prior model year heavy-duty engines. Thereafter, the inclusion of the phrase into the definition of a warranted part would apply all-inclusively to 2027 and subsequent model year vehicles greater than 14,000 GVWR equipped with 2027 and subsequent model year diesel-, gasoline-, or alternative-fueled

engine certified to the heavy-duty Diesel-cycle or Otto-cycle standards in 13 CCR 1956.8.

**Rationale**

This amendment is necessary to specify that the 2022 requirements will remain in place through engine model year 2026. This provides manufacturers with sufficient lead time to comply with the more comprehensive definition for all 2027 and subsequent model year vehicles greater than 14,000 GVWR equipped with 2027 and subsequent model year heavy-duty Diesel-cycle engines, as explained in CARB staff’s rationale for subsection (c)(3)(E). (See also Chapter III Section A.1.4 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018). Warranted parts that malfunction during the warranty period are more likely to be repaired in a timely manner because the vehicle owner does not have to pay for the repair, resulting in greater emissions reductions.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

**Subsection (c)(3)(E)**

**Purpose**

This purpose of adding new subsection (c)(3)(E) is to expand the applicability of the more stringent definition of a “warranted part,” including the phrase “any part that can affect the regulated emission of criteria pollutants,” to all heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 and subsequent model year Diesel or Otto-cycle engines, including engines certified to the heavy-duty standards in 13 CCR 1956.8 on alternative fuels.

**Rationale**

This amendment is necessary to clarify that all emission-related parts on 2027 and subsequent vehicles greater than 14,000 GVWR equipped with 2027 and subsequent model year Diesel- or Otto-cycle engines, including engines certified to the heavy-duty standards in 13 CCR 1956.8 on alternative fuels, are covered under warranty. Emission-related parts covered under warranty are more likely to be repaired in a timely manner because the vehicle owner does not have to pay for the repair. This translates into greater emissions reductions. Currently, only 2022 and subsequent model year diesel-powered vehicles greater than 14,000 GVWR equipped with 2022 and subsequent model year heavy-duty diesel engines are subject to this more comprehensive definition of a warranted part. Heavy-duty vehicles with Otto-cycle

engines currently rely on an Emissions Warranty Parts List to determine if a part is warranted.

Nonetheless, this amendment continues to require manufacturers to provide warranties for all parts listed in the “Emissions Warranty Parts List,” dated December 14, 1978, as amended on February 22, 1985. (However, any parts that are not on that list that can affect emissions must now also be warranted as well.) The amendment also continues to limit warranty coverage liability to parts installed by the manufacturer or installed during a warranty repair.

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (c)(3)(F)**

#### **Purpose**

The purpose of this subsection is to specify what parts are warranted for optionally certified hybrid powertrains and heavy-duty hybrid vehicles over 14,000 pounds GVWR that are equipped with such powertrains.

#### **Rationale**

This amendment is necessary to ensure that manufacturers of 2022 and subsequent model year hybrid powertrains know which parts of the hybrid powertrain would be subject to the warranty requirements under “warranted parts”. This amendment also assists the manufacturers with compliance with the emissions warranty provisions by specifying the hybrid-specific parts, in addition to the parts that are contained in the “Emissions Warranty Parts List”, that are covered under the “Warranted Parts” definition. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

### **Subsection (c)(3)(G)**

#### **Purpose**

The proposed amendment specifies the trailer parts that are warranted in subsection (c)(3)(G). The emission-related warranty covers tires, automatic tire inflation systems, tire pressure monitoring systems, devices added to the trailer to improve aerodynamic

performance, and other emission-related components included in the application for certification.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the addition of the trailer to the definition of “warranted part” is necessary to provide a specific list of parts that would be covered under the manufacturer’s warranty.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)(4)**

**Purpose**

The proposed amendment adds “trailer” to the existing definition of warranty period.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the addition of “trailer” is necessary to the definition of warranty period to clarify that this term pertains to trailers in a similar manner as any other vehicle.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)(5)**

**Purpose**

The proposed amendment adds “trailer” to the existing definition of warranty station.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the addition of “trailer” is necessary to the definition of warranty station to clarify that this term pertains to trailers in a similar manner as any other vehicle.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)(6)**

**Purpose**

The proposed amendment adds “trailer” to the existing definition of trailer manufacturer.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the addition of “trailer” is necessary to the definition trailer manufacturer to clarify that this term pertains to trailers in a similar manner as any other vehicle.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets, or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 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.**

**Title**

**Purpose**

The title was modified to include 2020 and subsequent model year trailers. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to ensure that the title reflects the applicability of the defects warranty requirements to trailers, as originally intended in the Phase 2 GHG regulation and to be sure it is clear that trailer manufacturers are subject to California-specific defect warranty requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (a)**

**Purpose**

The purpose of this subsection is to specify the applicability of the defects warranty requirements. The proposed amendment includes 2022 and subsequent model year heavy-duty hybrid vehicles greater than 14,000 pounds GVWR that are equipped with optionally certified hybrid powertrains, and hybrid powertrains used in such vehicles in the applicability provision for the warranty requirements of this section.

**Rationale**

This amendment is necessary to ensure that 2022 and subsequent model year hybrid powertrains and vehicles equipped with such powertrains would be subject to the warranty period requirements as specified in this section. Without this amendment, manufacturers of hybrid powertrains may interpret that their hybrid powertrains do not need to comply with existing statutory warranty period that is required for other heavy-duty vehicles. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

**Subsection (b)**

**Purpose**

Subsection (b) describes the general emissions warranty coverage provided by the manufacturer to the purchaser. The proposed amendments add “trailer” to the description of the manufacturer and purchaser.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that warranty coverage applies to trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (b)(1)**

**Purpose**

The proposed amendment adds Part 1, division 25.5 of the Health and Safety Code as pursuant to its authority for GHG regulations.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to reflect the GHG authority under which the trailers are regulated.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (b)(2)**

**Purpose**

The proposed amendments clarify that trailer manufacturers must make trailers free from defects in materials and workmanship.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that warranty coverage applies to trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is

described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (b)(2)(A)**

#### **Purpose**

New subsection (b)(2)(A) is necessary to specify that the 2022 warranty requirements will remain in place through model year 2026. The purpose of adding this new subsection is to sunset the exclusivity to diesel-powered vehicles of the requirement that “any defect in materials or workmanship that would cause the heavy-duty on-board diagnostics (HD OBD) malfunction indicator light (MIL) to illuminate must be covered by the emissions warranty.” As proposed, this exclusive applicability to diesel-powered vehicles would continue through the 2027 model year for heavy-duty vehicles greater than 14,000 GVWR equipped with 2026 or prior model year heavy-duty engines. Thereafter, the requirement would apply all-inclusively to 2027 and subsequent model year vehicles equipped with 2027 and subsequent model year diesel-, gasoline-, or alternative-fueled engines certified to the heavy-duty Diesel-cycle or Otto-cycle standards in 13 CCR 1956.8.

#### **Rationale**

As described below for Subsection (b)(2)(B), the rationale for changing the requirement as of model year 2027 is to allow illumination of the MIL to help the vehicle operator identify situations when they can get warrantied repairs and thereby encourage more timely repairs resulting in emission benefits. Further, this amendment provides lead time for manufacturers to fully cover “any part that causes the HD OBD MIL to illuminate” for 2027 and later model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 or later model year Diesel, Otto-cycle, or alternative-fueled engines, as further explained in subsection (b)(2)(B).

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

### **Subsection (b)(2)(B)**

#### **Purpose**

The purpose of adding this new subsection is to expand the requirement that “any defect in materials or workmanship that would cause the HD OBD MIL to illuminate must be covered under the emissions warranty” to 2027 and later heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 and later Otto-cycle or alternative-fuel

engines. The amendment also ensures that the requirement applies to all heavy-duty vehicles greater than 14,000 GVWR equipped with any Diesel engine, including alternative-fueled engines.

### **Rationale**

As discussed in Chapter III Section A.4.4 of this Staff Report, this amendment is necessary to ensure that any part that causes the MIL to illuminate is considered an emission-related part and, as such, covered under warranty for all vehicles equipped with diesel-, gasoline-, or alternative-fueled engines, certified to the heavy-duty Diesel or Otto-cycle emission standards in 13 CCR 1956.8. HD OBD is required to monitor all components that can affect emissions when malfunctioning, and the MIL is designed to illuminate when emission exceedances above applicable criteria pollutant standards occur. An illuminated MIL immediately alerts the vehicle operator of an emission-related problem, which helps ensure that malfunctioning emission-related parts are repaired in a timely manner to aid in emissions reductions.

The current applicability of MIL illumination being synonymous with malfunctioning emission-related parts is limited to 2022 and later diesel-powered heavy-duty vehicles as mentioned in the rationale for CARB staff's proposed amendments to (b)(2)(A) of this section.

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (b)(2)(C)**

#### **Purpose**

The purpose of this subsection is to define the general emissions warranty coverage for 2022 and subsequent model year heavy-duty hybrid vehicles greater than 14,000 pounds GVWR that are equipped with optionally certified hybrid powertrains.

#### **Rationale**

This amendment is necessary to extend the emissions warranty coverage of this section to 2022 and subsequent model year heavy-duty hybrid vehicles greater than 14,000 pounds GVWR that are equipped with hybrid powertrains optionally certified pursuant to title 13, CCR §1956.8 for any defects in materials or workmanship which cause the vehicle's on-board diagnostic malfunction indicator light to illuminate. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in

Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

**Subsection (c)(4)(A)**

**Purpose**

The purpose of this amendment is to change the format of the numerical yearly warranty period from a word description to a digital representation (i.e., “five” to “5”).

**Rationale**

This amendment provides easier recognition of the yearly warranty period, and helps maintain consistency with other representations of warranty period limits throughout the document.

**Subsection (c)(4)(B)**

**Purpose**

The purpose of this amendment is to enable lengthening the warranty periods for 2027 and subsequent model year engines in heavy-duty vehicles greater than 14,000 GVWR with diesel- or alternative-fueled engines certified to the Diesel-cycle standards in 13 CCR 1956.8.

The amendment also changes the format of the numerical yearly warranty period from a word description to a digital representation (i.e., “five” to “5”).

**Rationale**

This amendment is necessary to specify that the 2022 warranty requirements will remain in place through model year 2026. This amendment is necessary to provide lead time for manufacturers to transition to longer, more representative warranty periods contained in subsection (c)(4)(C) for 2027 through 2031 model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 through 2030 model year Diesel engines. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the proposed warranty periods in (c)(4)(C) and (c)(4)(D) take effect. The amendment also removes the reference to vehicles powered by fuel cells. This reference was added during the Step 1 warranty rulemaking in 2018 (see Chapter III Section A.1.4 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018) to exclude vehicles powered by fuel cells from having to comply with the longer warranty periods adopted in the Step 1 rulemaking. However, the reference inadvertently requires such vehicles to comply with the existing warranty periods for heavy-duty diesel-powered vehicles, which is not accurate. According to Part II, B.2 of the “California Standards and Test Procedures for New 2021 and Subsequent Model Heavy-Duty Zero-Emission Powertrains,” adopted June 27, 2019, the warranty period for heavy-duty zero-emission powertrains is 3 years or 50,000 miles.

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The amendment also provides easier recognition of the yearly warranty period, and helps maintain consistency with other representations of warranty period limits throughout the document.

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### Subsection (c)(4)(C)

#### Purpose

The purpose of adding this new subsection is to establish a first phase of more stringent warranty periods for 2027 through 2031 model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 through 2030 model year diesel- or alternative-fueled engines certified to the heavy-duty Diesel-cycle standards in 13 CCR 1956.8, as shown in the table below and discussed further in Chapter III Section A.4.1.1 of this Staff Report.

<b>Engine / Vehicle Category (GVWR)</b>	<b>Proposed Phase-in for Step 2 Warranty  Effective MY 2027 (Miles/Years/Hours)</b>
HHDD / Class 8 >33,000 lbs.	450,000 7 years 22,000 hours
MHDD / Class 6-7 19,501 - 33,000 lbs.	220,000 7 years 11,000 hours
LHDD / Class 4-5 14,001 - 19,500 lbs.	150,000 7 years 7,000 hours

The amendment reintroduces operational (hour) warranty periods, which were removed in a previous rulemaking from the warranty requirements for 2022 and later model year heavy-duty diesel vehicles greater than 14,000 GVWR, (see Chapter III Section A.2 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018) and includes a new subsection limiting the accumulation of hours towards the hour warranty limit on

vehicles equipped with start-stop technology. Alternative-fueled engines certified to the Diesel-cycle standards in 13 CCR 1956.8 that are used concurrently in internal combustion vehicles and in hybrid vehicles would now also be subject to these more stringent warranty periods whereas previously, only diesel-fueled engines used concurrently in internal combustion vehicles and in hybrid vehicles were subject to the more stringent warranty periods.

### **Rationale**

As discussed in Chapter II Section C.4 and Chapter III Section A.4.1.1 of this Staff Report, this amendment is necessary to ensure that modern heavy-duty Diesel-cycle vehicles remain warranted for a greater portion of the time they remain in service. By lengthening warranty periods to more accurately correlate with service life, a majority of vehicle owners who do not currently address malfunctions outside of warranty will now likely do so, resulting in timely repairs and increased emission reductions (see Chapter I Section B.4 and Chapter III Section A.4.1.2 of this Staff Report). The amendments in this subsection propose the first of two phases of progressively longer, more representative warranty periods, providing manufacturers with necessary lead time to comply with these warranty periods as well as those warranty periods to be adopted in the second phase described in subsection (c)(4)(D). Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the future warranty periods take effect.

Operational (hour) limits have been reintroduced to normalize manufacturer liability for vehicles that accumulate service miles slowly (e.g., urban buses, and vocational vehicles such as concrete mixers, refuse haulers and street sweepers, etc.) compared to vehicles that accumulate miles quickly (e.g., non-vocational vehicles such as line haul tractors, delivery vehicles, and furniture movers, etc.). Vocational vehicles accumulate miles slowly because of significantly lower average vehicle speeds as a consequence of their function. For example, a refuse hauler may operate 8 hours a day and five days a week, but only cover the area of several city blocks whereas a line haul tractor may travel across the country in the same period of time. This difference had little significance in the previous rulemaking to lengthen warranty periods (see Chapter III Section A.2 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018) because the existing 5 year warranty limit was the limiting factor for vocational vehicles and because vocational vehicle manufacturers were already complying with federal warranty requirements that did not impose an operational (hour) limit. However, because CARB staff is now proposing much longer warranty periods, hour limits are reintroduced as a warranty requirement beginning with 2027 and later model year vehicles equipped with 2027 and later model year engines to ensure a level playing field such that vocational manufacturers are not penalized with substantially longer warranty liability than non-vocational manufacturers for similar periods of operation. The Diesel-cycle operational warranty periods of 7,000 to 22,000 hours were selected after analysis of the activity data collected by UC Riverside's Center for Environmental Research and Technology under CARB contract no. 13-301, as described in Chapter III Section A.5.1.1 of this Staff Report. A prerequisite for being able to use hours of operation to limit warranty is the incorporation of an accurate and durable hours meter by the engine manufacturer.

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To illustrate how the hours provision would work, consider a heavy-duty vehicle equipped with a heavy heavy-duty diesel engine with the required warranty of 450,000 miles, 7 years, or 22,000 hours, whichever first occurs. The warranted parts on such a heavy-duty vehicle that traveled 450,000 miles before it aged 7 years or accumulated 20,000 operating hours would remain under warranty for 450,000 miles. However, if the same vehicle reached the age of 7 years before it traveled 450,000 miles or accumulated 20,000 hours, it would only be warranted for 7 years (e.g., if it had accumulated only 200,000 miles by age 7, it would be warranted for only 200,000 miles). Similarly, if the vehicle reached 20,000 operating hours before reaching 450,000 miles or 7 years, its warranty would end at that point (e.g., if it accumulated 100,000 miles in 3 years but accumulated 20,000 operating hours during that time, its warranty would only cover 100,000 miles).

Further, to ensure that hours of operation are not accumulated during periods when the engine is not creating emissions, such as during standby mode in a stop-start system (key on, engine off), manufacturers are not allowed to increment the hours meter towards meeting the hour warranty period unless the engine is operating, i.e., using fuel.

The language in this subsection is structured similarly, and borrowed in large part, from the existing language in subsection (c)(4)(B), which in turn was largely borrowed from (c)(4)(A). As with the predecessor language, this subsection includes text prohibiting emission warranty periods from being less stringent than the basic mechanical warranty periods provided by the manufacturer. The text also includes subsections (c)(4)(C)1. and 2. which, respectively, limit applicability of the warranty periods to parts that affect criteria pollutants only, and to vehicles with engines certified to the Diesel-cycle standards (regardless of fuel) including engines belonging to engine families that service both standalone diesel vehicles and hybrid vehicles. The warranty period requirements for dedicated hybrid powertrains are described in new subsection (c)(10).

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2031 model year vehicles equipped with 2030 model year engines, and pre-2031 model year vehicles in which post-2030 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (c)(4)(D)**

#### **Purpose**

The purpose of adding this new subsection is to establish a second (final) phase of more stringent warranty periods for 2031 and subsequent model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2031 and subsequent model year

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diesel- or alternative-fueled engines certified to the heavy-duty Diesel-cycle standards in 13 CCR 1956.8, as shown in the table below and discussed further in Chapter III Section A.4.1.1 of this Staff Report.

Engine / Vehicle Category (GVWR)	Proposed Phase-in for Step 2 Warranty  Effective MY 2031 (Miles/Years/Hours)
HHDD / Class 8 >33,000 lbs.	600,000 10 years 30,000 hours
MHDD / Class 6-7 19,501 - 33,000 lbs.	280,000 10 years 14,000 hours
LHDD / Class 4-5 14,001 - 19,500 lbs.	210,000 10 years 10,000 hours

The amendment continues the use of operational (hours) warranty periods reintroduced as a warranty limit in subsection (c)(4)(C), and includes a new subsection limiting the accumulation of hours towards the hour warranty limit on vehicles equipped with start-stop technology. Complementary to the provisions in (c)(4)(C), alternative-fueled engines certified to the Diesel-cycle standards in 13 CCR 1956.8 that are used concurrently in internal combustion vehicles and in hybrid vehicles are subject to these more stringent warranty periods.

**Rationale**

This amendment is necessary to ensure that modern heavy-duty Diesel-cycle vehicles remain warranted for a greater portion of the time they remain in service. By lengthening warranty periods to more accurately correlate with service life, a majority of vehicle owners who do not currently address malfunctions outside of warranty will now likely do so, resulting in timely repairs and increased emission reductions (see Chapter I Section B.4. and Chapter III Section A.4.1.2 of this Staff Report). The amendments in this subsection propose the second (final) phase of progressively longer, more representative warranty periods in this rulemaking for heavy-duty vehicles.

As with the proposed first phase of warranty periods in subsection (c)(4)(C), operational (hour) limits have been reintroduced for the second phase to normalize manufacturer liability for vehicles that accumulate service miles slowly (e.g., urban buses, and vocational vehicles such as concrete mixers, refuse haulers and street sweepers, etc.) compared to vehicles that accumulate miles quickly (e.g., non-vocational vehicles such as line haul tractors, delivery vehicles, and furniture movers, etc.). Vocational vehicles accumulate miles slowly because of significantly lower average vehicle speeds as a

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consequence of their function. For example, a refuse hauler may operate 8 hours a day and five days a week, but only cover the area of several city blocks whereas a line haul tractor may travel across the country in the same period of time. This difference had little significance in the previous rulemaking to lengthen warranty periods because the existing 5 year warranty limit was the limiting factor for vocational vehicles and because vocational vehicle manufacturers were already complying with federal warranty requirements that did not impose an operational (hour) limit (see Chapter III Section A.2 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018). However, because CARB staff is now proposing that warranty extend to longer periods, as with the proposed first phase of warranty periods in subsection (c)(4)(C), hour limits continue to remain a warranty requirement in the proposed second phase to ensure a level playing field such that vocational manufacturers are not penalized with substantially longer warranty liability than non-vocational manufacturers for similar periods of operation. The Diesel-cycle operational warranty periods of 10,000 to 30,000 hours were selected after analysis of the activity data collected by UC Riverside's Center for Environmental Research and Technology under CARB contract no. 13-301, as described in Chapter III Section A.5.1.1 of this Staff Report. Similar to the proposed first phase of warranty requirements, the prerequisite for being able to use hours of operation to limit warranty remains the incorporation of an accurate and durable hours meter by the engine manufacturer.

Likewise, to ensure that hours of operation are not accumulated during periods when the engine is not creating emissions, such as during standby mode in a stop-start system (key on, engine off), manufacturers are not allowed to increment the hours meter towards meeting the hour warranty period unless the engine is operating, i.e., using fuel.

The language in this subsection is structured similarly, and borrowed in large part, from the existing language in subsection (c)(4)(C). As with the predecessor language, this subsection includes text prohibiting emission warranty periods from being less stringent than the basic mechanical warranty periods provided by the manufacturer. The text also includes subsections (c)(4)(D)1. and 2. which, respectively, limit applicability of the warranty periods to parts that affect criteria pollutants only, and to vehicles with engines certified to the Diesel-cycle standards (regardless of fuel) including engines belonging to engine families that service both standalone diesel vehicles and hybrid vehicles. The warranty period requirements for dedicated hybrid powertrains are described in new subsection (c)(10).

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2031 model year vehicles equipped with 2030 model year engines, and pre-2031 model year vehicles in which post-2030 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in

Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (c)(8)(A)**

#### **Purpose**

The purpose of this amendment is to enable sunseting the warranty periods for heavy-duty vehicles greater than 14,000 GVWR with gasoline- or alternative-fueled engines certified to the Otto-cycle standards in 13 CCR 1956.8 in favor of longer, more representative warranty periods beginning in 2027 and 2031, as described further for subsections (c)(8)(B) through (c)(8)(D) below. This amendment also bifurcates the original standalone subsection (c)(8) into subsections (c)(8)(A) through (c)(8)(D) to compartmentalize current and new warranty period requirements according to implementation date and scope of applicability.

The amendment makes a grammatical clarification to the text with respect to the applicability of GVWR and also changes the format of the numerical yearly warranty period from a word description to a digital representation (i.e., “five” to “5”).

#### **Rationale**

This amendment is necessary to specify that the 2022 warranty requirements will remain in place through model year 2026 (see Chapter III Section A.1 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018). This amendment is necessary to provide lead time for manufacturers of heavy-duty Otto-cycle engines to transition to progressively longer, more representative warranty periods beginning in 2027 and 2031. These proposed warranty periods are described in subsections (c)(8)(C) through (c)(8)(D) of this section. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the proposed warranty periods in (c)(8)(C) and (c)(8)(D) take effect.

The qualifier “greater than 14,000 pounds GVWR” is added in place of the deleted “at or above 14,001 pound GVWR” to add precision to the existing provision, but does not change the scope of applicability.

The amendment also provides easier recognition of the yearly warranty period limit, and helps maintain consistency with other representations of warranty period limits throughout the document.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (c)(8)(B)**

#### **Purpose**

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The purpose of adding this new subsection is to reserve subsection (c)(8)(B) for future use in order to maintain a synchronized referencing order with respect to the regulatory subsections for Diesel-cycle warranty periods and Otto-cycle warranty periods.

### Rationale

This amendment facilitates the identification of analogous warranty requirements for Diesel-cycle and Otto-cycle engines according to their dates of implementation. This is important as an aid to readability and accuracy for the complying manufacturer. As proposed in this rulemaking, the timing of subsection (c)(4)(A) sequentially corresponds to (c)(8)(A); subsection (c)(4)(C) sequentially corresponds to (c)(8)(C); and subsection (c)(4)(D) sequentially corresponds to (c)(8)(D). There is no Otto-cycle complement for the warranty period requirements in subsection (c)(4)(B) because those requirements were adopted in a previous rulemaking specifically for diesel-fueled vehicles. Further, there is insufficient lead time to enable compliance with a new warranty period requirement for Otto-cycle vehicles requiring implementation to begin in 2022. Therefore, to prevent complementary warranty period references from occurring out of sequence it is necessary to designate subsection (c)(8)(B) as "Reserved."

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### Subsection (c)(8)(C)

#### Purpose

As discussed in Chapter III Section A.4.1.1 of the Staff Report, the purpose of adding this new subsection is to establish a first phase of longer warranty periods for 2027 through 2031 model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 through 2030 model year heavy-duty gasoline- or alternative-fueled engines certified to the Otto-cycle standards in 13 CCR 1956.8, as shown in the table below.

<b>Engine / Vehicle Category (GVWR)</b>	<b>Proposed Phase-in for Step 2 Warranty  Effective MY 2027 (Miles/Years/Hours)</b>
HDO >14,000 lbs.	110,000 7 years 6,000 hours

As shown in the table, the amendment also introduces operational (hours) warranty periods for the first time for heavy-duty vehicles with Otto-cycle engines greater than 14,000 GVWR, and includes language prohibiting the accumulation of hours towards the hour warranty limit on vehicles equipped with start-stop technology. The amendment further makes clear that alternative-fueled engines certified to the Otto-

cycle standards in 13 CCR 1956.8 that are used concurrently in internal combustion vehicles and in hybrid vehicles are subject to these more stringent warranty periods.

### **Rationale**

This amendment is necessary to ensure that modern heavy-duty vehicles with Otto-cycle engines remain warranted for a greater portion of the time they remain in service. By lengthening warranty periods to more appropriately correlate with service life, a majority of vehicle owners who do not currently address malfunctions outside of warranty would now likely do so, resulting in timely repairs and increased emission reductions. Chapter I Section B.4 of this Staff Report gives background information re: current warranty requirements; Chapter II Section C.4 describes the need for lengthened warranties; and Chapter III Section A.4.1.2 describes the proposed amendments. The amendments in this subsection propose the first of two phases of progressively longer, more representative warranty periods, providing manufacturers with necessary lead time to comply with these warranty periods as well as those warranty periods to be adopted in the second phase described in subsection (c)(8)(D). Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the future warranty periods take effect.

In addition to warranty periods based on distance (mileage) and age (years), operational (hours) warranty periods are introduced for the first time for heavy-duty Otto-cycle vehicles to normalize manufacturer liability for vehicles that accumulate service miles slowly (e.g., urban buses, and vocational vehicles such as concrete mixers, refuse haulers and street sweepers, etc.) compared to vehicles that accumulate miles quickly (e.g., non-vocational vehicles such as line haul tractors, delivery vehicles, and furniture movers, etc.). Vocational vehicles accumulate miles slowly because of significantly lower average vehicle speeds as a consequence of their function. For example, a refuse hauler may operate 8 hours a day and five days a week, but only cover the area of a several city blocks whereas a line haul tractor may travel across the country in the same period of time. Previously, the existing 5 year warranty period was the limiting factor for vocational vehicles and an hour limit was not necessary for compliance. However, because CARB staff is now proposing longer warranty periods, operational (hour) limits are being introduced as a warranty requirement beginning with 2027 and later model year vehicles equipped with 2027 and later model year engines to ensure a level playing field such that vocational manufacturers are not penalized with substantially longer warranty liability than non-vocational manufacturers for similar periods of operation. The Otto-cycle operational warranty period of 6,000 hours was selected after analysis of the activity data collected by UC Riverside's Center for Environmental Research and Technology under CARB contract no. 13-301, as described in Chapter III Section A.5.1.1 of this Staff Report. A prerequisite for being able to use hours of operation to limit warranty is the incorporation of an accurate and durable hours meter by the engine manufacturer.

Further, to ensure that hours of operation are not accumulated during periods when the engine is not creating emissions, such as during standby mode in a stop-start system

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(key on, engine off), manufacturers are not allowed to increment the hours meter towards meeting the hour warranty limit unless the engine is operating, i.e., using fuel.

The language in this subsection is based in large part on the analogous language for heavy-duty warranty periods for vehicles with Diesel-cycle engines in subsection (c)(4)(C) and from the existing language for Otto-cycle warranty periods in (c)(8)(A). As with these complementary and precursor texts, this subsection prohibits emission warranty periods from being less stringent than the basic mechanical warranty periods provided by the manufacturer. The text also includes subsections (c)(8)(C)1. and 2. which, respectively, limit applicability of the warranty periods to parts that affect criteria pollutants only, and to vehicles with engines certified to the Otto-cycle standards (regardless of fuel) including engines belonging to engine families that service both standalone Otto-cycle vehicles and hybrid vehicles. The warranty period requirements for dedicated hybrid powertrains are described in new subsection (c)(10).

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2031 model year vehicles equipped with 2030 model year engines, and pre-2031 model year vehicles in which post-2030 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

**Subsection (c)(8)(D)**

**Purpose**

The purpose of adding this new subsection is to establish a second (final) phase of more stringent warranty periods for 2031 and subsequent model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2031 and subsequent model year heavy-duty gasoline- or alternative-fueled engines certified to the Otto-cycle standards in 13 CCR 1956.8, as shown in the table below.

<b>Engine / Vehicle Category (GVWR)</b>	<b>Proposed Phase-in for Step 2 Warranty  Effective MY 2031 (Miles/Years/Hours)</b>
HDO >14,000 lbs.	160,000 10 years 8,000 hours

The amendment continues the use of operational (hours) warranty periods, first introduced as a warranty limit in subsection (c)(8)(C), and includes language prohibiting the accumulation of hours towards the hour warranty limit on vehicles equipped with

start-stop technology. Complementary to the provisions in (c)(8)(C), alternative-fueled engines certified to the Otto-cycle standards in 13 CCR 1956.8 that are used concurrently in internal combustion vehicles and in hybrid vehicles are subject to these more stringent warranty periods.

### **Rationale**

As discussed in Chapter III Section A.4.1.1 of this Staff Report, this amendment is necessary to ensure that modern heavy-duty vehicles with Otto-cycle engines remain warranted for a greater portion of the time they remain in service. By lengthening warranty periods to more appropriately correlate with service life, a majority of vehicle owners who do not currently address malfunctions outside of warranty will now likely do so, resulting in timely repairs and increased emission reductions (see Chapter I Section B.4 and Chapter III Section A.4.1.2 of this Staff Report). The amendments in this subsection propose the second (final) phase of progressively longer, more representative warranty periods in this rulemaking for heavy-duty vehicles.

As with the proposed first phase of warranty periods in subsection (c)(8)(C), operational (hours) limits remain applicable for the purpose of normalizing manufacturer liability for vehicles that accumulate service miles slowly (e.g., urban buses, and vocational vehicles such as concrete mixers, refuse haulers and street sweepers, etc.) compared to vehicles that accumulate miles quickly (e.g., non-vocational vehicles such as line haul tractors, delivery vehicles, and furniture movers, etc.). Vocational vehicles accumulate miles slowly because of significantly lower average vehicle speeds as a consequence of their function. For example, a refuse hauler may operate 8 hours a day and five days a week, but only cover the area of a several city blocks whereas a line haul tractor may travel across the country in the same period of time. Currently, the existing 5 year warranty period is the limiting factor for vocational vehicles and an hour limit is not necessary for compliance. However, because CARB staff is proposing longer warranty periods, as with the proposed first phase of warranty periods in subsection (c)(8)(C), hour limits continue to remain a warranty requirement to ensure a level playing field such that vocational manufacturers are not penalized with substantially longer warranty liability than non-vocational manufacturers for similar periods of operation. The Otto-cycle operational warranty period of 8,000 hours was selected after analysis of the activity data collected by UC Riverside's Center for Environmental Research and Technology under CARB contract no. 13-301, as described in Chapter III Section A.5.1.1 of this Staff Report. Similar to the proposed first phase of warranty requirements, the prerequisite for being able to use hours of operation to limit warranty remains the incorporation of an accurate and durable hours meter by the engine manufacturer.

Likewise, to ensure that hours of operation are not accumulated during periods when the engine is not creating emissions, such as during standby mode in a stop-start system (key on, engine off), manufacturers are not allowed to increment the hours meter towards meeting the hour warranty period unless the engine is operating, i.e., using fuel.

The language in this subsection is based in large part on the analogous language for heavy-duty warranty periods for vehicles with Diesel-cycle engines in subsection (c)(4)(D) and from the existing language for Otto-cycle warranty periods in (c)(8)(A). As with these complementary and precursor texts, this subsection prohibits emission warranty periods from being less stringent than the basic mechanical warranty periods provided by the manufacturer. The text also includes subsections (c)(8)(D)1. and 2. which, respectively, limit applicability of the warranty periods to parts that affect criteria pollutants only, and to vehicles with engines certified to the Otto-cycle standards (regardless of fuel) including engines belonging to engine families that service both standalone Otto-cycle vehicles and hybrid vehicles. The warranty period requirements for dedicated hybrid powertrains are described in new subsection (c)(10).

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2031 model year vehicles equipped with 2030 model year engines, and pre-2031 model year vehicles in which post-2030 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (c)(9)**

#### **Purpose**

The proposed amendments in subsection (c)(9) explain the existing trailer warranty period and reference 40 CFR 1037.120, where the trailer emission control components are listed.

#### **Rationale**

The proposed amendments are necessary to reference specifically a list of trailer emission control components so a manufacturer will clearly know what it must cover in its trailer warranty.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (c)(10)**

#### **Purpose**

The purpose of this subsection is to specify the warranty period for 2022 and subsequent model year diesel and Otto-cycle hybrid powertrains optionally certified pursuant to title 13, CCR §1956.8.

### **Rationale**

This amendment is necessary to specify which existing warranty periods for heavy-duty engines apply to 2022 and subsequent model year hybrid powertrains optionally certified pursuant to title 13, CCR §1956.8. Due to differences in warranty periods for heavy-duty engines used in various vehicle weight classes, and whether the engine is diesel or Otto-cycle, the proposed amendment specifically identifies the applicable heavy-duty engine warranty periods that would apply to hybrid powertrain systems based on the weight of the vehicle in which the hybrid powertrain system would be used. For example, a manufacturer of a diesel hybrid powertrain used in a vehicle with GVWR over 33,000 pounds would need to meet provide the warranty applicable for a heavy heavy-duty diesel engine, even if the engine in the optionally certified diesel hybrid powertrain is smaller than a typical heavy heavy-duty diesel engine. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

### **Subsection (d)(1)**

#### **Purpose**

Subsection (d) describes the warranty requirements for emission-related parts. The proposed amendments to subsection (d)(1) clarify that trailer manufacturers are responsible for repair or replacement of emission-related parts covered by the emissions warranty, and are subject to the same requirements as other vehicle and engine manufacturers.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements for emission-related parts as other vehicle and engine manufacturers.

### **Subsection (d)(2)(B)**

#### **Purpose**

The purpose of this amendment is to enable expanding the requirement “that manufacturers must pay for the repair or replacement of any warranted part found defective during an inspection of that part scheduled by the manufacturer as routine maintenance during the warranty period” beyond diesel-powered vehicles to any heavy-duty vehicle equipped with a diesel-, gasoline-, or alternative-fueled heavy-duty engine certified to the Diesel-cycle or Otto-cycle standards in 13 CCR 1956.8. As proposed, the exclusive applicability of this requirement to diesel-powered vehicles (which is described further in Chapter III Section A.7 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018) would continue through the 2027 model year for heavy-duty vehicles greater than 14,000 GVWR equipped with 2026 or prior model year heavy-duty diesel-powered engines.

### **Rationale**

This amendment is necessary to specify that the 2022 requirements will remain in place for engines through model year 2026. By keeping current requirements in place through 2026 model year engines, which will not be sold until 6 or more years from now, this amendment also provides lead time for manufacturers to begin covering parts found to be defective during an inspection for 2027 and later model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 or later model year Diesel or Otto-cycle engine, regardless of fuel type, as further explained in subsection (d)(2)(C).

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (d)(2)(C)**

#### **Purpose**

This purpose of adding this new subsection is to expand the applicability of the requirement “that manufacturers pay for the repair or replacement of any warranted part found defective during an inspection of that part scheduled by the manufacturer as routine maintenance during the warranty period” to all 2027 and subsequent model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 or later model year Diesel- or Otto-cycle engines, including engines certified to the heavy-duty standards in 13 CCR 1956.8 on alternative fuels (see Chapter III Section A.4.6 of this Staff Report).

#### **Rationale**

This amendment is necessary to incentivize all heavy-duty vehicle owners to repair emission-related parts they may not otherwise fix if they have to pay for the repair themselves (see Chapter I Section B.4 and Chapter III Section A.4.1.2 of this Staff Report). Malfunctioning emission-related parts covered under warranty are more likely to be repaired in a timely manner, especially if their malfunction does not significantly impact performance, which translates into greater emission reductions. This amendment “expands the existing requirement that manufacturers pay for the repair or replacement of any warranted part found defective during an inspection of that part scheduled by the manufacturer as routine maintenance during the warranty period” to all heavy-duty vehicles equipped with engines certified to the heavy-duty standards in 13 CCR 1956.8 for Diesel-cycle and Otto-cycle engines regardless of fuel type. Currently, this provision is only applicable to 2022 and subsequent model year heavy-duty diesel-fueled vehicles.

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (d)(2)(D)**

#### **Purpose**

The purpose of this subsection is to define the requirements for any warranted part that is scheduled only for regular inspection, used in 2022 and subsequent model year heavy-duty hybrid vehicles greater than 14,000 pounds GVWR that are equipped with 2022 and subsequent model year hybrid powertrains optionally certified pursuant to title 13, CCR §1956.8 and 2022 and subsequent model year hybrid powertrains used in such vehicles.

#### **Rationale**

This amendment is necessary to specify that any warranted part that is scheduled only for regular inspection is included in the warranty of 2022 and subsequent model year heavy-duty hybrid vehicles greater than 14,000 pounds GVWR that are equipped with 2022 and subsequent model year hybrid powertrains and 2022 and subsequent model year hybrid powertrains used in such vehicles. Furthermore, the amendment clarifies that if during regular inspection, the part has failed and require repair or replacement, it would be covered by the manufacturer. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

### **Subsection (d)(3)(A)**

#### **Purpose**

The proposed amendments explain that the trailer manufacturer is responsible for repair or replacement of emission-related parts covered by the emissions warranty if the part fails before the scheduled replacement, and is subject to the same requirements as other vehicle and engine manufacturers.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements for emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (d)(3)(B)**

#### **Purpose**

The purpose of this amendment is to allow the expansion of the applicability of the requirement “that a warranted part replaced or repaired during the warranty period shall remain under warranty for the remainder of the warranty period” to all heavy-duty engines including Otto-cycle engines (see Chapter III Section A.6 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018). As proposed, the exclusive applicability to diesel-powered vehicles would continue through the 2027 model year for heavy-duty vehicles greater than 14,000 GVWR equipped with 2026 or prior model year heavy-duty diesel-powered engines in favor of a more comprehensive approach that extends the provision to any heavy-duty vehicle equipped with a diesel-, gasoline-, or alternative-fueled heavy-duty engine certified to the Diesel-cycle or Otto-cycle standards in 13 CCR 1956.8.

#### **Rationale**

This amendment is necessary to specify that the 2022 requirements will remain in place for engines through model year 2026. Because it would allow current requirements to stay in place through 2026 model year engines, which will not be sold until 6 or more years from now, this amendment also provides lead time for manufacturers to begin covering parts that previously were the liability of the vehicle owner during the warranty period, for 2027 and later model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 or later model year diesel, Otto-cycle, or alternative-fueled engines, as further explained in subsection (d)(3)(C).

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (d)(3)(C)**

#### **Purpose**

This purpose of adding this new subsection is to expand the applicability of the requirement “that a warranted part that is replaced or repaired during the warranty period shall remain under warranty for the remainder of the warranty period” beyond just diesel-powered vehicles to all 2027 and subsequent model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 or later model year diesel or Otto-cycle engines, including engines certified to the heavy-duty standards in 13 CCR 1956.8 on alternative fuels.

### **Rationale**

This amendment is necessary to incentivize all heavy-duty vehicle owners to repair emission-related parts they may not otherwise fix if they have to pay for the repair themselves. Malfunctioning emission-related parts covered under warranty are more likely to be repaired in a timely manner, especially if their malfunction does not adversely affect vehicle drivability (see Chapter I Section B.4 and Chapter III Section A.4.1.2 of the Staff Report), which translates into greater emission reductions. This amendment “expands the existing requirement that a warranted part replaced or repaired during the warranty period shall remain under warranty for the remainder of the warranty period” to all heavy-duty vehicles equipped with engines certified to the heavy-duty standards in 13 CCR 1956.8 for Diesel-cycle and Otto-cycle engines regardless of fuel type. Currently, this provision is only applicable to 2022 and subsequent model year heavy-duty diesel-fueled vehicles.

Because it starts with 2027 model year engines, which will not be sold until 6 or more years from now, this amendment also provides lead time for manufacturers to begin covering parts that previously were the liability of the vehicle owner during the warranty period, for 2027 and later model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 or later model year diesel, Otto-cycle, or alternative-fueled engines.

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (d)(3)(D)**

#### **Purpose**

The purpose of this subsection is to define the requirements for warranted part that is scheduled for replacement as required maintenance, for 2022 and subsequent model year heavy-duty hybrid vehicles greater than 14,000 pounds GVWR that are equipped with 2022 and subsequent model year hybrid powertrains optionally certified pursuant to

title 13, CCR §1956.8 and 2022 and subsequent model year hybrid powertrains used in such vehicles.

**Rationale**

This amendment is necessary to specify when a warranted part that is scheduled for replacement as required maintenance is the responsibility of the owner or the manufacturer of the 2022 and subsequent model year heavy-duty hybrid vehicle greater than 14,000 pounds GVWR that is equipped with a 2022 and subsequent model year hybrid powertrain and of the 2022 and subsequent model year hybrid powertrain used in such a vehicle. The amendment specifies that the owner is responsible for the replacement of the warranted part at the interval specified by the manufacturer. If the warranted part fails before the scheduled replacement, the vehicle or engine manufacturer would be responsible for the repair or replacement of the warranty part. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

**Subsection (d)(4)**

**Purpose**

The proposed amendments explain that trailer manufacturers are responsible for the repair or replacement cost of any warranted part covered by the emissions warranty, and are subject to the same requirements as other vehicle and engine manufacturers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements for emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)(5)**

**Purpose**

The proposed amendments explain that trailer manufacturers are responsible for warranty services or repairs at all dealerships which are franchised to service the subject vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase

2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements for emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)(6)**

**Purpose**

The proposed amendments add that, just like vehicle and engine manufacturers, trailer manufacturers are responsible for the cost of diagnostic labor if emission-related parts are found to be defective.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements for emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)(7)**

**Purpose**

The proposed amendments add that, just like vehicle and engine manufacturers, trailer manufacturers are responsible for damages to components caused by the failure of a warranted part.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements on emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)(8)**

**Purpose**

The proposed amendments add that, just like for engine and vehicle manufacturers, trailer manufacturers must maintain a supply of warranted parts to meet the expected demand.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements on emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)(9)**

**Purpose**

Subsection (d)(9) describes that any replacement parts designated by the manufacturer may be used for warranty repairs. The proposed amendments add that, just like for engine and vehicle manufacturers, this provision would also apply to trailer manufacturers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements on emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)(10)**

**Purpose**

The proposed amendments explain that just as with vehicles and engines, trailers may use any add-on or modified part exempted by CARB from the prohibitions of Vehicle Code section 27156.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase

2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements on emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (d)(11)**

#### **Purpose**

The proposed amendments make clear that trailer manufacturers must provide documents which describe their warranty procedures or policies if requested to do so by CARB's Executive Officer.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements on emission-related parts as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (f)(1)(B)**

#### **Purpose**

The purpose of this amendment is to allow the expansion of the applicability of the requirement "that manufacturers must include a comprehensive list of parts that can cause the vehicle's on-board diagnostics MIL to illuminate as part of the Emissions Warranty Parts List that must be provided to vehicle owners at the time of purchase" beyond just diesel-powered vehicles. As proposed, the exclusive applicability to diesel-powered vehicles would continue through the 2027 model year for heavy-duty vehicles greater than 14,000 GVWR equipped with 2026 or prior model year heavy-duty diesel-powered engines in favor of a more comprehensive approach that extends the provision to any heavy-duty vehicle equipped with a diesel-, gasoline-, or alternative-fueled heavy-duty engine certified to the Diesel-cycle or Otto-cycle standards in 13 CCR 1956.8. The amendment also corrects the spelling of the word "emission."

#### **Rationale**

This amendment is necessary to specify that the 2022 requirements will remain in place through engine model year 2026. As discussed in Chapter II Section A.7 of the Step 1 Heavy-Duty Warranty Staff Report, May 8, 2018, these 2022 requirements ensure that owners of diesel-powered heavy-duty vehicles continue to have a written record of all

parts the manufacturer must repair under warranty, including every part that illuminates the MIL for 2022 through 2027 model year diesel-powered heavy-duty vehicles greater than 14,000 GVWR equipped with 2022 through 2026 model year heavy-duty diesel engines. Vehicle owners who do not have to pay “out-of-pocket” are far more likely to affect repairs in a timely manner, which results in greater emission benefits than if they did have to pay to fix an emission-related part that didn’t adversely affect vehicle drivability (see Chapter I Section B.4. and Chapter III Section A.4.1.2 of this Staff Report). Because it would allow current requirements to stay in place through 2026 model year engines, which will not be sold until 6 or more years from now, this amendment also provides lead time for manufacturers to incorporate parts that illuminate the MIL into their Emissions Warranty Parts List for 2027 and later model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 or later model year diesel or Otto-cycle engines, regardless of fuel type, as further explained in subsection (f)(1)(C).

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

### **Subsection (f)(1)(C)**

#### **Purpose**

This purpose of adding this new subsection is to expand the applicability of the requirement “that manufacturers must include a comprehensive list of parts that can cause the vehicle’s on-board diagnostics MIL to illuminate as part of the Emissions Warranty Parts List that must be provided to vehicle owners at the time of purchase” beyond just diesel-fueled vehicles to all 2027 and subsequent model year heavy-duty vehicles greater than 14,000 GVWR equipped with 2027 and subsequent model year Diesel- or Otto-cycle engines, including engines certified to the heavy-duty standards in 13 CCR 1956.8 on alternative fuels.

#### **Rationale**

This amendment is necessary to inform Otto-cycle or alternative-fueled vehicle owners of the manufacturer’s responsibility to pay for repairs for all parts on the Emissions Warranty Parts List without cost to the vehicle owner. The addition of MIL-illuminating parts to the Emissions Warranty Parts List for vehicles with heavy-duty Otto-cycle engines draws attention to parts that owners previously may not have realized were covered under warranty, and, consequently, which they may not have had repaired because they thought they would have to pay for the repairs. As previously stated, malfunctioning emission-related parts covered under warranty are more likely to be

repaired in a timely manner, especially if their malfunction does not adversely impact vehicle drivability (see Chapter I Section B.4 and Chapter III Section A.4.1.2 of this Staff Report). Timely repairs translate into greater emission reductions. This amendment expands the existing Emissions Warranty Parts List to include a comprehensive list of parts that can cause the vehicle's on-board diagnostics MIL to illuminate to all heavy-duty vehicles equipped with engines certified to the heavy-duty Diesel- and Otto-cycle standards in 13 CCR 1956.8, regardless of fuel type (see Chapter III Section A.4.4 of this Staff Report). Currently, manufacturers are only required to include a comprehensive list of parts that can cause the vehicle's on-board diagnostics MIL to illuminate for 2022 and subsequent model year heavy-duty vehicles equipped with diesel-powered engines.

It is necessary to specify both vehicle and engine model years for this provision to ensure that manufacturers of 2027 model year vehicles equipped with 2026 model year engines, and pre-2027 model year vehicles in which post-2026 model year engines are installed (e.g., from repowering), are not subjected to inappropriate requirements.

The current warranty requirements are described in Chapter I, Section B.4 through B.4.2. of this Staff Report; the need for amendments related to warranty is described in Chapter II, Section C.4 through C.4.2; and the description of proposed warranty amendments and their feasibility is included in Chapter III, Section A.4.

#### **Subsection (f)(1)(D)**

##### **Purpose**

The purpose of this subsection is to define the requirements for manufacturers to provide a list of warranted parts installed on 2022 and subsequent model year heavy-duty hybrid vehicles greater than 14,000 pounds GVWR that are equipped with 2022 and subsequent model year hybrid powertrains optionally certified pursuant to title 13, CCR §1956.8 and 2022 and subsequent model year hybrid powertrains used in such vehicles.

##### **Rationale**

This amendment is necessary to specify the requirements for manufacturers to provide a list of the emission-related parts that can cause the vehicle's on-board diagnostic malfunction indicator light to illuminate, which are installed on 2022 and subsequent model year heavy-duty hybrid vehicles greater than 14,000 pounds GVWR that are equipped with 2022 and subsequent model year hybrid powertrains optionally certified pursuant to title 13, CCR §1956.8 and 2022 and subsequent model year hybrid powertrains used in such vehicles. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

#### **Subsection (f)(1)(E)**

**Purpose**

The proposed amendments in subsection (f)(1)(E) explain that a trailer manufacturer must provide a list of warranted parts installed on the trailer, identical to the requirements on other vehicle and engine manufacturers. The proposed amendments also reference the trailer GHG warranted parts. The proposed amendments also correct a typographical error.

**Rationale**

The proposed amendments are necessary to correct a typographical error and to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (g)**

**Purpose**

Subsection (g) requires a manufacturer to submit the documents in subsections (e) and (f), written instructions for maintenance and use and a list of warranted parts, respectively, at the time of certification. The proposed amendments explain that a trailer manufacturer must also submit the required documents at certification.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify that trailer manufacturers must submit relevant warranty-related documents at certification.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (h)(1)**

**Purpose**

Subsection (h) gives the Executive Officer authority to delete any part of the manufacturer's list of warranted parts. The proposed amendments explain that the Executive Officer may delete any part of a trailer manufacturer's list of warranted parts if the failure of the part will not increase emissions, just like the Executive Officer may for other vehicle and engine manufacturers.

**Rationale**

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The proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (h)(2)**

#### **Purpose**

The proposed amendments explain that the Executive Officer may delete any part of the trailer manufacturer's list of warranted parts if the deterioration of the performance of the vehicle cannot be corrected by adjustments or modifications, just like the Executive Officer may for other vehicle and engine manufacturers.

#### **Rationale**

The proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (j)(1)**

#### **Purpose**

Subsection (j) contains exclusions to the warranty requirements such as when the manufacturer demonstrates that the vehicle or engine has been subject to abuse, neglect, or improper maintenance that directly contributed to the part's failure. The proposed amendments clarify the same type of exclusion applies to trailer manufacturers as for other vehicle and engine manufacturers.

#### **Rationale**

The proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same warranty requirements as other vehicle and engine manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Section 2111. Applicability.**

**Subsection (a)**

**Purpose**

Subsection (a) describes the applicability of the enforcement procedures for in-use vehicle voluntary and influenced recalls for vehicles and engines by model year and type. The proposed amendment adds new subsection (a)(5) to specifically call out the applicability of 2020 and subsequent model year trailers, which are certified to the trailer emission standards in section 95663(c), title 17.

**Rationale**

The proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that this section applies to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. Specifically, these citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. Specifically, these citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets, or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2112. Definitions.**

**Subsection (a)**

**Purpose**

Subsection (a) defines the term “capture rate” with reference to recall enforcement provisions. The proposed amendments add trailers to this definition of how to calculate the capture rate using Department of Motor Vehicle (DMV) registration records or other registration records, identical to that for other vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as other vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)**

**Purpose**

Subsection (d) defines the term “emission-related failure” as the failure of a component described in the application for certification or in the Emission Warranty Parts List. The proposed amendment adds a reference to emission control components for trailers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (e)**

**Purpose**

Subsection (e) defines the term “emission warranty claim” as any change to the emission-related component as requested by the vehicle and engine manufacturer. The proposed amendment adds the trailer manufacturer to the list of parties requesting

modification of the emission-related component, identical to that required of other vehicle and engine manufacturers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (g)**

**Purpose**

Subsection (g) defines the term “influenced emission recall” as a program conducted by a manufacturer to remedy non-compliance with in-use enforcement testing by CARB by contacting the vehicle or trailer owners. The proposed amendment adds trailer owners to the list of contacts made by the manufacturer.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (h)(1)**

**Purpose**

Subsection (h)(1) defines the term “nonconformity” or “noncompliance” by providing the condition in which this occurs as a substantial number of vehicles and engines that experience a failure in the same component or a class of vehicles. The proposed amendments add the applicability of trailers to this condition, which is identical to requirements for other vehicles and engines.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase

2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (h)(2)**

#### **Purpose**

Subsection (h)(2) defines the terms “nonconformity” or “noncompliance”. The proposed amendments add the applicability of trailers to this condition, which is identical to requirements for other vehicles and engines.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as vehicle manufacturers.

### **Subsection (i)**

#### **Purpose**

Subsection (i) defines “ordered emission recall” as a program required by CARB to be conducted by the manufacturer to remedy a nonconformity by contacting vehicle or engine owners. The proposed amendment adds trailer owners to the list of owners contacted by the manufacturer.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (l)(9)**

#### **Purpose**

The purpose of this amendment is to enable aligning the required useful life periods of medium-duty engines with the longer useful life periods of the vehicles in which they are intended to be used, i.e., medium-duty vehicles greater than 10,000 GVWR, but less

than or equal to 14,000 GVWR. As described below under Subsection (I)(18), effective with model year 2023, the useful life period for such engines would be increased from the current 120,000 miles to 150,000 miles

### **Rationale**

This amendment is necessary to specify that the current useful life requirements will remain in place through vehicle model year 2022. As described further below under Subsection (I)(18), it is necessary to make this change to ensure that the useful life of an engine used in a medium-duty vehicle would match the required 150,000 miles useful life of the vehicle.

This amendment is necessary to provide sufficient lead time for manufacturers to transition to the useful life periods described in subsection (I)(18) beginning in 2023. Useful life periods determine the duration over which a medium-duty engine must maintain emissions at or below applicable standards. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the useful life periods in (I)(18) take effect.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” and the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty vehicle regulations.

The current requirements related to medium-duty vehicles are described in Chapter I, Section B.12 of this Staff Report; the need for medium-duty engine clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed medium-duty engine clarifications and amendments is included in Chapter III, Section A.12.

### **Subsection (I)(18)**

#### **Purpose**

The purpose of this amendment is to specify useful life periods of 15 years and 150,000 miles for 2023 and subsequent model year engines used in medium-duty vehicles greater than 10,000 GVWR, but less than or equal to 14,000 GVWR.

#### **Rationale**

This amendment is necessary to ensure that the useful life periods for 2023 and subsequent model year engines used in medium-duty vehicles correspond to the longer useful life periods for chassis-certified medium-duty vehicles specified in 13 CCR 1961.2 (see Chapter I Section B.12 and Chapter II Section C.12. of this Staff Report). Useful life periods determine the duration over which a medium-duty engine must maintain emissions at or below applicable standards. More representative useful life

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periods ensure that emissions are controlled in-use over an appropriate portion of an engine's service life (see Chapter I Section B.5.3 of this Staff Report).

The amendment also changes the format of the numerical yearly useful life period from a word description to a digital representation (i.e., "ten" to "10") to provide easier recognition of the yearly useful life period, and to maintain consistency with other representations of useful life periods throughout the document. Additionally, a grammatical change in the order of occurrence of the word "occurs" was made to improve readability and maintain consistency throughout the document.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 "Procedures for in-Use Vehicle Voluntary and Influenced Recalls." However, a substantively identical amendment is proposed to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," and the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles," which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty vehicle regulations.

The current requirements related to medium-duty vehicles are described in Chapter I, Section B.12 of this Staff Report; the need for medium-duty engine clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed medium-duty engine clarifications and amendments is included in Chapter III, Section A.12.

### **Subsection (I)(19)(A)**

#### **Purpose**

The purpose of this amendment is to enable the lengthening of the current useful life periods for light heavy-duty diesel engines beginning with the 2027 model year. The current and proposed useful life periods for light heavy-duty diesel engines are shown in the table below:

<b>Engine / Vehicle Category (GVWR)</b>	<b>Current Useful Life Periods (Miles/Years)</b>	<b>Proposed Phase-in for Useful Life Effective MY 2027 (Miles/Years)</b>	<b>Proposed Phase-in for Useful Life Effective MY 2031 (Miles/Years)</b>
LHDD / Class 4-5 14,001 - 19,500 lbs.	110,000 10 years	190,000 12 years	270,000 15 years

Additionally, this amendment clarifies that engines used in medium-duty vehicles are subject to the requirements in (I)(18) even though diesel engines used in medium-duty vehicles are by definition a subset of light heavy-duty engines.

## **Rationale**

This amendment is necessary to specify that the current requirements will remain in place through engine model year 2026. This amendment is necessary to provide sufficient lead time for manufacturers to transition to the longer, more representative useful life periods in (I)(19)(B) and (I)(19)(C) beginning in 2027 and 2031, respectively, for light heavy-duty engines used in vehicles greater than 14,000 GVWR (see Chapter I, Section B.5.2 and Chapter III, Section A.5.1.1 of this Staff Report). Useful life periods determine the duration over which a light heavy-duty engine must maintain emissions at or below applicable standards. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the proposed useful life periods in (I)(19)(B) and (I)(19)(C) take effect. Current useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbons.

By definition, engines used in medium-duty vehicles are a subset of light heavy-duty diesel engines used in vehicles greater than 8,500 GVWR, but less than 14,000 GVWR. Light heavy-duty diesel engines are defined by use in vehicles greater than 8,500 GVWR, but less than 19,500 GVWR (see 13 CCR 1956.8(i)(5)). This amendment clarifies that diesel engines used in vehicles greater than 10,000 GVWR, but less than 14,000 GVWR are subject to the useful life periods in (I)(18). Engines within this GVWR range are subject to the useful life periods in (I)(18) beginning with 2023 model years. Useful life periods for engines used in vehicles less than or equal to 10,000 GVWR are regulated under separate regulations requiring chassis certification only (see 13 CCR 1961.2).

This amendment also bifurcates the original standalone subsection (I)(19) into subsections (I)(19)(A) through (I)(19)(D) to compartmentalize current and proposed useful life period requirements for light heavy-duty engines according to implementation date and scope of applicability.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 "Procedures for in-Use Vehicle Voluntary and Influenced Recalls." However, a substantively identical amendment is proposed to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II, Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

The current requirements related to medium-duty vehicles are described in Chapter I, Section B.12 of this Staff Report; the need for medium-duty engine clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed

medium-duty engine clarifications and amendments is included in Chapter III, Section A.12.

### **Subsection (I)(19)(B)**

#### **Purpose**

The purpose of adding this new subsection is to adopt useful life periods of 12 years and 190,000 miles for 2027 through 2030 model year light heavy-duty diesel engines used in heavy-duty vehicles with a GVWR greater than 14,000 pounds, as shown in the table described above under Subsection (I)(19)(A). This amendment establishes the first of two phases of more representative useful life periods for light heavy-duty diesel engines.

#### **Rationale**

This amendment is necessary to ensure that useful life periods for light heavy-duty diesel engines are representative of the actual service lives of modern heavy-duty vehicles up to 19,500 GVWR (see Chapter I Section B.5.3 of this Staff Report). Useful life periods determine the duration over which an engine must maintain emissions at or below applicable standards. More representative useful life periods ensure that emissions are controlled in-use over an appropriate portion of an engine's service life. Accordingly, the longer, more representative useful life periods proposed in this amendment will complement the proposed adoption of more stringent NOx and PM standards (see Chapter III Sections A.1 and A.2 of this Staff Report), resulting in greater emissions reductions over time than just the adoption of lower exhaust standards alone. These useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, oxides of nitrogen, and non-methane hydrocarbons. Oxides of nitrogen and non-methane hydrocarbons were previously listed together as a combined standard in the original subsection (I)(19), but are presented separately in this amendment to correspond to the latest round of standards which regulate the pollutants individually. This clarification does not affect applicability. The useful life periods in this subsection are the first of two phases of more representative useful life requirements. Implementing the proposed useful life periods in two phases provides manufacturers with an opportunity to evaluate new or reengineered product durability during the first phase, when periods are not as long, in order to improve the durability of emission-related parts, as necessary, when the second phase is fully implemented.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 "Procedures for in-Use Vehicle Voluntary and Influenced Recalls." However, a substantively identical amendment is proposed to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II,

Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (I)(19)(C)**

#### **Purpose**

The purpose of adding this new subsection is to adopt useful life periods of 15 years and 270,000 miles for 2031 and subsequent model year light heavy-duty diesel engines used in heavy-duty vehicles with a GVWR greater than 14,000 pounds, as shown in the table described above under Subsection (I)(19)(A). This amendment establishes the second (final) phase of more representative useful life periods for light heavy-duty diesel engines.

#### **Rationale**

This amendment is necessary to ensure that useful life periods for light heavy-duty diesel engines are representative of the actual service lives of modern heavy-duty vehicles up to 19,500 GVWR (see Chapter I Section B.5.3 of this Staff Report). Useful life periods determine the duration over which an engine must maintain emissions at or below applicable standards. More representative useful life periods ensure that emissions are controlled in-use over an appropriate portion of an engine's service life. Accordingly, the longer, more representative useful life periods proposed in this amendment will complement the proposed adoption of more stringent NOx and PM standards (see Chapter III Sections A.1 and A.2 of this Staff Report), resulting in greater emissions reductions over time than just the adoption of lower exhaust standards alone. These useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, oxides of nitrogen, and non-methane hydrocarbons. Oxides of nitrogen and non-methane hydrocarbons were previously listed together as a combined standard in the original subsection (I)(19), but are presented separately in this amendment to correspond to the latest round of standards which regulate the pollutants individually. This clarification does not affect applicability. The useful life periods in this subsection are the second and final phase of more representative useful life requirements. Implementing the proposed useful life periods in two phases provides manufacturers with an opportunity to evaluate new or reengineered product durability during the first phase, when periods are not as long, in order to improve the durability of emission-related parts, as necessary, when the second phase is fully implemented.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 "Procedures for in-Use Vehicle Voluntary and Influenced Recalls." However, a substantively identical amendment is proposed to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II,

Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (I)(19)(D)**

#### **Purpose**

The purpose of adding this new subsection is to clarify that light heavy-duty diesel engines used in vehicles greater than 10,000 GVWR, but less than 14,000 GVWR are subject to the useful life periods in (I)(18).

#### **Rationale**

This amendment is necessary to avoid confusion with respect to the correct useful life periods for light heavy-duty diesel engines used in vehicles greater than 10,000 GVWR, but less than 14,000 GVWR. As previously noted, diesel engines used in medium-duty vehicles are a subset of light heavy-duty engines. Light heavy-duty engines are defined by use in vehicles greater than 8,500 GVWR, but less than 19,500 GVWR (see 13 CCR 1956.8(i)(5)) whereas medium-duty engines are defined by use in vehicles greater than 8,500 GVWR, but less than 14,000 GVWR (see 13 CCR 1900(b)(13)). Accordingly, light heavy-duty diesel engines used in vehicles greater than 10,000 GVWR, but less than or equal to 14,000 GVWR are not subject to the useful life periods in (I)(19)(A), but rather to the useful life periods in (I)(18) for medium-duty vehicles. Useful life periods for engines used in vehicles less than or equal to 10,000 GVWR are regulated under separate regulations requiring chassis certification only (see 13 CCR 1961.2).

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current requirements related to medium-duty vehicles are described in Chapter I, Section B.12 of this Staff Report; the need for medium-duty engine clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed medium-duty engine clarifications and amendments is included in Chapter III, Section A.12.

### **Subsection (I)(20)(A)**

#### **Purpose**

The purpose of this amendment is to enable the lengthening of the current useful life periods for medium heavy-duty diesel engines beginning with the 2027 model year. The current and proposed useful life periods for medium heavy-duty diesel engines are shown in the table below:

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<b>Engine / Vehicle Category (GVWR)</b>	<b>Current Useful Life Periods (Miles/Years)</b>	<b>Proposed Phase-in for Useful Life Effective MY 2027 (Miles/Years)</b>	<b>Proposed Phase-in for Useful Life Effective MY 2031 (Miles/Years)</b>
MHDD / Class 6-7 19,501 - 33,000 lbs.	185,000 10 years	270,000 11 years	350,000 12 years

**Rationale**

This amendment is necessary to specify that the current requirements will remain in place through engine model year 2026. This amendment is necessary to provide sufficient lead time for manufacturers to transition to the longer, more representative useful life periods in (I)(20)(B) and (I)(20)(C) beginning in 2027 and 2031, respectively (see Chapter I Section B.5.2 of this Staff Report). Useful life periods determine the duration over which a medium heavy-duty engine must maintain emissions at or below applicable standards. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the proposed useful life periods in (I)(20)(B) and (I)(20)(C) take effect. Current useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbons. Medium heavy-duty engines are defined as diesel engines used in vehicles greater than 19,500 GVWR, but less than or equal to 33,000 GVWR (see 13 CCR 1956.8(i)(6)).

The amendment also changes the format of the numerical yearly useful life period from a word description to a digital representation (i.e., “ten” to “10”) to provide easier recognition of the yearly useful life period, and to maintain consistency with other representations of useful life periods throughout the document.

This amendment also bifurcates the original standalone subsection (I)(20) into subsections (I)(20)(A) through (I)(20)(C) to compartmentalize current and proposed useful life period requirements for medium heavy-duty engines according to implementation date and scope of applicability.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II,

Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (l)(20)(B)**

#### **Purpose**

The purpose of adding this new subsection is to adopt useful life periods of 11 years and 270,000 miles for 2027 through 2030 model year medium heavy-duty diesel engines, as shown in the table described above under Subsection (l)(20)(A). This amendment establishes the first of two phases of more representative useful life periods for medium heavy-duty diesel engines.

#### **Rationale**

This amendment is necessary to ensure that useful life periods for medium heavy-duty diesel engines are representative of the actual service lives of modern heavy-duty vehicles greater than 19,500 GVWR, but less than 33,000 GVWR (see Chapter I Section B.5.3 of this Staff Report). Useful life periods determine the duration over which an engine must maintain emissions at or below applicable standards. More representative useful life periods ensure that emissions are controlled in-use over an appropriate portion of an engine's service life. Accordingly, the longer, more representative useful life periods proposed in this amendment will complement the proposed adoption of more stringent exhaust standards (see Chapter III Sections A.1 and A.2 of this Staff Report), resulting in greater emissions reductions over time than just the adoption of lower exhaust standards alone. These useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, oxides of nitrogen, and non-methane hydrocarbons. Oxides of nitrogen and non-methane hydrocarbons were previously listed together as a combined standard in the original subsection (l)(20), but are presented separately in this amendment to correspond to the latest round of standards which regulate the pollutants individually. This clarification does not affect applicability. The useful life periods in this subsection are the first of two phases of more representative useful life requirements. Implementing the proposed useful life periods in two phases provides manufacturers with an opportunity to evaluate new or reengineered product durability during the first phase, when periods are not as long, in order to improve the durability of emission-related parts, as necessary, when the second phase is fully implemented.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 "Procedures for in-Use Vehicle Voluntary and Influenced Recalls." However, a substantively identical amendment is proposed to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II,

Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (I)(20)(C)**

#### **Purpose**

The purpose of adding this new subsection is to adopt useful life periods of 12 years and 350,000 miles for 2031 and subsequent model year medium heavy-duty diesel engines, as shown in the table described above under Subsection (I)(20)(A). This amendment establishes the second (final) phase of more representative useful life periods for medium heavy-duty diesel engines.

#### **Rationale**

This amendment is necessary to ensure that useful life periods for medium heavy-duty diesel engines are representative of the actual service lives of modern heavy-duty vehicles greater than 19,500 GVWR, but less than 33,000 GVWR (see Chapter I Section B.5.3 of this Staff Report). Useful life periods determine the duration over which an engine must maintain emissions at or below applicable standards. More representative useful life periods ensure that emissions are controlled in-use over an appropriate portion of an engine's service life. Accordingly, the longer, more representative useful life periods proposed in this amendment will complement the proposed adoption of more stringent NOx and PM standards (see Chapter III Sections A.1 and A.2 of this Staff Report), resulting in greater emissions reductions over time than just the adoption of lower exhaust standards alone. These useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, oxides of nitrogen, and non-methane hydrocarbons. Oxides of nitrogen and non-methane hydrocarbons were previously listed together as a combined standard in the original subsection (I)(20), but are presented separately in this amendment to correspond to the latest round of standards which regulate the pollutants individually. This clarification does not affect applicability. The useful life periods in this subsection are the second and final phase of more representative useful life requirements. Implementing the proposed useful life periods in two phases provides manufacturers with an opportunity to evaluate new or reengineered product durability during the first phase, when periods are not as long, in order to improve the durability of emission-related parts, as necessary, when the second phase is fully implemented.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 "Procedures for in-Use Vehicle Voluntary and Influenced Recalls." However, a substantively identical amendment is proposed to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II,

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Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### Subsection (I)(21)(A)

#### Purpose

The purpose of this amendment is to enable the lengthening of the current useful life periods for heavy heavy-duty diesel engines beginning with the 2027 model year. The current and proposed useful life periods for heavy heavy-duty diesel engines are shown in the table below:

Engine / Vehicle Category (GVWR)	Current Useful Life Periods (Miles/Years)	Proposed Phase-in for Useful Life Effective MY 2027 (Miles/Years)	Proposed Phase-in for Useful Life Effective MY 2031 (Miles/Years)
HHDD / Class 8 >33,000 lbs.	435,000 10 years 22,000 hours	600,000 11 years 30,000 hours	800,000 12 years 40,000 hours

#### Rationale

This amendment is necessary to specify that the current requirements will remain in place through engine model year 2026. This amendment is necessary to provide sufficient lead time for manufacturers to transition to the longer, more representative useful life periods in (I)(21)(B) and (I)(21)(C) beginning in 2027 and 2031, respectively (see Chapter I Section B.5.2 of this Staff Report). Useful life periods determine the duration over which a heavy heavy-duty engine must maintain emissions at or below applicable standards. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the proposed useful life periods in (I)(21)(B) and (I)(21)(C) take effect. Current useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbons. Heavy heavy-duty engines are defined as diesel engines used in vehicles greater than 33,000 GVWR (see 13 CCR 1956.8(i)(4)).

This amendment also bifurcates the original standalone subsection (I)(21) into new subsections (I)(21)(A) through (I)(21)(C) to compartmentalize current and proposed useful life period requirements for heavy heavy-duty engines according to implementation date and scope of applicability. Subsections (A) and (B) in the original subsection (I)(21) were re-designated as subsections (i) and (ii) to maintain a synchronized referencing order with respect to the implementation dates for the other diesel engine useful life amendments to 13 CCR 2112.

An incorrect reference to “paragraph (19)” in re-designated subsection (i) was corrected to properly reference new subsection (21)(A). The amendment also includes a grammatical change in the order of occurrence of the word “occurs” in re-designated

subsection (ii) to improve readability and maintain consistency throughout the document. Additionally, the phrase “as required under Clean Air Act section 202(d) (42 U.S.C. 7521(d))” was deleted from re-designated subsection (ii). The section referenced provides U.S. EPA with the authority to define useful life periods, but as such, is unnecessary because CARB’s authority to define useful life periods in California is authorized in Health and Safety Code 43205.5(a), which is already implicitly stated in the authority section of 13 CCR 2112.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II, Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (I)(21)(B)**

#### **Purpose**

The purpose of adding this new subsection is to adopt useful life periods of 11 years and 600,000 miles for 2027 through 2030 model year heavy heavy-duty diesel engines and urban buses using diesel engines, as shown in the table described above under Subsection (I)(21)(A). This amendment establishes the first of two phases of progressively longer, more representative useful life periods for heavy heavy-duty diesel engines.

#### **Rationale**

This amendment is necessary to ensure that useful life periods for heavy heavy-duty diesel engines are representative of the actual service lives of modern heavy-duty vehicles greater than 33,000 GVWR (see Chapter I Section B.5.3 of this Staff Report). Useful life periods determine the duration over which an engine must maintain emissions at or below applicable standards. More representative useful life periods ensure that emissions are controlled in-use over an appropriate portion of an engine’s service life. Accordingly, the longer, more representative useful life periods proposed in this amendment will complement the proposed adoption of more stringent exhaust standards (see Chapter III Sections A.1 and A.2 of this Staff Report), resulting in greater emissions reductions over time than just the adoption of lower exhaust standards alone. These useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, oxides of nitrogen, and non-methane hydrocarbons. Oxides of nitrogen and non-methane hydrocarbons were previously listed together as a combined standard in the original subsection (I)(21), but now they are presented separately in this amendment to correspond to the latest round of standards which regulate the pollutants

individually. This clarification does not affect applicability. The useful life periods in this subsection are the first of two phases of more representative useful life requirements. Implementing the proposed useful life periods in two phases provides manufacturers with an opportunity to evaluate new or reengineered product durability during the first phase, when periods are not as long, in order to improve the durability of emission-related parts, as necessary, when the second phase is fully implemented.

Subsection (I)(21)(B)(i) carries forward the requirement from original subsection (I)(21)(B) that an accurate and durable hours meter must be incorporated by the engine manufacturer as a prerequisite for being able to use hours of operation to limit useful life. The language has been modified to clarify that the hours meter must both accurately record and report hours of operation and for improved readability. Further, to ensure that hours of operation are not accumulated during periods when the engine is not creating emissions, such as during standby mode in a stop-start system (key on, engine off), the amendment establishes a new requirement prohibiting manufacturers from incrementing the hours meter towards meeting the useful life period unless the engine is operating, i.e., using fuel.

Subsection (I)(21)(B)(ii) maintains the existing concept of fine tuning useful life based on how quickly the vehicle accumulates hours of operation, from original subsection (I)(21)(B). This technique is designed to normalize manufacturer liability for applications that accumulate service miles slowly (e.g., urban buses, and vocational vehicles such as concrete mixers, refuse haulers and street sweepers, etc.), while simultaneously preventing applications that accumulate miles quickly (e.g., non-vocational vehicles such as line haul tractors, delivery vehicles, and furniture movers, etc.), from prematurely exceeding useful life periods. Accordingly, the provision in subsection (ii) reduces the useful life miles period to 450,000 miles (from 600,000 miles) for engines that accumulate 30,000 hours of operation before hitting the 450,000 mile mark. In this case, hours would no longer be used to limit useful life. This technique levels the playing field against non-vocational applications that are likely to exceed the useful life mileage period relatively quickly because of frequent highway operation (higher average vehicle speed translates into quicker mileage accumulation). This way, vocational manufacturers are not penalized with substantially longer useful life liability than non-vocational manufacturers for the same operational periods of use. The 450,000 mile limit was chosen because it is the proposed warranty period in miles for 2027 through 2030 model year heavy-duty vehicles greater than 33,000 GVWR, which is analogous to the method employed in original subsection (I)(21)(B).

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 "Procedures for in-Use Vehicle Voluntary and Influenced Recalls." However, a substantively identical amendment is proposed to the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II, Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (I)(21)(C)**

#### **Purpose**

The purpose of adding this new subsection is to adopt useful life periods of 12 years, 800,000 miles, and 40,000 hours for 2031 and subsequent model year heavy heavy-duty diesel engines and urban buses with diesel engines, as shown in the table described above under Subsection (I)(21)(A). This amendment establishes the second (final) phase of more representative useful life periods for heavy heavy-duty diesel engines.

#### **Rationale**

This amendment is necessary to ensure that useful life periods for heavy heavy-duty diesel engines are representative of the actual service lives of modern heavy-duty vehicles greater than 33,000 GVWR (see Chapter I Section B.5.3 of this Staff Report). Useful life periods determine the duration over which an engine must maintain emissions at or below applicable standards. More representative useful life periods ensure that emissions are controlled in-use over an appropriate portion of an engine's service life. Accordingly, the longer, more representative useful life periods proposed in this amendment will complement the proposed adoption of more stringent NOx and PM standards (see Chapter III Sections A.1 and A.2 of this Staff Report), resulting in greater emissions reductions over time than just the adoption of lower exhaust standards alone. These useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, oxides of nitrogen, and non-methane hydrocarbons. Oxides of nitrogen and non-methane hydrocarbons were previously listed together as a combined standard in the original subsection (I)(21), but now they are presented separately in this amendment to correspond to the latest round of standards which regulate the pollutants individually. This clarification does not affect applicability. The useful life periods in this subsection are the second and final phase of more representative useful life requirements. Implementing the proposed useful life periods in two phases provides manufacturers with an opportunity to evaluate new or reengineered product durability during the first phase, when periods are not as long, in order to improve the durability of emission-related parts, as necessary, when the second phase is fully implemented.

Subsection (i) carries forward the requirement from original subsection (I)(21)(A) that an accurate and durable hours meter must be incorporated by the engine manufacturer as a prerequisite for being able to use hours of operation to limit useful life. The language has been modified to clarify that the hours meter must both accurately record and report hours of operation and for improved readability. Further, to ensure that hours of operation are not accumulated during periods when the engine is not creating emissions, such as during standby mode in a stop-start system (key on, engine off), the amendment establishes a new requirement prohibiting manufacturers from incrementing

the hours meter towards meeting the useful life period unless the engine is operating, i.e., using fuel.

Subsection (ii) maintains the existing concept of fine tuning useful life based on how quickly the vehicle accumulates hours of operation, from original subsection (l)(21)(B). This technique is designed to normalize manufacturer liability for applications that accumulate service miles slowly (e.g., urban buses, and vocational vehicles such as concrete mixers, refuse haulers and street sweepers, etc.), while simultaneously preventing applications that accumulate miles quickly (e.g., non-vocational vehicles such as line haul tractors, delivery vehicles, and furniture movers, etc.), from prematurely exceeding useful life periods. Accordingly, the provision in subsection (ii) reduces the useful life mileage period to 600,000 miles (from 800,000 miles) for engines that accumulate 40,000 hours of operation before hitting the 600,000 mile mark. In this case, hours would no longer be used to limit useful life. This technique levels the playing field against non-vocational applications that are likely to exceed the useful life mileage period relatively quickly because of frequent highway operation (higher average vehicle speed translates into quicker mileage accumulation). This way, vocational manufacturers are not penalized with substantially longer useful life liability than non-vocational manufacturers for the same operational periods of use. The 600,000 mile limit was chosen because it is the proposed warranty period in miles for 2031 and subsequent model year heavy-duty vehicles greater than 33,000 GVWR, which is analogous to the method employed in original subsection (l)(21)(B).

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty diesel useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II, Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (l)(22)(A)**

#### **Purpose**

The purpose of this amendment is to enable the lengthening of the current useful life periods for heavy-duty Otto cycle engines beginning with the 2027 model year. The current and proposed useful life periods for heavy-duty Otto cycle engines are shown in the table below:

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Engine / Vehicle Category (GVWR)	Current Useful Life Periods (Miles/Years)	Proposed Phase-in for Useful Life Effective MY 2027 (Years/Miles)	Proposed Phase-in for Useful Life Effective MY 2031 (Years/Miles)
HDO >14,000 lbs.	110,000 10 years	155,000 12 years	200,000 15 years

Additionally, this amendment exempts 2023 through 2026 model year Otto-cycle engines greater than 10,000 GVWR, but less than 14,000 GVWR from these useful life periods.

**Rationale**

This amendment is necessary to specify that the current requirements will remain in place through engine model year 2026. This amendment is necessary to provide sufficient lead time for manufacturers to transition to the longer, more representative useful life periods in (I)(22)(B) and (I)(22)(C) beginning in 2027 and 2031, respectively, for heavy-duty Otto-cycle engines used in vehicles greater than 14,000 GVWR (see Chapter I Section B.5.2 of this Staff Report). Useful life periods determine the duration over which a heavy-duty engine must maintain emissions at or below applicable standards. Manufacturers will use the lead time to reengineer emission-related parts, as necessary, to ensure that they are durable when the proposed useful life periods in (I)(22)(B) and (I)(22)(C) take effect. Current useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, and oxides of nitrogen plus non-methane hydrocarbons.

By definition, Otto-cycle engines used in medium-duty vehicles are a subset of heavy-duty Otto-cycle engines used in vehicles greater than 8,500 GVWR, but less than 14,000 GVWR (13 CCR 1900(b)(13)). Heavy-duty Otto-cycle engines are defined by use in vehicles greater than 8,500 GVWR (13 CCR 1900(b)(5)). This amendment clarifies that Otto-cycle engines used in vehicles greater than 10,000 GVWR, but less than 14,000 GVWR are subject to the useful life periods in (I)(18). Although this amendment seemingly limits the applicability of (I)(18) useful life periods to 2023 through 2026 model year Otto-cycle engines used in medium-duty vehicles greater than 10,000 GVWR, but less than 14,000 GVWR, in fact all such engines within this GVWR range are subject to the useful life periods in (I)(18) beginning with 2023 model years. The end date of 2026 is specified to maintain implementation sequence with this subsection; however, subsection (I)(22)(D) makes it clear that there is no end date. Useful life periods for Otto-cycle engines used in heavy-duty vehicles less than or equal to 10,000 GVWR are regulated under separate regulations requiring chassis certification only (see 13 CCR 1961.2).

This amendment also bifurcates the original standalone subsection (I)(22) into subsections (I)(22)(A) through (I)(22)(D) to compartmentalize current and proposed

useful life period requirements for heavy-duty Otto-cycle engines according to implementation date and scope of applicability.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty Otto-cycle useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II, Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (1)(22)(B)**

#### **Purpose**

The purpose of adding this new subsection is to adopt useful life periods of 12 years and 155,000 miles for 2027 through 2030 model year heavy-duty Otto-cycle engines used in heavy-duty vehicles with a GVWR greater than 14,000 pounds, as shown in the table described above under Subsection (1)(22)(A). This amendment establishes the first of two phases of more representative useful life periods for heavy-duty Otto-cycle engines.

#### **Rationale**

This amendment is necessary to ensure that useful life periods for heavy-duty Otto-cycle engines are representative of the actual service lives of modern heavy-duty vehicles greater than 14,000 GVWR (see Chapter I Section B.5.3 of this Staff Report). Useful life periods determine the duration over which an engine must maintain emissions at or below applicable standards. More representative useful life periods ensure that emissions are controlled in-use over an appropriate portion of an engine’s service life. Accordingly, the longer, more representative useful life periods proposed in this amendment will complement the proposed adoption of more stringent NO<sub>x</sub> and PM standards (see Chapters III Section A.1 and Section A.2 of this Staff Report), resulting in greater emissions reductions over time than just the adoption of lower exhaust standards alone. These useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, oxides of nitrogen, and non-methane hydrocarbons. Oxides of nitrogen and non-methane hydrocarbons were previously listed together as a combined standard in the original subsection (1)(22), but now they are presented separately in this amendment to correspond to the latest round of standards which regulate the pollutants individually. This clarification does not affect applicability. The useful life periods in this subsection are the first of two phases of more representative useful life requirements. Implementing the proposed useful life periods in two phases provides manufacturers with an opportunity to evaluate new or reengineered product durability during the first phase, when periods are not as long, in order to improve the

durability of emission-related parts, as necessary, when the second phase is fully implemented.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty Otto-cycle useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II, Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (1)(22)(C)**

#### **Purpose**

The purpose of adding this new subsection is to adopt useful life periods of 15 years and 200,000 miles for 2031 and subsequent model year heavy-duty Otto-cycle engines used in heavy-duty vehicles with a GVWR greater than 14,000 pounds, as shown in the table described above under Subsection (1)(22)(A). This amendment establishes the second (final) phase of more representative useful life periods for heavy-duty Otto-cycle engines.

#### **Rationale**

This amendment is necessary to ensure that useful life periods for heavy-duty Otto-cycle engines are representative of the actual service lives of modern heavy-duty vehicles greater than 14,000 GVWR (see Chapter I Section B.5.3 of this Staff Report). Useful life periods determine the duration over which an engine must maintain emissions at or below applicable standards. More representative useful life periods ensure that emissions are controlled in-use over an appropriate portion of an engine’s service life. Accordingly, the longer, more representative useful life periods proposed in this amendment will complement the proposed adoption of more stringent NO<sub>x</sub> and PM standards (see Chapters III Section A.1 and Section A.2 of this Staff Report), resulting in greater emissions reductions over time than just the adoption of lower exhaust standards alone. These useful life periods apply only to the criteria emission standards for carbon monoxide, particulate, oxides of nitrogen, and non-methane hydrocarbons. Oxides of nitrogen and non-methane hydrocarbons were previously listed together as a combined standard in the original subsection (1)(22), but now they are presented separately in this amendment to correspond to the latest round of standards which regulate the pollutants individually. This clarification does not affect applicability. The useful life periods in this subsection are the second and final phase of more representative useful life requirements. Implementing the proposed useful life periods in two phases provides manufacturers with an opportunity to evaluate new or reengineered product durability during the first phase, when periods are not as long, in

order to improve the durability of emission-related parts, as necessary, when the second phase is fully implemented.

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty Otto-cycle useful life requirements.

The current useful life requirements are described in Chapter I, Section B.5 of this Staff Report; the need for amendments related to useful life is described in Chapter II, Section C.5; and the description of proposed useful life amendments and their feasibility is included in Chapter III, Section A.5.

### **Subsection (1)(22)(D)**

#### **Purpose**

The purpose of adding this new subsection is to clarify that heavy-duty Otto-cycle engines used in vehicles greater than 10,000 GVWR, but less than 14,000 GVWR are subject to the medium-duty useful life periods in (1)(18).

#### **Rationale**

This amendment is necessary to avoid confusion with respect to the correct useful life periods for heavy-duty Otto-cycle engines used in vehicles greater than 10,000 GVWR, but less than 14,000 GVWR (13 CCR 1900(b)(13)). As previously noted, Otto-cycle engines used in medium-duty vehicles are a subset of heavy-duty Otto-cycle engines. Heavy-duty Otto-cycle engines are defined by use in vehicles greater than 8,500 GVWR (13 CCR 1900(b)(5)) whereas medium-duty engines are defined by use in vehicles greater than 8,500 GVWR, but less than 14,000 GVWR. Accordingly, heavy-duty Otto-cycle engines used in vehicles greater than 10,000 GVWR, but less than or equal to 14,000 GVWR are not subject to the useful life periods in (1)(22)(A), but rather to the useful life periods in (1)(18) for medium-duty vehicles. Useful life periods for engines used in vehicles less than or equal to 10,000 GVWR are regulated under separate regulations requiring chassis certification only (see 13 CCR 1961.2).

The applicability of this amendment is specific to Title 13, CCR, Article 2.1 “Procedures for in-Use Vehicle Voluntary and Influenced Recalls.” However, a substantively identical amendment is proposed to the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles,” which will have all-inclusive applicability for all criteria-pollutant-based on-road heavy-duty Otto-cycle useful life requirements.

The current requirements related to medium-duty vehicles are described in Chapter I, Section B.12 of this Staff Report; the need for medium-duty engine clarifications and amendments is described in Chapter II, Section C.12; and the description of proposed

medium-duty engine clarifications and amendments is included in Chapter III, Section A.12.

### **Subsection (l)(23)**

#### **Purpose**

The purpose of this subsection is to define the useful life periods for 2022 and subsequent model year hybrid powertrains optionally certified pursuant to title 13, CCR §1956.8.

#### **Rationale**

This amendment is necessary to clarify which useful life periods for heavy-duty engines apply to 2022 and subsequent model year hybrid powertrains optionally certified pursuant to title 13, CCR §1956.8. Due to differences in the useful life periods for heavy-duty engines used in various vehicle weight classes and whether the engine is diesel or Otto-cycle, the proposed amendment specifically identifies the applicable heavy-duty engine useful life periods that manufacturers of hybrid powertrains would apply to their hybrid powertrain systems. For example, a manufacturer of a diesel hybrid powertrain used in a vehicle with GVWR over 33,000 pounds would need to meet the useful life period for a heavy heavy-duty diesel engine, even if the engine in the optionally certified diesel hybrid powertrain is smaller than a typical heavy heavy-duty diesel engine. The current powertrain certification requirements are described in Chapter I, Section B.9 of this Staff Report; the need for amendments related to powertrain certification is described in Chapter II, Section C.9; and the description of proposed powertrain certification amendments and their feasibility is included in Chapter III, Section A.9.

### **Subsection (m)**

#### **Purpose**

Subsection (m) defines the term “vehicle or engine manufacturer” to be the manufacturer granted certification for a motor vehicle or engine. The proposed amendments include trailer in the term and in the definition to be the manufacturer granted certification for a trailer.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle. The proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (n)**

#### **Purpose**

Subsection (n) defines “voluntary emission recall” as a program voluntarily conducted by the manufacturer to remedy a nonconformity where the vehicle or engine owners are notified. The proposed amendments add trailer owners to those that may be contacted by the manufacturer when conducting such a program.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle. The proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same enforcement recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (o)**

#### **Purpose**

This new subsection (o) provides the definition of trailer as that having the same definition as in section 95662(a), title 17, CCR.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle. The proposed amendment is necessary to define the term trailer in this article, which is consistent with that in the Phase 2 GHG regulations. The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Section 2113. Initiation and Approval of Voluntary and Influenced Emission-Related Recalls.**

**Subsection (b)**

**Purpose**

Subsection (b) requires the manufacturer to submit an influenced recall plan for Executive Officer approval within 45 days following CARB's notification of the noncompliance. The proposed amendment adds trailer noncompliance to the types of noncompliance that can trigger the requirement for a recall plan.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle. The proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

Subsection (c) provides the conditions in which the Executive Officer will approve the manufacturer's influenced recall plan. The proposed amendment specifically mentions trailer owners as among those affected.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify that authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2114. Voluntary and Influenced Recall Plans.**

**Subsection (a)**

**Purpose**

This subsection contains the required information for voluntary and influenced recall plans, including a description of the following: 1) the vehicle or engine subject to the recall, 2) the nonconformity, 3) how the manufacturer will contact vehicle and engine owners, 4) the procedure for vehicle and engine owners to obtain correction of the nonconformity, 5) the system manufacturers will use to ensure adequate supply of parts, 6) written instructions to the repair staff, 7) the potential impact on the vehicle, and 8) for a influenced recall, the estimated capture rate and the proposed changes on the average emissions of the recalled vehicles and engines. The proposed amendments add trailers in the descriptions applicable to vehicles and engines and vehicle and engine owners, such that the description of requirements for recall plans for trailers are identical to those for other vehicles and engines.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as for other vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2115. Eligibility for Repair.**

**Purpose**

This section prohibits the manufacturer from determining a vehicle's eligibility to participate in the voluntary or influenced recall based on proper maintenance or use except with the Executive Officer's approval. The proposed amendment explicitly adds mention of trailers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as other vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2116. Repair Label.**

**Subsection (a)**

**Purpose**

Subsection (a) requires the manufacturer to affix a label to the vehicle or engine that is repaired under a voluntary or influenced recall plan. The proposed amendment requires a label to be affixed to repaired trailers as well.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2117. Proof of Correction Certificate.**

**Purpose**

This section requires the manufacturer to provide the vehicle or engine owner with a certificate that indicates participation in a voluntary or influenced recall program. The proposed amendments specify that trailer manufacturers are among the manufacturers who must provide a certificate to the trailer owner, just like any other vehicle or engine manufacturer.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2118. Notification.**

**Purpose**

This section explains the notification that manufactures must give to vehicle owners in case of a recall. The proposed amendments specify that this notification must also be sent to trailer owners.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall notification requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (a)**

**Purpose**

Subsection (a) lists the statement that is required to be included in the notice to vehicle owners. The proposed amendments specify that this statement must also be included in any applicable recall notice sent to trailer owners.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall notification requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (b)**

**Purpose**

Subsection (b) includes the second requirement of the notice requiring manufacturers to tell vehicle owners that the nonconformity will be remedied at the expense of the manufacturer. The proposed amendments specify that this statement must also be included in any applicable recall notice to trailer owners.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (d)**

#### **Purpose**

Subsection (d) lists the fourth requirement of the notice requiring manufacturers to tell vehicle owners of any adverse effects of the nonconformity such as loss of fuel economy, performance, etc. The proposed amendments specify that this statement must also be included in any applicable recall notice to trailer owners.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (e)**

#### **Purpose**

Subsection (e) lists the fifth requirement of the notice requiring manufacturers to tell vehicle owners that a certificate will be issued when the vehicle is repaired under the recall program. The proposed amendments specify that this statement must also be included in any applicable recall notice to trailer owners.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is

described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (f)**

**Purpose**

Subsection (f) lists the sixth requirement of the notice requiring manufacturers to include a card, with postage paid, in case the vehicle has been sold, for the individual to send back to the manufacturer indicating the name and address of the person whom the vehicle was sold or transferred to. The proposed amendments specify that this is also a requirement of trailer manufacturers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (g)**

**Purpose**

Subsection (g) lists the seventh requirement of the notice requiring manufacturers to tell vehicle owners that they should have their vehicle serviced as soon as possible to stay within the emissions warranty provisions. The proposed amendments explain that this statement must also be included in any applicable recall notice to trailer owners.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

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The authority cited was modified to specify statutory authority to regulate sources of GHGs.

### **Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

### **Note: Reference**

### **Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

### **Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2119. Recordkeeping and Reporting Requirements.**

**Subsection (a)**

**Purpose**

Subsection (a) describes that manufacturers must report the progress of the recall campaign for six consecutive quarters after the recall begins and lists the contents that must be included in the report. The proposed amendments specify that trailers are subject to the same recordkeeping and reporting requirements as vehicle owners.

Additionally, it identifies the name of the Division responsible to receive the manufacturer's reports. The proposed amendments update the name to Emissions Certification and Compliance Division and its new address.

**Rationale**

The proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers. The Division name modification is necessary to identify the specific Division to which the manufacturer submits reports. The Mobile Source Operations Division has been renamed the Emissions Certification and Compliance Division.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

Subsection (c) describes that manufacturers must keep a record of the names and addresses of the vehicle owner to whom the recall notification was given, whose vehicles were repaired, and whose vehicles do not qualify to be repaired. The proposed amendments specify that trailers are subject to the same recordkeeping and reporting requirements as vehicle owners.

**Rationale**

The proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)**

**Purpose**

Subsection (d) describes that the reports that manufacturers submit must be retained for not less than one year beyond the useful life of the vehicles. The proposed amendments specify that trailers are subject to the same recordkeeping and reporting requirements as vehicle owners.

**Rationale**

The proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements,

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interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2121. Penalties.**

**Purpose**

This section describes that if a manufacturer directed to conduct an influenced recall fails to notify the vehicle owners and repair their vehicles, they will be in violation of the Executive Officer's order approving the plan and Health and Safety Code Section 43105. The proposed amendments specify that trailer manufacturers must notify trailer owners and repair their trailers just as any other vehicle manufacturer must notify applicable vehicle owners and conduct applicable repairs.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailer manufacturers are subject to the same voluntary and influenced recall requirements as vehicle manufacturers.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2123. Initiation and Notification of Ordered Emission-Related Recalls.**

**Subsection (a)**

**Purpose**

Subsection (a) describes that a manufacturer will be notified by the Executive Officer when any reports or any other information show that the vehicles produced by the manufacturer contain a failure in an emission-related component that may result in failure to meet applicable emission standards over the useful life. The proposed amendments specify that this recall notification applies to trailers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers be included in the requirements of the notification of ordered emission-related recalls.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (b)**

**Purpose**

Subsection (b) describes that the emission-related failure subject to this section is assumed to cause the vehicle to exceed the emission standards unless a manufacturer demonstrates otherwise. The proposed amendments specify that trailers are also subject to the same requirements.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in the requirements of the notification of ordered emission-related recalls.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

Subsection (c) describes the notification that a manufacturer will receive that explains the nonconformity. The proposed amendments specify that trailer manufacturers are subject to the same requirements.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in the requirements of the notification of ordered emission-related recalls.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2125. Ordered Recall Plan.**

**Subsection (a)**

**Purpose**

Subsection (a) identifies the name of the Division responsible to receive the manufacturer's recall plan. The proposed amendment updates the name to Emissions Certification and Compliance Division and its address.

**Rationale**

This modification is necessary to update the name of the CARB Division to which the manufacturer submits a recall plan. The Mobile Source Division has been renamed the Emissions Certification and Compliance Division.

**Subsection (b)**

**Purpose**

Subsection (b) and its subsections (b)(1) through (b)(13) describe the requirements of the recall plan that must be submitted to CARB. The proposed amendments explain that trailers are also included in the recall provisions.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and

reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2126. Approval and Implementation of Recall Plan.**

**Subsection (a)**

**Purpose**

Subsection (a) describes that if the Executive Officer approves the recall plan that is submitted, the manufacturer will be notified in writing. Upon approval, manufacturers must initiate the implementation of recall repairs. The proposed amendments specify that trailers are subject to the same recall requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

Subsection (c) describes that the manufacturer may contest the Executive Order's disapproval of the recall plan by submitting a public hearing request. The proposed amendments specify that trailer manufacturers are subject to the same recall requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)**

**Purpose**

Subsection (d) describes that after receiving a notice of disapproval, the manufacturer must make any required changes and begin implementing the recall repairs within 60 days. The proposed amendments specify that trailer manufacturers are subject to the same recall requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2127. Notification of Owners.**

**Subsection (a)**

**Purpose**

Subsection (a) describes that the notification to owners must be made by first class mail or any other method approved by the Executive Officer. The amendments explain that trailers, like vehicles, are also subject to the same notification requirements.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (b)**

**Purpose**

Subsection (b) describes that the manufacturer must use all reasonable means, including registration lists, to locate vehicles designated for a recall. The amendments explain that trailers, like vehicles, are also subject to the same notification requirements.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

Subsection (c) describes that the manufacturer may be required to issue a subsequent notification to owners. The amendments explain that trailers, like vehicles, are also subject to the same notification requirements.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (d)**

#### **Purpose**

Subsection (d) describes the requirements of the notification that must be sent to owners. The amendments explain that trailers, like vehicles, are also subject to the same notification requirements.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (e)**

#### **Purpose**

Subsection (e) describes that the manufacturer may not discriminate vehicles based on the proper maintenance or use of the vehicle except in cases approved by the Executive Officer and where the component has been altered or removed. The amendments explain that trailers, like vehicles, are also subject to the same notification requirements.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Subsection (f)**

**Purpose**

Subsection (f) describes that the manufacturer may not, in any communication to the owner or dealers, state that the nonconformity does not exist or will not degrade air quality. The amendments explain that trailers, like vehicles, are also subject to the same notification requirements.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2128. Repair Label.**

**Subsection (a)**

**Purpose**

Subsection (a) describes the requirement that manufacturers must affix a label on each vehicle after the repair was completed under the recall plan. The amendment explains that trailers are subject to the same label requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2129. Proof of Correction Certificate.**

**Purpose**

This section describes the requirements of those who repair the vehicle under the recall plan to provide the owner with a certificate indicating that the noncompliance has been corrected. The amendments specify that the requirement for a correction certificate applies to trailers as well.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this

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case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2130. Capture Rates and Alternative Measures.**

**Purpose**

This section describes that manufacturers must meet the capture rate in the recall plan within six consecutive quarters. If the manufacturer is unable to correct the percentage of vehicles as specified in the recall plan, the manufacturer must propose measures to offset the emissions of the unrepaired vehicles. The amendments specify that trailers must meet the same recall requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (a)**

**Purpose**

Subsection (a) describes that the measure proposed by the manufacturer to offset the emissions of the unrepaired vehicles must be equivalent to achieving the capture rate. The amendments explain that trailers must meet the same recall requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to

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identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

### **Note: Reference**

#### **Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

#### **Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2131. Preliminary Tests.**

**Purpose**

This section describes that the Executive Officer may require manufacturers to conduct tests on a component based on the manufacturer's proposed plan or repair. The amendments specify that trailers are subject to the same requirements.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2133. Recordkeeping and Reporting Requirements.**

**Subsection (a)**

**Purpose**

Subsection (a) describes that the manufacturer must have sufficient records available in the event that the Executive Officer may conduct an analysis of the recall campaign, and lists the minimum requirements of the records. The amendments specify that trailers are subject to the same recordkeeping requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

Subsection (c) describes that the information listed in subsection (a) must be included in six consecutive quarterly reports, submitted no later than 25 days after the close of each calendar quarter. The amendments specify that trailers are subject to the same recordkeeping and reporting requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)**

**Purpose**

Subsection (d) describes that the manufacturer must maintain records in a form suitable for inspection of the names and addresses of owners to whom notification was given, who received repairs, and who were denied eligibility. The amendments specify that trailers are subject to the same recordkeeping requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (e)**

**Purpose**

Subsection (e) describes that the manufacturer must maintain the records and reports for not less than one year beyond the useful life of the vehicles. The amendments specify that trailers are subject to the same recordkeeping requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are also included in all recall requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

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The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2137. Vehicle Selection.**

**Title**

**Purpose**

The title was modified to include trailers.

**Rationale**

The proposed amendment was necessary to ensure that the title reflects the inclusion of trailers for Vehicle Selection.

**Subsection (a)**

**Purpose**

Subsection (a) describes the quantity and condition of vehicles CARB must procure when performing tests to represent the emission characteristics of the engine family. The proposed amendments specify that trailers are also subject to the same selection process as Vehicle and Engines.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are subject to the same selection requirements as vehicles.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (b)**

**Purpose**

Subsection (b) sets forth the criteria CARB must meet when accepting a representative vehicle for enforcement testing. The proposed amendments specify that trailers are subject to the same criteria as vehicles and engines.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers are subject to the same selection requirements as vehicles.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is

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described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Note: Authority cited**

#### **Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

#### **Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

### **Note: Reference**

#### **Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

#### **Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2139. Testing.**

**Purpose**

This section describes the emission tests that CARB or its designated laboratory will perform in accordance with the applicable sections of the California Code of Regulations for each vehicle type.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the Testing provisions include trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (d)**

**Purpose**

Subsection (d) references the section of the California Code of Regulations that heavy-duty vehicle in-use compliance tests subject to the GHG emission standards must be in accordance with. The proposed amendments specify that trailers are subject to the GHG emission standards of section 95663, Title 17, California Code of Regulations.

Additionally, this subsection clarifies the applicability of the California heavy-duty diesel test procedures and the California heavy-duty Otto-cycle test procedures with respect to the ability of CARB to perform heavy-duty in-use compliance testing. The amendment proposes to directly reference both of these test procedures in subsection (d) whereas previously only title 13, CCR, section 1956.8 was referenced. This does not change the scope of applicability for existing heavy-duty in-use compliance testing because the test procedures are already indirectly referenced through incorporation in title 13, CCR, section 1956.8.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the in-use testing provisions include trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

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This amendment is also necessary to more clearly reference the procedures for conducting heavy-duty in-use compliance testing. The majority of requirements pertaining to heavy-duty in-use compliance testing are contained in the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles” and the “California Exhaust Emission Standards and Test Procedures for 2004 and subsequent Model Heavy-Duty Otto Cycle Engines and Vehicles.” Therefore, a direct reference to the test procedures provides a more focused location where the requirements pertaining to CARB’s in-use testing can be found without having to search through the entirety of title 13, CCR, section 1956.8. Dates of incorporation have been included for the referenced test procedures.

The current heavy-duty in-use test (HDIUT) procedures are described in Chapter I, Section B.3 of this Staff Report; the need for amendments related to the HDIUT procedures is described in Chapter II, Section C.3; and the description of proposed HDIUT procedure amendments is included in Chapter III, Section A.3.

### **Subsection (i)**

#### **Purpose**

Subsection (i) authorizes CARB to waive further vehicle testing if results from vehicle samples already tested are deemed sufficient to establish emission levels. In addition, CARB will give manufacturers sufficient lead time and shall permit a manufacturer representative to observe the enforcement testing. The proposed amendments specify that trailers are subject to the same criteria as vehicles and engines.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the in-use compliance testing provisions include trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Section 2139.5. CARB Authority to Test for Heavy-Duty In-Use Compliance.**

**Purpose**

The purpose of this amendment is to create a new section 2139.5 in title 13, CCR, clarifying that CARB has the authority to independently conduct Heavy-Duty In-Use Compliance (HDIUC) testing on a manufacturer's engine families using the same heavy-duty in-use testing procedures required in §86.1912, and proposed in §86.1370.B.6, of the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles." The amendment would apply to diesel engine families immediately, but not to Otto-cycle engine families until 2024 and subsequent model years because heavy-duty in-use testing does not yet apply to Otto-cycle engines. The amendment further clarifies that CARB may take corrective action against the engine families for which HDIUC testing reveals a failure to conform to the applicable criteria pollutant emission standards in title 13, CCR, section 1956.8.

**Rationale**

This amendment is necessary for expediting the discovery of non-compliant engines in-use and bringing them into compliance with applicable heavy-duty engine emission standards. Each missed opportunity to identify non-compliant engines reduces the effectiveness of CARB's heavy-duty in-use compliance program in taking corrective action against high-emitting heavy-duty engines, which results in higher emissions throughout the State. Currently, manufacturers are only required to test a relatively small number of heavy-duty diesel engines each year to demonstrate in-use compliance under §86.1912, and the proposed §86.1370.B.6, of the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles." Beginning with the 2024 model year manufacturers of heavy-duty Otto-cycle engines will need to comply with the HDIUC in-use testing requirements but will not be subject to the manufacturers' HDIUT self-testing requirements. This amendment would codify CARB authority to independently test heavy-duty diesel engines immediately using the in-use testing procedures that manufacturers are required to employ under §86.1912, and the proposed §86.1370.B.6, of the aforementioned test procedures, and to test heavy-duty Otto-cycle engines beginning in 2024 using MAW test procedures. The incorporation of this authority into the regulations would greatly enhance the ability of CARB to initiate corrective action against non-compliant engine families.

The current HDIUT procedures are described in Chapter I, Section B.3 of this Staff Report; the need for amendments related to the HDIUT procedures is described in Chapter II, Section C.3; and the description of proposed HDIUT procedure amendments is included in Chapter III, Section A.3.

**Section 2140. Notification and Use of Test Results.**

**Subsection (a)**

**Purpose**

Subsection (a) describes the corrective action a manufacturer needs to take after receiving a notification from an Executive Officer that the test fleet exceeds the failure threshold of the same emission-related component. The proposed amendments explain that the vehicle family and trailer family are also subject to recalls when a specific emission-related failure occurs in three or more test trailers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the Notification and Use of Test Results apply to trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (b)**

**Purpose**

Under this section, if the results of the in-use vehicle emission tests exceed the applicable emission standards, then the entire vehicle population represented shall be deemed to exceed such standards. The manufacturer will be notified and given sufficient time to submit an influence recall plan. Otherwise, the Executive Officer may order corrective action and recall of the affected vehicles. The proposed amendments specify that trailers are also subject to the testing and recall criteria.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the Notification and Use of Test Results apply to trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

The purpose of this amendment is to create a new subsection (c) identifying the criteria for determining the failure of an engine family tested by CARB for in-use compliance using the proposed 3B-MAW and MAW heavy-duty in-use test procedures. The specifics of these criteria are detailed in dependent subsections (c)(1) through (c)(4).

### **Rationale**

This amendment is necessary because it defines the criteria for determining non-compliances in California when a diesel engine family is tested by CARB for in-use compliance according to the 3B-MAW test procedures described in the “California Exhaust Emission Standards and Test Procedures for 2004 and subsequent Model Heavy-Duty Diesel Engines and Vehicles,” or an Otto-cycle engine family is tested by CARB for in-use compliance according to the MAW test procedures in the “California Exhaust Emission Standards and Test Procedures for 2004 and subsequent Model Heavy-Duty Otto Cycle Engines and Vehicles”, for 2024 and subsequent model year heavy-duty engines.

Subsection (c)(1) defines the first condition of non-compliance for a diesel engine as an exceedance of the applicable 3B-MAW In-use Threshold for the same regulated pollutant (i.e., NMHC, CO, NO<sub>x</sub>, or PM) in the same bin (i.e., Idle, Low-Load, or Medium/High-Load) in at least three valid tests. For example if the PM Sum-Over-Sum (SOS) calculation for a 2027 model year diesel engine being tested exceeds 1.5 times the 2027 model year diesel PM standard over the FTP or RMC test cycles, e.g.,  $1.5 \times 0.005 \text{ g/bhp-hr} = 0.0075 \text{ g/bhp-hr}$ , in the Medium/High-Load bin during any three of the Phase 1 evaluations, then the engine family is deemed to be non-compliant. This is true even if all other SOS calculations are less than their respective Emissions In-use Thresholds for the same engines.

Subsection (c)(2) defines the second condition of non-compliance for a diesel engine as an exceedance of the applicable 3B-MAW In-use Threshold calculated across all tested engines for the same pollutant in the same bin averaged together. This approach has the benefit of being able to identify an engine family as non-compliant should, for example, two of the ten test engines fail egregiously for a particular pollutant in a particular bin while the other eight engines pass marginally. When averaged together, the two egregious failures could be enough to influence the average above the threshold. Such a failure would be indicative of the manufacturer failing to exercise due diligence in calibrating the engine family with sufficient compliance margin to reasonably account for real-world emissions performance. Together, the conditions in subsections (c)(1) and (c)(2) provide a robust mechanism for CARB to confirm that heavy-duty diesel engine families in California have been designed for acceptable emissions performance and durability during real-world operation.

Subsection (c)(3) defines the first condition of non-compliance for an Otto-cycle engine as an exceedance of the applicable MAW In-use Threshold for the same regulated pollutant (i.e., NMHC, CO, NO<sub>x</sub>, or PM) in at least three valid tests. For example if the NO<sub>x</sub> Sum-Over-Sum (SOS) calculation for a 2027 model year Otto-cycle engine being tested exceeds the Conformity Factor times the 2027 model year Otto-cycle NO<sub>x</sub>

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standard over the FTP test cycle, e.g.,  $1.5 \times 0.020 \text{ g/bhp-hr} = 0.030 \text{ g/bhp-hr}$ , during any three of the Phase 1 evaluations, then the engine family is deemed to be non-compliant. This is true even if all other SOS calculations are less than their respective Emissions In-use Thresholds for the same engines.

Subsection (c)(4) defines the second condition of non-compliance for an Otto-cycle engine as an exceedance of the applicable MAW In-use Threshold calculated across all tested engines for the same pollutant averaged together. This approach has the benefit of being able to identify an engine family as non-compliant should, for example, two of the ten test engines fail egregiously for a particular pollutant while the other eight engines pass marginally. When averaged together, the two egregious failures could be enough to influence the average above the threshold. Such a failure would be indicative of the manufacturer failing to exercise due diligence in calibrating the engine family with sufficient compliance margin to reasonably account for real-world emissions performance. Together, the conditions in subsections (c)(3) and (c)(4) provide a robust mechanism for CARB to confirm that heavy-duty Otto engine families in California have been designed for acceptable emissions performance and durability during real-world operation.

The current HDIUT procedures are described in Chapter I, Section B.3 of this Staff Report; the need for amendments related to the HDIUT procedures is described in Chapter II, Section C.3; and the description of proposed HDIUT procedure amendments is included in Chapter III, Section A.3.

**Section 2141. General Provisions.**

**Subsection (b)**

**Purpose**

Subsection (b) sets the duration for when manufacturers are obligated to file emission warranty information reports and field information reports for a given class or category of vehicles beginning with the 1990 model year vehicles or engines. The proposed amendments explain that trailers are subject to the same reporting requirements beginning with 2020 model year trailers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the General Provisions apply to trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

Subsection (c) sets forth the time frame to file an emission information report for a given class or category of vehicles. The proposed amendments specify that trailers are subject to the same reporting requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the General Provisions apply to trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (e)**

**Purpose**

Subsection (e) gives the authority to the Executive Officer, CARB employee, or agent the right of entry to a repair facility to enforce or administer any requirements under

Division 3, Chapter 2. The proposed amendments explain that the Executive Officer has access to repair facilities that perform maintenance on trailers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the General Provisions apply to trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (f)**

**Purpose**

Added subsection (f) to explain that the proposed amendments will be applicable to 2022 and subsequent model year California-certified heavy-duty diesel and Otto cycle engines, and heavy-duty vehicles.

**Rationale**

The applicability of the proposed amendments needs to be specified.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(1)**

**Purpose**

This subsection was added to describe a new requirement. This subsection explains that manufacturers will be required to store returned warranty parts that are used to gather information for field information reports for a period of 2 years after the FIR is submitted. The Executive Officer will reserve the right to require the parts to be submitted to CARB for analysis. If a manufacturer is unable to provide the part for analysis, the parts will be considered to be valid failures when determining the valid failure rate.

**Rationale**

This requirement will allow CARB to verify manufacturers' failure analysis conclusions. CARB will have the ability to review and analyze returned warranty parts to determine if a manufacturer performed the analysis adequately and came to reasonable conclusions. If manufacturers are unable to submit parts for further analysis, they will

be considered to be valid failures because CARB is unable to verify that the failure occurred.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (f)(2)**

#### **Purpose**

This subsection was added to describe a new requirement. This subsection explains that manufacturers must keep track of how many warranty repairs were performed at each repair station and, upon request, submit that information to CARB.

#### **Rationale**

CARB performs audits of repair facilities by primarily reviewing and analyzing repair records. Having manufacturers provide information regarding the number of warranty repairs that occurred at each repair facility will help staff perform audits more efficiently and effectively.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (f)(3)**

#### **Purpose**

This subsection was added to require manufacturers to include an attestation that the information provided in warranty reports is true and accurate and must be signed by an authorized manufacturer representative.

#### **Rationale**

This attestation will confirm that manufacturers are not submitting misleading or false information in warranty reports.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (f)(4)**

**Purpose**

This subsection was added to clarify that good engineering judgment must be used when generating warranty reports.

**Rationale**

Though the use of good engineering judgement is expected, there is concern that manufacturers may not always be applying good engineering judgement. Therefore, it is necessary to explicitly state that it is a requirement.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(A)**

**Purpose**

This subsection was added to provide specificity for when manufacturers must use good engineering judgement.

**Rationale**

It is necessary to specifically state that the use of good engineering judgement must be used in making the decisions listed in the subsection.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(B)**

**Purpose**

This subsection was added to create a provision that would allow CARB to question how engineering judgement was used and would require a written response from the manufacturer.

**Rationale**

It is necessary to create a process that will allow manufacturers to explain their usage of good engineering judgement when it comes into question by CARB. Manufacturers would be given 15 days to provide an explanation of how good engineering judgment was used. The 15-day limit will ensure that responses are received in a timely manner while still giving a manufacturer adequate time to prepare the response.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(C)**

**Purpose**

This subsection was added to create a provision that would allow CARB to reject decisions made by manufacturers if they do not conform to the requirements of how the subpart describes good engineering judgement.

**Rationale**

A procedure for rejecting a decision that is determined to not be based on good engineering judgement needs to be created.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(D)**

**Purpose**

This subsection was added to provide information regarding situations when CARB determines that good engineering judgement was not used.

**Rationale**

The subsection creates a process and provisions that must be followed when CARB determines that good engineering judgement was not used.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(D)(1)**

**Purpose**

This subsection was added to inform manufacturers that they may be subject to penalties pursuant to, but not limited to, Section 43016, Health and Safety Code for deliberately not using good engineering judgement.

**Rationale**

Explicit penalties need to be created for manufacturers deliberately not using good engineering judgement.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(D)(2)**

**Purpose**

This subsection was added to provide information regarding situations when CARB determines that good engineering was not used, but that it was not a deliberate choice.

**Rationale**

Creates a different course of action when it is determined that good engineering was not used, but it was not a deliberate choice.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(D)(2)(a)**

**Purpose**

This provision is needed to establish a process for manufacturers to follow if CARB determines that good engineering judgement was not used.

**Rationale**

This creates a process for manufacturers to explain why and how they made certain decisions. The 30-day time limit was added to ensure that responses are received in a timely manner. The 30-day time limit may be extended if requested by the manufacturer if it is necessary to generate additional data.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(D)(2)(b)**

**Purpose**

This subsection was added to provide information regarding situations when CARB determines that good engineering judgement was not used after reviewing a manufacturer's response to the original concern.

**Rationale**

Explains that CARB may reject a manufacturer's claim that good engineering judgement was not used and will apply the new ruling to future corresponding decisions which will prevent manufacturers from making similar mistakes in the future.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)(4)(E)**

**Purpose**

This subsection was added to explain that CARB will inform the manufacturer, in writing, regarding any decision regarding whether the manufacturer failed to use good engineering judgement. The notification will also include the basis for reaching the determination.

**Rationale**

A process must be created for CARB to inform manufacturers of a determination of whether good engineering judgement was used.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

**Section 2142. Alternative Procedures.**

**Subsection (a)**

**Purpose**

Subsection (a) allows a vehicle manufacturer to use an alternative testing procedure provided it will produce substantially equivalent results. The proposed amendments explain that trailer manufacturers are permitted the same provisions.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the Alternative Procedures apply to trailers certified to the Phase 2 GHG emission standards.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

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The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

## **Section 2143. Failure Levels Triggering Recall.**

### **Purpose**

This section describes the levels of failure of emission control components that trigger the recall process. The proposed amendments specify that trailers are included in the recall provisions. Stating that vehicles shall be recalled rather than are subject to recall eliminates ambiguity. New corrective action triggers were also added to account for small volume engine families and longer warranty periods for heavy-duty diesel and Otto-cycle engines, and heavy-duty vehicles.

### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions include trailers certified to the Phase 2 GHG emission standards.

It is important to remove ambiguity from the regulations so that manufacturers are aware of their responsibilities. It would not be logical to require manufacturers to abide by corrective action thresholds that were created for shorter warranty periods. Therefore, the new triggers will be increased to account for the longer warranty periods.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6. The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

### **Note: Authority cited**

#### **Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

#### **Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and

reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2144. Emission Warranty Information Report.**

**Subsection (a)(1)**

**Purpose**

Subsection (a)(1) describes the emission warranty information report (EWIR) that is required when the unscreened warranty claim rate of emission-related components reaches 1% or 25 unscreened warranty claims (whichever is greater). The proposed amendments specify that trailers, like vehicles, are also subject to the warranty reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

This subsection was also modified to clarify that California or nationwide rates may be used to determine compliance with CCR 2143.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific emissions warranty reporting requirements.

Compliance with CCR 2143 will be based on California or nationwide rates depending on whether a manufacturer chooses to submit warranty reports based on California or nationwide rates, respectively, or if CARB learns that California or nationwide rates exceed those specified in 2143.

**Subsection (a)(2)**

**Purpose**

The proposed amendments specify that trailers, like vehicles, are also subject to the warranty reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific emissions warranty reporting requirements.

**Subsection (a)(3)**

**Purpose**

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The proposed amendments specify that trailers, like vehicles, are also subject to the warranty reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

The word “one” is replaced with the number “1” and the word twenty five is now stated as the number “25.”

### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific emissions warranty reporting requirements.

Numbers are being used so that this Section is consistent with other Sections.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (a)(4)**

#### **Purpose**

This subsection was added to indicate that the reporting threshold for EWIR reports would be reduced from 1% or 25 claims, whichever is greater, to 1% or 12 claims, whichever is greater, for 2022 and subsequent model year California-certified heavy-duty diesel and Otto-cycle engines, and heavy-duty vehicles.

#### **Rationale**

The threshold is being reduced to account for small volume engine families. This is important because engine families with a population of less than 2,500 engines are not required to report warranty claims data until they exceed 25 warranty claims, which in some cases, depending on the size of the engine family population, can account for a large percentage of the engine family. This results in CARB being unaware of potential issues with their emission control components until a high warranty rate is reached (e.g., 25 percent for an engine family with a population of 100 engines).

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (b)**

**Purpose**

Subsection (b) describes the information that must be included in the emission warranty information report (EWIR). The proposed amendments specify that trailers, like vehicles, are also subject to the warranty reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific emissions warranty reporting requirements.

The current requirements related to trailers are described in Chapter I, Section B.11 of this Staff Report; the need for clarifications and amendments related to trailers is described in Chapter II, Section C.11; and the description of proposed amendments related to trailers is included in Chapter III, Section A.11.

**Subsection (c)**

**Purpose**

Subsection (c) identifies the name of the Division responsible to receive the manufacturer's emission warranty information reports. The proposed amendment updates the name to Emissions Certification and Compliance Division and its address.

**Rationale**

This modification is necessary to identify the specific Division to which the manufacturer submits emission warranty information reports.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (e)**

**Purpose**

The subsection was added to create the provision that manufacturers would be required to submit EWIR reports for components that were issued extended warranties throughout the extended warranty period or, for components that were recalled as well, throughout the useful life period. This provision applies to 2022 and subsequent model year California-certified heavy-duty diesel and Otto-cycle engines, and heavy-duty vehicles.

**Rationale**

Under current EWIR requirements manufacturers are required to submit warranty claim information throughout the warranty period. This can be problematic if a manufacturer introduces a new version of a component near the end of the warranty period because CARB is only able to track warranty data for the component for a limited period of time. Therefore, under the proposed amendments manufacturers would be required to submit EWIR reports throughout the useful life period for components that are recalled for exceeding the corrective action threshold, and throughout the extended warranty period for components that are issued only an extended warranty as corrective action for exceeding the corrective action threshold. This will allow CARB to determine whether replacement parts adequately address the in-use issue that caused the original versions of the parts to fail at unacceptably high rates or if additional corrective action is necessary.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

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The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2145. Field Information Report.**

**Subsection (a)**

**Purpose**

Subsection (a) describes the field information report (FIR) that must be submitted within 45 days after an EWIR report indicates that the unscreened warranty claims for a specific emission-related component is found to exceed the percentages listed in Section 2143. The proposed amendments add clarity that trailers are also included in the reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards.

**Subsection (b)**

**Purpose**

The Division name was updated to state its current name.

**Rationale**

The Division name modification is necessary to identify the specific Division to which the manufacturer submits field information reports.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(3)**

**Purpose**

Subsection (b)(3) describes the information that is required to be included in the field information report (FIR). The proposed amendments add explanation that trailers are also included in the reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase

2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific field information reporting requirements.

### **Subsection (b)(5)**

#### **Purpose**

The proposed amendments explain that trailers, like vehicles, are also included in the reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

Additionally, new provisions were added to this subsection. The valid failure rate for 2022 and later model year California-certified heavy-duty diesel and Otto-cycle engines, and heavy-duty vehicles, can only be modified within 2 years of submitting the FIR. If the valid failure rate is adjusted the new valid failure rate must be determined by analyzing a new set of returned warranty parts. CARB will also require manufacturers to store analyzed parts for a period of 2 years and, upon request, provide them to CARB for further analysis. Manufacturers would also have to provide information related to the parts such as the associated vehicle identification number, associated engine serial number, failure mode for each component analyzed, mileage at time of failure, and methodology used to determine the failure mode.

#### **Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific field information reporting requirements.

Manufacturers will be required to make modifications to the failure rate within 2 years of submitting the FIR and the new failure rate must be based on an analysis of a new set of parts. Requiring manufacturers to analyze a new set of parts will ensure that the new analysis will be based on more recent information that would more accurately represent the performance and status of parts that are currently in-use. CARB would also reserve the right to require the manufacturer to provide the parts to CARB for further analysis. If a manufacturer is unable to provide the parts for further analysis the parts will be considered to be valid failures when determining the valid failure rate. CARB would also reserve the right to request information regarding parts such as the associated vehicle identification number, associated engine serial number, failure mode for each component analyzed, mileage at the time of failure, and methodology used to determine the failure mode. These added measures are necessary to aid CARB in determining the accuracy of recalculations of failure rates and provide a tool for CARB to validate the information provided in FIRs.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the

description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(6)**

**Purpose**

Subsection (b)(3) describes the information that is required to be included in the field information report (FIR). The proposed amendments add clarity that trailers are also included in the reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific field information reporting requirements.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements,

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interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2146. Emissions Information Report.**

**Subsection (a)(1)**

**Purpose**

Subsection (a) describes that a manufacturer must submit an emissions information report (EIR) when the screened warranty claims indicate a failure of a specific emission-related component is found to exceed the percentages listed in Section 2143. The proposed amendments specify that trailers are also included in this reporting requirement. See Chapter III, section A.11 for the trailer-specific amendments.

Additionally, it is clarified that reports must be submitted within 90 days of exceeding the reporting threshold.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific emissions information reporting requirements.

Language was ambiguous regarding the due date of EIR reports. The added statement eliminates any ambiguity or confusion and clearly indicates that reports must be submitted within 90 days of exceeding the reporting threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(2)**

**Purpose**

Clarifies that reports that are requested, with cause, must be submitted within 45 days after they are requested.

**Rationale**

Though this was already stated in the regulatory language, it was reworded to be clearer.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)**

**Purpose**

Subsection (c) describes the information that is required to be included in the emissions information report (EIR). The proposed amendment updates the Division name to Emissions Certification and Compliance Division and provides its address.

**Rationale**

The Division name modification is necessary to identify the specific Division to which the manufacturer submits field information reports.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)(3)**

**Purpose**

Subsection (c) describes the information that is required to be included in the emissions information report (EIR). The proposed amendments add clarity that trailers are also included in the reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific emissions information reporting requirements.

**Subsection (c)(5)**

**Purpose**

Subsection (c) describes the information that is required to be included in the emissions information report (EIR). The proposed amendments add clarity that trailers are also included in the reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase

2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific emissions information reporting requirements.

**Subsection (c)(6)**

**Purpose**

Subsection (c) describes the information that is required to be included in the emissions information report (EIR). The proposed amendments add clarity that trailers are also included in the reporting requirements. See Chapter III, section A.11 for the trailer-specific amendments.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Hence, trailer manufacturers are subject to California-specific emissions information reporting requirements.

**Subsection (c)(7)**

**Purpose**

Provision will require manufacturers to submit an evaluation of the emission impact of the failure and any available emission data which relate to the failure for 2024 and subsequent model year California-certified heavy-duty diesel and Otto-cycle engines, and heavy-duty vehicles.

**Rationale**

The provision will require manufacturers to include additional information regarding the failure to CARB. This information will allow CARB to learn more about the nature of the failure and how it will impact emissions and ultimately allow CARB to better assess the effectiveness of the manufacturer's corrective action plan.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)(8)**

**Purpose**

Language was added to indicate that EIRs for 2024 and subsequent model year California-certified heavy-duty diesel and Otto-cycle engines, and heavy-duty vehicles, must include a description of the manufacturer's forthcoming corrective action plan and approximate implementation date.

**Rationale**

This provision will ensure that corrective action is taken in a timely manner. The corrective action and EIR threshold is the same and therefore it would be appropriate for manufacturers to begin planning and preparing for corrective action as they submit the EIR. The description of the corrective action plan would also give CARB an indication of what to expect in the corrective action plan.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

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The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2147. Demonstration of Compliance with Emission Standards.**

**Subsection (a)**

**Purpose**

Subsection (a) describes that the average emissions of the vehicles with non-compliant emission-related components must meet the applicable emission standards. The proposed amendments clarify that trailers, like vehicles, are also included in the compliance requirements.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards.

**Subsection (b)**

**Purpose**

Subsection (b) describes the first option of demonstration of compliance when a manufacturer claims that an emission-related component does not result in the exceedance of emission standards. The proposed amendments explain that this demonstration may also be performed by manufacturers on trailers.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards.

**Subsection (c)**

**Purpose**

Subsection (c) describes the second option of demonstration of compliance when a manufacturer claims that an emission-related component does not result in the exceedance of emission standards. The proposed amendments explain that this demonstration may also be performed by manufacturers on trailers. Also, it is clarified that prior written approval is needed to perform an engineering evaluation in lieu of emission testing.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that the recall provisions apply to trailers certified to the Phase 2 GHG emission standards. Clarifying that the approval must be in writing will help

avoid confusion and make it clear when CARB will allow for an engineering evaluation in lieu of testing.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)**

#### **Purpose**

This section clarifies that Section 2147 will no longer apply to 2024 and subsequent model year California-certified heavy-duty diesel and Otto-cycle engines, and heavy-duty vehicles.

#### **Rationale**

The proposed amendments would require corrective action based solely on failure rates through the EWIR performance standard rather than considering the impact on emissions. Therefore, there is not a need to provide a method of demonstrating compliance with emission standards.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Authority Cited/Reference**

#### **Purpose**

New Health and Safety Code Sections were added to indicate which Sections grant authority to make the proposed changes.

#### **Rationale**

The Section needs to be updated to reflect the Sections from which authority is granted to create the proposed amendments.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2148. Evaluation of Need for Recall.**

**Subsection (a)**

**Purpose**

Subsection (a) describes the factors that the Executive Officer will use to evaluate and determine if a recall is necessary. The proposed amendments specify that trailers are subject to the same recall requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers certified to the Phase 2 GHG emission standards are included in the recall provisions.

**Subsection (b)**

**Purpose**

Subsection (b) describes case in which it is determined that a recall will not be required. The proposed amendments specify that trailers are subject to the same recall requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers certified to the Phase 2 GHG emission standards are included in the recall provisions.

**Subsection (c)**

**Purpose**

Subsection (c) describes that if a manufacturer can identify a specific subgroup or family that is subject to the failure, a recall may be limited to that subgroup only. The proposed amendments specify that trailers are subject to the same recall requirements as vehicles.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendments are necessary to clarify the original Phase 2 GHG regulatory intent that trailers certified to the Phase 2 GHG emission standards are included in the recall provisions.

**Note: Authority cited**

**Purpose**

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The authority cited was modified to specify statutory authority to regulate sources of GHGs.

### **Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Note: Reference**

### **Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

### **Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2149. Notification and Subsequent Action.**

**Subsection (b)**

**Purpose**

Subsection (b) describes that if a manufacturer does not notify CARB of the intent to issue a recall, CARB may initiate an investigation which may result to an influenced or ordered recall. The proposed amendment explains that trailers, like vehicles, are included in this recall requirement.

**Rationale**

As part of clarifying that California warranty requirements apply to trailers, as they do for any other vehicle, the proposed amendment is necessary to clarify the original Phase 2 GHG regulatory intent that trailers certified to the Phase 2 GHG emission standards are included in the recall provisions.

**Note: Authority cited**

**Purpose**

The authority cited was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the provisions authorizing CARB to adopt, amend, or repeal provisions of law that establish emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Note: Reference**

**Purpose**

The reference was modified to specify statutory authority to regulate sources of GHGs.

**Rationale**

The proposed amendment is necessary to identify the authority in the rulemaking record. These citations to additional Health and Safety Code sections are needed to identify the statute, court decision, or other provision of law which CARB implements, interprets or makes specific by adopting, amending, or repealing the regulation; in this

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case, regarding the establishment of emission standards or other emission-related requirements for sources of GHG emissions.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2166. General Provisions.**

**Subsection (a)**

**Purpose**

This subsection was created to explain the corrective action requirements for 2024 and subsequent model year California-certified heavy-duty diesel and Otto cycle engines, and heavy-duty vehicles.

**Rationale**

This subsection is needed to clarify applicability.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(1)**

**Purpose**

This subsection was created to indicate that the provisions of the article apply to 2024 and subsequent model year California-certified heavy-duty diesel and Otto-cycle engines.

**Rationale**

This subsection is needed to clarify applicability.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(2)**

**Purpose**

This subsection was created to indicate that the provisions of the article also apply to heavy-duty vehicles using engines described in Title 13, CCR, section 2166 (a)(1).

**Rationale**

This subsection is needed to clarify applicability.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the

description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)**

**Purpose**

This subsection was created to indicate that zero-emission powertrains would not be subject to these provisions.

**Rationale**

Zero-emission powertrains would not be affected by these amendments, and therefore it needs to be stated as such.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)**

**Purpose**

This subsection was created to explain where definitions for terms used throughout the article can be located.

**Rationale**

Several terms used throughout the article have the potential to be interpreted differently. It is important to provide clear definitions for these terms to avoid ambiguity or confusion. It is only applicable to those situations but will not limit authority to require recalls for other reasons. The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)**

**Purpose**

This subsection was created to explain that this article contains procedures for requiring recalls or other corrective action based on failures to comply with performance standards, as evidenced by emissions warranty information, and that nothing in the article limits the Executive Officer's authority to require recalls or other corrective action in other types of situations.

**Rationale**

This subsection is needed to make it clear that the provisions in this article would not limit the Executive Officer's authority to require recall or corrective action for other types of situations.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (e)**

**Purpose**

The purpose of this subsection is to explain that each part of this article is deemed to be severable, and in the event that any part of this article is held to be invalid, the remainder of this article shall continue in full force and effect.

**Rationale**

This provision is needed because it ensures that a successful legal challenge to any one particular provision of this article will not necessarily void the remaining provisions, thereby allowing CARB to implement the remaining corrective action procedures to ensure malfunctioning parts are expeditiously remediated.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2166.1. Definitions.**

**Subsection (a)**

**Purpose**

This subsection was created to provide a definition for capture rate, which is necessary to determine how effective recalls are and how many engines or vehicles are repaired by a recall program.

**Rationale**

The term must be defined so that manufacturers are aware of what the capture rate is and how it must be calculated.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)**

**Purpose**

This subsection was created to provide a definition for corrective action and to ensure that direct notification of corrective action to vehicle or engine owners is included as part of corrective action.

**Rationale**

This term must be defined so that manufacturers are aware that it refers to any type of action taken to remedy a noncompliance or nonconformity. Corrective action is used throughout the article and therefore is important to provide a definition.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)**

**Purpose**

This subsection was created to provide a definition for days, which is used throughout the regulatory text.

**Rationale**

It is critical to point out that days is referring to business days to avoid confusion.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)**

**Purpose**

This subsection was created to provide a definition for emission-control component or emission-related component

**Rationale**

This subsection provides criteria to determine if a component is an emission-control component.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)(1)**

**Purpose**

This subsection was created to indicate that an emission-control component or emission-related component refers to any component that affects any emission of pollutants from a vehicle or engine, including those contained in the “Emissions Warranty Parts List” per CCR 2036(f) .

**Rationale**

It is critical to define emission-control components as they are subject to the corrective action requirements in this Article. The definition is broad so that it is clear that any components that can affect emissions are considered emission control components.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)(2)**

**Purpose**

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This subsection was created to indicate that if a component can cause the on-board diagnostic (OBD) MIL to become illuminated it is considered an emission-control component or system.

### **Rationale**

The OBD MIL is required by regulation to illuminate when there is a failure of an emission-control component or system or multiple emission-control components or systems. Therefore, when the MIL is illuminated for a malfunction of an emission control component or system that component(s) or system(s) is considered failed or defective.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)(3)**

#### **Purpose**

This subsection was created to indicate that only components that are part of an engine or vehicle's certified configuration are considered emission control components.

#### **Rationale**

This is to clarify that components that are not part of the certified configuration are not considered emission control components and would therefore not be subject to corrective action.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (e)**

#### **Purpose**

This subsection was created to provide a definition for an exhaust gas recirculation cooler.

#### **Rationale**

A definition for an exhaust gas recirculation cooler was needed to clarify that this component must be recalled when it exceeds the corrective action threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and

reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (f)**

#### **Purpose**

This subsection was created to provide a definition for an exhaust gas recirculation valve.

#### **Rationale**

A definition for an exhaust gas recirculation valve was needed to clarify that this component must be recalled when it exceeds the corrective action threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (g)**

#### **Purpose**

This subsection was created to provide a definition for emission-related failure.

#### **Rationale**

Manufacturers may incorrectly determine that some components may not be emission-related. Therefore, it is critical to provide a definition so that corrective action is properly based on the number of emission-related failures.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (h)**

#### **Purpose**

This subsection was created to provide a definition for an emission warranty claim.

#### **Rationale**

A definition for a warranty claim is needed so that components are properly identified and tracked to determine when different types of reports are due and to help indicate how well components are performing in-use.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (i)**

**Purpose**

This subsection was created to provide a definition for Executive Officer.

**Rationale**

A definition was needed to explain that in this regulatory text, Executive Officer also refers to authorized representatives.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (j)**

**Purpose**

This subsection was created to provide a definition for an exhaust aftertreatment device.

**Rationale**

A definition for exhaust aftertreatment components was needed to correctly identify components that must be recalled when they exceed the corrective action threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (k)**

**Purpose**

This subsection was created to provide a definition for an extended warranty.

**Rationale**

A definition for an extended warranty was needed as it is a form of corrective action that manufacturers must take when failure rates exceed the corrective action threshold. An extended warranty must be at a minimum equal to or exceed the applicable vehicle or

engine's useful life period. Direct notification of owners is necessary to ensure that they are aware of the extended coverage.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (l)**

#### **Purpose**

This subsection was created to provide a definition for a fuel injector.

#### **Rationale**

A definition for a fuel injector was needed to clarify that this component must be recalled when it exceeds the corrective action threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (m)**

#### **Purpose**

This subsection was created to provide a definition for a hydrocarbon injector.

#### **Rationale**

A definition for a hydrocarbon injector was needed to clarify that this component must be recalled when it exceeds the corrective action threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (n)**

#### **Purpose**

This subsection was created to provide a definition for a nonconformity.

#### **Rationale**

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This subsection explains that a nonconformity exists when a class of vehicles or engines experiences a failure of the performance standards specified in CCR 2143. Manufacturers must take corrective action when a nonconformity exists, and thus it is critical to provide this definition to provide clarity.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (o)**

#### **Purpose**

This subsection was created to provide a definition of an on-board computer.

#### **Rationale**

A definition for an on-board computer was needed to clarify that this component must be recalled when it exceeds the corrective action threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (p)**

#### **Purpose**

This subsection was created to define periods that are considered quarters.

#### **Rationale**

Manufacturers are required to submit quarterly reports indicating capture rates for recalls. This subsection defines the quarterly periods of time for when manufacturers must submit quarterly reports. This will help avoid confusion for when quarterly reports are due.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (q)**

#### **Purpose**

This subsection was created to provide a definition for a recall.

**Rationale**

A definition for a recall was needed since it clarifies the form of corrective action that manufacturers must take when failure rates exceed the corrective action threshold. Recalls must be performed to remedy nonconformities following the requirements of this article. Direct notification of owners is necessary to ensure that they are aware of the recall program.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (r)**

**Purpose**

This subsection was created to provide a definition of a systemic failure.

**Rationale**

A definition for a systemic failure was needed so that manufacturers know that corrective action is necessary when a systemic failure exists. Failures are considered to be systemic once 4 percent or 25 vehicles or engines (whichever is greater) of the vehicles or engines of a California-certified engine family or test group.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (s)**

**Purpose**

This subsection was created to provide a definition for a turbocharger.

**Rationale**

A definition for a turbocharger was needed to clarify that this component must be recalled when it exceeds the corrective action threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (t)**

**Purpose**

This subsection was created to provide a definition of a urea doser.

**Rationale**

A definition for a urea doser was needed to clarify that this component must be recalled when they exceed the corrective action threshold.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (u)**

**Purpose**

This subsection was created to provide the criteria for determining when a valid failure of a component exists.

**Rationale**

A definition for a valid failure is needed because the need for corrective action is based on the number of valid failures and valid failure rates. Valid failures are determined by screening warranty data to determine which warranty component replacements were caused by true failures. This must be performed using a methodology which is acceptable to CARB as inaccurate screening may delay or prevent a manufacturer from taking corrective action.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (v)**

**Purpose**

This subsection was created to provide a definition for a vehicle or engine manufacturer.

**Rationale**

A definition was needed because manufacturers are responsible for taking corrective action when failure rates exceed the corrective action thresholds specified in CCR 2143. Defining the manufacturer is necessary to prevent confusion among manufacturers and suppliers for who is responsible for taking corrective action. The manufacturer is

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responsible for the corrective action since they are the entity that is issued the Executive Order and selling affected vehicles or engines.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (w)**

#### **Purpose**

This subsection was created to provide a definition for zero-emission powertrain.

#### **Rationale**

A definition was needed to define a zero-emission powertrain, so that it is clear that they are excluded in the applicability section of the article.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2167. Required Recall and Corrective Action for Failures of Exhaust Aftertreatment Devices, On-Board Computers or Systems, Urea Dosers, Diesel Particulate Filter Fuel Injectors, Exhaust Gas Recirculation Valves, Exhaust Gas Recirculation Coolers, Turbochargers, Fuel Injectors.**

**Subsection (a)**

**Purpose**

This subsection was created to indicate which components would be subject to recall, and state the threshold for when corrective action is necessary and when it must occur.

**Rationale**

This subsection indicates when corrective action is necessary, which components would be subject to recall, and that the corrective action must begin in a timely manner. Without providing this specificity, manufacturers may not have a clear understanding of how and when to take corrective action. It is proposed that a manufacturer would be required to conduct a recall to address nonconformities expeditiously. Corrective action plans for components being recalled must be submitted within 90 days of the corrective action threshold being exceeded. This would provide an adequate amount of time for manufacturers to develop corrective action plans, while still addressing the in-use issues in a timely manner.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2168. Required Corrective Action and Recall for Emission-Related Component Failures.**

**Subsection (a)**

**Purpose**

This subsection was created to indicate that manufacturers must take corrective action when corrective action thresholds are exceeded and that the corrective action plans must be submitted no more than 90 days after exceeding the corrective action threshold.

**Rationale**

This subsection indicates when corrective action is necessary, which components would be subject to corrective action, and that the corrective action must begin in a timely manner. Without providing this information manufacturers would not have a clear understanding of how and when to take corrective action. It is proposed that a manufacturer would be required to conduct corrective action expeditiously to address issues with the identified parts. Corrective action plans for components that exceeded the corrective action threshold would be required to be submitted within 90 days of the corrective action threshold being exceeded. This would provide an adequate amount of time for manufacturers to develop corrective action plans, while still addressing the in-use issues in a timely manner.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)**

**Purpose**

This subsection was created to indicate that components, other than those identified, must be recalled if the valid failure rate exceeds 25% within 5 years, and that the recall plan must be submitted no later than 90 days after exceeding a 25% valid failure rate.

**Rationale**

If a component reaches a 25 percent failure rate within five years, it is clear that the problem is systemic in nature and would very likely fail in the majority of vehicles within the useful life period. Therefore, it is proposed that a manufacturer would be required to conduct a recall to address the issue expeditiously. This proactive approach would be more effective than providing an extended warranty, which would require vehicle and engine owners to wait for a failure before having an improved part installed on their vehicle or engine. Corrective action plans are to be submitted within 90 days of exceeding the corrective action threshold. This would provide an adequate amount of

time for manufacturers to develop corrective action plans, while still addressing the in-use issues in a timely manner.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (c)**

#### **Purpose**

This subsection was created to allow CARB to use expertise in determining if a recall is necessary to adequately resolve the in-use issue.

#### **Rationale**

CARB would reserve the right to require a manufacturer to conduct a recall, after considering the factors in CCR 2148, for components for which only issuing an extended warranty is typically adequate to resolve the in-use issue. There may be scenarios where issuing only an extended warranty will not resolve the in-use issue. Therefore, CARB reserves the right to require recalls when appropriate in other cases.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2169. Required Recall or Corrective Action Plan.**

**Subsection (a)**

**Purpose**

This subsection was created to establish a due date for when corrective action plans must be submitted once a component exceeds the corrective action thresholds specified in CCR 2143. CARB may grant an extension if a manufacturer is able to show good cause for an extension. Also, a process for submitting the corrective action plan is established.

**Rationale**

It is critical that corrective action be taken in an expeditious manner to ensure that issues with emission-control components are addressed quickly. Therefore, having a manufacturer submit the plan for review 90 days after the corrective action threshold is exceeded will ensure that corrective action is taken expeditiously. The subsection also provides instructions on how to submit a corrective action plan.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)**

**Purpose**

This subsection was created to establish recall and corrective action plan requirements.

**Rationale**

The requirements of a corrective action plan need to be clearly defined so manufacturers are informed of what is expected and to ensure that recall and corrective action plans are effective.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(1)**

**Purpose**

Manufacturers will be required to provide a description of the vehicles or engines that will be affected by the corrective action.

**Rationale**

Vehicles and engines included in the corrective action plan must be clearly defined so that CARB can ensure that the plan is comprehensive and actually capturing all affected vehicles and engines.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(2)**

**Purpose**

This subsection was created to require manufacturers to provide a description of the nonconformity, the remedy to fix the nonconformity, and a brief summary explaining why and how the remedy will effectively resolve the issue.

**Rationale**

The in-use issue must be clearly defined and how it will be addressed so that CARB can make a proper assessment of the situation. The summary explaining how the remedy will resolve the issue is important as well so that CARB has enough information to determine if the remedy will actually be effective.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(3)**

**Purpose**

This subsection was created to inform manufacturers that they must provide an explanation of how they will contact vehicle and engine owners.

**Rationale**

This information is necessary so that CARB can ensure that all vehicle or engine owners will be contacted and informed of the corrective action.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(4)**

**Purpose**

This subsection was created so manufacturers provide information regarding the procedure that vehicle or engine owners must follow to have the nonconformity remedied. This will also include a start date for the corrective action and the amount of time that would be required for the manufacturer to perform the corrective action repair work.

**Rationale**

This information is necessary so that CARB can assess whether the corrective action procedure that vehicle and engine owners are supposed to follow is practical and can be performed at the repair station. Also, CARB will determine whether the amount of time needed to perform the repair work is reasonable to ensure that the repair time is not unreasonable. Having the repair time be too long may cause owners to delay having the repair work performed to avoid taking the vehicle out of service for prolonged periods of time.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(5)**

**Purpose**

This subsection was created to inform manufacturers that they must let CARB know if corrective action repair work would be performed by persons other than dealers or authorized warranty agents, and to confirm that these persons are properly equipped to perform the corrective action repair work.

**Rationale**

This information is necessary so that CARB can ensure that repairs are made by persons that can adequately perform the recall repair work.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(6)**

**Purpose**

This subsection was created to require manufacturers to submit a copy of the customer notification letter as part of the recall plan.

**Rationale**

CARB needs to review the customer notification letter before it is sent to ensure that it includes all of the required information and that customers are properly notified and informed of how it will be remedied.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(7)**

**Purpose**

This subsection was created so that manufacturers can inform CARB of how they will ensure that there is an adequate supply of parts and when they will be available.

**Rationale**

In order for a recall or corrective action plan to be implemented properly there must be an adequate supply of parts. Without an adequate supply of parts corrective action programs will not be implemented efficiently or delayed.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(8)**

**Purpose**

This subsection was created to require manufacturers to submit a copy of all repair instructions or technical service bulletins that are to be sent to persons performing the corrective action repair work.

**Rationale**

CARB needs to be aware of repair instructions or technical service bulletins related to the corrective action to ensure that the manufacturers are providing accurate information consistent with the approved corrective action plan to persons performing the repair work.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and

reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)(9)**

**Purpose**

This subsection was created to allow CARB to request information necessary to properly assess the corrective action plan and repair procedure.

**Rationale**

It is critical that CARB has enough information to properly assess the corrective action plan and repair procedure to ensure that it will sufficiently address the in-use issue. Therefore, it is important that CARB has the ability to request additional information to make a proper assessment.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2169.1. Approval and Implementation of Corrective Action Plan.**

**Purpose**

This subsection was created to create a process for approving corrective actions and informing manufacturers when they must implement the corrective action plan. CARB will approve the plan in writing if it meets CARB's requirements. The manufacturer must implement the corrective action plan and notify vehicle or engine owners within 30 days of corrective action or recall plan approval.

**Rationale**

This subsection defines the approval process and creates deadlines for vehicle or engine owner notification and implementation of corrective action. CARB will approve the corrective action plan in writing to avoid any confusion regarding whether the plan is approved or not. The deadlines for vehicle or engine owner notification and implementation of corrective action need to be established to ensure that implementation of corrective action occurs in a timely manner.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection 2169.2. Notification of Owners.**

**Subsection (a)**

**Purpose**

This subsection was created to specify how a manufacturer should notify owners of corrective action. Owners should be notified through first class mail, or another CARB approved method. CARB may require the use of certified mail if there is good cause to do so.

**Rationale**

It is critical that owners are notified of the corrective action in order to achieve a high capture rate. Therefore, it must be required that manufacturers use effective methods to reach owners. CARB may require the use of certified mail if there is good cause if other methods are not adequate.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)**

**Purpose**

This subsection was created to ensure that manufacturers use all reasonable methods to locate vehicle or engine owners. This may include the use of information from motor vehicle registration lists available from commercial sources.

**Rationale**

Manufacturers must ascertain how to contact vehicle or engine owners so they can be notified about needed corrective action. Therefore, CARB intends that manufacturer's use the most up-to-date information such as motor vehicle registration lists available from commercial sources to contact vehicle or engine owners. If owners are not notified, they would not take their vehicle or engine in for the needed repairs. This would also result in lower than expected capture rates.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)**

**Purpose**

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This subsection was created to inform manufacturers that they may have to send more than one notification letter to owners, and that subsequent notifications may require the use of certified mail.

### **Rationale**

If a high capture rate (at least over 90%) is not achieved, additional notification of vehicle owners may be an effective tool to raise the capture rate. CARB may require the use of certified mail because it may help be a better means of reaching owners than first class mail.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)**

#### **Purpose**

This subsection was created so that manufacturers know what is required to be in owner notification letters.

#### **Rationale**

Manufacturers must include specific information in owner notification letters to ensure that owners are fully informed about the corrective action.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)(1)**

#### **Purpose**

This subsection was created so that the owner notification letter would state that CARB has determined that the affected vehicle or engine has an emission control component problem that requires corrective action.

#### **Rationale**

This statement is necessary so that vehicle or engine owners are aware that CARB has determined that their vehicle or engine has a problem with an emission control-component or system that needs to be remedied through corrective action.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and

reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)(2)**

**Purpose**

This subsection was created to inform owners that any corrective action would be remedied at the expense of the manufacturer.

**Rationale**

If vehicle owners are aware that manufacturers are responsible for the cost of any corrective action repairs, they would be more motivated to have the repair work performed. This would lead to a higher capture rate.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)(3)**

**Purpose**

This subsection was created to inform owners that they would be reimbursed if they paid for out-of-pocket expenses related to the corrective action.

**Rationale**

Manufacturers are responsible for the cost of corrective action repairs. This statement will notify owners that if they paid for any repairs related to the corrective action, that it is the manufacturer's responsibility to reimburse them.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)(4)**

**Purpose**

This subsection was created to inform owners that they may not be denied eligibility to participate in the corrective action program based solely on the fact that they used parts on their vehicle or engine not manufactured by the original equipment manufacturer or had repairs performed by outlets other than the vehicle or engine manufacturer's franchised dealers.

**Rationale**

Many owners use approved aftermarket parts or have repair work performed by independent shops for various reasons. This statement informs manufacturers that they cannot deny an owner corrective action on their vehicle/engine solely because of use of aftermarket parts or repairs done at an independent shop. In order to deny corrective action, the manufacturer would have a high burden to prove that an aftermarket part or independent repair shop directly caused the inability to apply the corrective action. It is not reasonable to deny eligibility if the aftermarket part is approved for use by CARB or the independent shop has properly repaired the engine/vehicle consistent with industry standards.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)(5)**

**Purpose**

This subsection informs owners about the nonconformity with their vehicle/engine and how it will be remedied.

**Rationale**

It is important that manufacturers notify owners when there is a problem with their vehicle or engine and how it will be remedied. An owner will likely not get their vehicle/engine repaired if they do not know what is wrong with it and how it will be repaired.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)(6)**

**Purpose**

This subsection was created to inform owners that they may not pass an emission inspection or smog check test, and vehicle registration may be denied if the corrective action repair work is not performed on their vehicle/engine.

**Rationale**

Based on existing regulations, vehicles or engines subject to recall will not pass an emission inspection or smog check test, and vehicle registration may be denied if the

owner does not get their vehicle/engines repaired. Informing owners of these consequences should encourage them to have their vehicles/engines repaired quickly to prevent any issues with emission inspections or smog check tests and registration.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)(7)**

#### **Purpose**

This subsection was created to inform owners of the adverse impacts, if any, that an uncorrected nonconformity would have on the performance, fuel economy, or drivability of the vehicle or engine or to the function of the other engine components.

#### **Rationale**

It is important to inform owners of any adverse impacts from the corrective action repair work, so they know what to expect. Therefore, it is important to inform them in the notification letter.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)(8)**

#### **Purpose**

This subsection was created to inform owners of the procedure they should follow to obtain correction of the nonconformity and when the owner can have the nonconformity remedied, the time reasonably necessary to perform the repair, and a designation of the facilities where the nonconformity can be remedied.

#### **Rationale**

It is necessary for owners to know the process to get the corrective action repair work performed on their vehicles or engines. This would help avoid confusion for owners and prevent delays in having the corrective action repair work performed. This would also result in a higher capture rate as it increases the likelihood that owners would bring their vehicles or engines to repair facilities to have the corrective action repair work performed.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and

reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)(9)**

#### **Purpose**

This subsection was created to so that owners know that they will be issued a proof of correction certificate by the repair facility after the correction action repair has been completed on their vehicle/engine. This certificate may be required as a condition of vehicle/engine registration.

#### **Rationale**

This is to inform owners that they will receive a proof of correction certificate at the time of repair and that the certificate may be required in order to complete the registration renewal process. Not notifying owners of this information may lead to delays in vehicle owners obtaining registration. Also, it would increase the capture rate of the corrective action program as vehicle and engine owners will be incentivized to have the repair work performed in order to prevent any issues or delays with their registration renewal.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)(10)**

#### **Purpose**

This subsection requires manufacturers to provide a postage-paid postcard, so when the vehicle/engine is sold to another person, the previous owner can send the postcard to the manufacturer with the new owners' contact information.

#### **Rationale**

It is important that manufacturers are aware of the current owner's contact information, so the current owner can be alerted to any outstanding corrective action programs for their vehicle/engine. This postcard provides a simple method for past owners to update the manufacturer with the current owner's contact information.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)(11)**

**Purpose**

This subsection was created to inform owners that failure to have corrective action performed on their vehicle or engine could affect the emission warranty as it could be considered a lack of proper maintenance. Notwithstanding, the manufacturer would still have the burden to prove that failure to complete a corrective action repair directly caused the failure of another emission control system or part.

**Rationale**

It is critical to inform owners that there is a possibility that their emission warranty could be affected if they do not complete corrective action repair work on their vehicle or engine. In rare incidences, failure to have corrective action repair work performed may impact their emission warranty.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (d)(12)**

**Purpose**

This subsection was created so owners have a telephone number to contact the manufacturer if they have difficulty in obtaining corrective action repairs.

**Rationale**

This information is necessary to ensure that owners are able to have the corrective action repair work performed on their vehicles or engines. Without a contact number to reach the manufacturer for assistance, repair work may be unnecessarily delayed.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (e)**

**Purpose**

This subsection was created to prevent manufacturers from making proper maintenance or use of the vehicle or engine a condition for corrective action repair. However, the manufacturer shall not be required to repair a component that has been removed or altered so that the corrective action repair work cannot be performed without additional cost.

**Rationale**

Eligibility for a repair should not be based solely on proper maintenance or use of the vehicle or engine, unless the manufacturer can provide proof that lack of maintenance or improper usage is directly related to the nonconformity that is being corrected. It would not be reasonable to require a manufacturer to cover the additional cost of repairing components that have been removed or altered so that the corrective action repair work cannot be performed without additional cost, as manufacturers do not have control over how owners may modify their vehicles or engines.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (f)**

**Purpose**

This subsection was created to prevent manufacturers from sending communication to vehicle or engine owners or dealers that contains any statement, expressed or implied, that the nonconformity does not exist or will not degrade air quality.

**Rationale**

It is expected that nonconformities with emission control components will degrade air quality. Also, failure rates that exceed the corrective action thresholds indicate that a nonconformity exists. Therefore, it would be misleading to have these types of statements communicated to owners or dealers.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (g)**

**Purpose**

This subsection was created so that CARB could require manufacturers to take additional actions, which CARB has determined to be reasonable and necessary, in order to ensure the effectiveness of the recall campaign.

**Rationale**

Notification of owners is critical to achieving a high capture rate. Therefore, CARB may require manufacturers to take additional actions to reach owners and inform them that a nonconformity exists and that they must have it repaired under a corrective action

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program. Additional actions would be necessary if the capture rate is not meeting expectations.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2169.3. Repair Label.**

**Subsection (a)**

**Purpose**

This subsection was created to indicate that manufacturers must affix a repair label to each vehicle or engine that is repaired, or when required, inspected under a corrective action plan.

**Rationale**

Repair labels are important so that it can be determined if a vehicle has undergone the repair or inspection procedure specified in the corrective action plan.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (b)**

**Purpose**

This subsection was created to require manufacturers to place the repair label in a location approved by CARB and to ensure that it is durable and not readily removable.

**Rationale**

This requirement will ensure that the label will not be damaged during vehicle or engine operation. Also, it will prevent removal of the label, or tampering.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)**

**Purpose**

This subsection was created to require manufacturers to indicate the recall campaign number and a code designating the facility at which the repair, or inspection for repair, was performed.

**Rationale**

A vehicle or engine may be subject to more than one corrective action. Therefore, the corrective action campaign number must be listed on the repair label to identify which repair was performed. A code designating which facility the repair or inspection for

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repair was performed is also needed so that if a problem with the repair is found it can be traced back.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2169.4. Proof of Correction Certificate.**

**Purpose**

This subsection was created to require manufacturers to provide proof of correction certificates to owners indicating that the corrective action repair work has been performed.

**Rationale**

The proof of correction certificate may need to be presented by owners in order to prove that the corrective action repair work has been performed and that the vehicle registration should not be denied.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2169.5. Preliminary Tests.**

**Purpose**

This subsection was created to ensure that CARB has the ability to require manufacturers to conduct emissions testing to demonstrate the effectiveness of a repair, or modification that is to be performed as part of the manufacturer's correction action.

**Rationale**

It may be necessary to have emissions data to ensure that the repair, or modification that would be performed under the corrective action plan will result in bringing the vehicles into compliance.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2169.6. Communication with Repair Personnel.**

**Purpose**

This subsection was created to require manufacturers to provide a copy of all communications that relate to the corrective action plan directed to dealers and other persons who are to perform the recall.

**Rationale**

CARB needs to review the communications to ensure that instructions provided in the communications comply with applicable requirements. Also, this will allow for CARB to be updated with any repair procedure changes and ensure that they will not reduce the effectiveness of the corrective action.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2169.7. Recordkeeping and Reporting Requirements.**

**Subsection (a)**

**Purpose**

This subsection was created to require manufacturers to submit quarterly reports for six consecutive quarters commencing with the quarter after the recall campaign begins. The report must be submitted no later than 25 days after the close of each quarter.

**Rationale**

Quarterly reports for recalls are necessary to monitor the progress and effectiveness of a recall. These reports are used to determine if additional action needs to be taken to achieve a higher capture rate. Reports must be submitted in a timely manner so that if additional action needs to be taken it can be done so expeditiously.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(1)**

**Purpose**

This subsection was created to require manufacturers to indicate which engine families and test groups are affected by the recall plan and the recall campaign number in the quarterly report.

**Rationale**

This information must be included in reports so that the engines or vehicles affected by the recall campaign can be easily identified.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(2)**

**Purpose**

This subsection was created to require manufacturers to indicate when owner notification for the recall campaign began and was completed.

**Rationale**

It is important to know the start and end dates of the recall campaign to ensure that all reports were submitted and were submitted in a timely manner.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(3)**

**Purpose**

This subsection was created to require manufacturers to indicate how many vehicles or engines were involved in the recall.

**Rationale**

CARB needs to know the number of vehicles or engines affected in order to determine the capture rate which is used to determine how effective recalls are and whether additional action needs to be taken to increase the capture rate.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(4)**

**Purpose**

This subsection was created to require manufacturers to indicate how many vehicles or engines were involved in the recall and how the number of affected vehicles or engines was determined.

**Rationale**

It is important to understand how manufacturers came to determine the number of affected vehicles to ensure that they identified all potentially affected vehicles or engines.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(5)**

**Purpose**

This subsection was created to require manufacturers to indicate how many vehicles or engines were inspected as part of the recall plan.

**Rationale**

It is important to know how many vehicles or engines were inspected under a recall program. There may be certain recall campaigns where not all vehicles or engines are affected by the nonconformity, but the manufacturer is not aware of which ones are affected. In these cases, manufacturers must inspect the vehicle or engine to determine if it is affected and needs to have the repair work performed on it.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(6)**

**Purpose**

This subsection was created to require manufacturers to indicate how many vehicles or engines were affected by the nonconformity.

**Rationale**

Manufacturers will report on how many of the inspected vehicles had the nonconformity. This will allow CARB to understand how widespread the problem is.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(7)**

**Purpose**

This subsection was created to require manufacturers to indicate how many vehicles or engines received the recall repair work under the recall program.

**Rationale**

CARB needs to be aware of the number of vehicles that are being corrected under the recall plan to ensure that it is effective, and that additional action does not need to be taken to increase the capture rate.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and

reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(8)**

**Purpose**

This subsection was created to require manufacturers to indicate how many vehicles or engines were unavailable for inspection or repair under the recall plan due to exportation, theft, scrapping, or other reasons that must be specified.

**Rationale**

Under a recall plan it is desirable to have all affected vehicles or engines repaired. However, for a variety of reasons, this may not occur. An explanation from the manufacturer will allow CARB to understand why certain vehicles or engines cannot be repaired and if it was reasonable for them not to be repaired. Also, knowing how many vehicles cannot be repaired is important when considering if a capture rate is acceptable.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(9)**

**Purpose**

This subsection was created to require manufacturers to indicate how many vehicles or engines are determined to be ineligible for recall action due to removed or altered components.

**Rationale**

Under a recall plan it is desired to have all affected vehicles or engines repaired. For the reasons noted above, an explanation from the manufacturer will allow CARB to understand why certain vehicles or engines cannot be repaired and if it is acceptable for them not to be repaired. Also, knowing how many vehicles cannot be repaired is important when considering if the capture rate is acceptable.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(10)**

**Purpose**

This subsection was created to require manufacturers to provide identifying information for vehicles and engines that have not been repaired under a recall program. This information is submitted electronically in a format and frequency that is designated by CARB.

**Rationale**

Vehicles that have not been repaired under a recall program will have their registration renewal blocked through the DMV tie-in program until the recall repair work has been performed. The identifying information submitted by manufacturers is needed to inform DMV of which vehicles or engines need to have their registration renewals blocked.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(11)**

**Purpose**

This subsection was created to require manufacturers to submit service bulletins, which were previously not submitted and are related to a nonconformity that is to be corrected under a recall.

**Rationale**

CARB needs to be aware of any modifications that are made to technical service bulletins that are related to a nonconformity that is to be corrected under a recall plan. This ensures that any updates to technical service bulletins will not impact the effectiveness of the recall plan.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (a)(12)**

**Purpose**

This subsection was created to require manufacturers to submit communications related to the nonconformity that would be transmitted to vehicle or engines owners and were previously not submitted to CARB.

**Rationale**

CARB needs to review communication that is transmitted to a vehicle/engine owner to ensure that there are not significant changes to the recall plan or procedures that owners are supposed to follow that would affect the capture rate.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (b)**

#### **Purpose**

This subsection was created to require manufacturers to update and inform CARB of any information that needs to be changed or was incorrect. Manufacturers would submit revised information and an explanation for the revisions. Also, it requires manufacturers to report information required in CCR Sections 2169.1(a)(5)-2169.1(a)(9) in cumulative totals.

#### **Rationale**

It is critical that manufacturers update any information that was previously submitted, but found to be inaccurate. The information provided in quarterly reports is necessary to evaluate the effectiveness of a recall plan. Information that is not accurate would result in CARB not being aware of the actual capture rate. Information must be submitted on a cumulative basis for CCR Sections 2169.1(a)(5)-2169.1(a)(9) so that the overall capture rate can be determined more easily.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (c)**

#### **Purpose**

This subsection was created to inform manufacturers that they must have certain information regarding the progress of the recall readily available if it is requested by CARB.

#### **Rationale**

CARB may need to review specific information regarding vehicles or engines involved with a recall to be certain that the recall is progressing acceptably and that it will achieve a high capture rate.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)(1)**

**Purpose**

This subsection was created to require manufacturers to have information regarding which owners received notification of the corrective action plan upon CARB request.

**Rationale**

If the progress of a recall is not meeting expectations and the capture rate is lower than expected, CARB may need this additional information to ensure that all owners were sufficiently notified and to determine if additional action is needed.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)(2)**

**Purpose:**

This subsection was created to require manufacturers to have information regarding which vehicles were repaired or inspected under the recall plan readily available for CARB if it is requested.

**Rationale:**

If the progress of a recall is not meeting expectations and the capture rate is lower than expected, CARB may need this additional information to determine why certain owners have not had the recall repair work performed. This will also aid in determining whether additional corrective action is needed.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Subsection (c)(3)**

**Purpose**

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This subsection was created to require manufacturers to have information regarding which vehicles were determined to not qualify for the recall repair due to removed or altered components.

### **Rationale**

If the progress of a recall is not meeting expectations and the capture rate is lower than expected due to vehicles or engines not qualifying for the recall repair, CARB may need to review this information to determine why certain vehicles or engines were considered ineligible for the recall repair. CARB may look into the issue further to assess whether the vehicles were incorrectly classified as ineligible for the recall repair.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

### **Subsection (d)**

#### **Purpose**

This subsection was created to require manufacturers to store information gathered to compile reports for at least one year beyond the useful life of the vehicles or engines involved with the recall. This information must be made available to CARB upon request.

#### **Rationale**

Information gathered to compile quarterly reports may need to be reviewed if abnormalities regarding the recall are discovered later. This will allow CARB to learn more about how the recall was implemented and how effective it was, which will allow CARB to determine if further action is necessary.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2169.8. Extension of Time.**

**Purpose**

This subsection was created to establish that the manufacturer, for good cause, may request in writing to extend a deadline in the correction action plan. CARB will approve or deny the extension in writing.

**Rationale**

CARB would consider extending a deadline if a manufacturer has shown good cause for such an extension. Manufacturers must present the case for extending the deadline in writing.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2170. Penalties.**

**Purpose**

This subsection was created to indicate that manufacturers that fail to carry out all recall or corrective action campaigns required by CARB would be subject to penalties pursuant to, but not limited to, Section 43016, Health and Safety Code.

**Rationale**

The penalties for failing to comply with corrective action requirements must be indicated so that manufacturers are aware of the consequences of failing to comply. Penalties will encourage manufacturers to comply with corrective action requirements to avoid negative consequences.

The current requirements related to emission warranty information and reporting are described in Chapter I, Section B.6; the need for emission warranty information and reporting clarifications and amendments is described in Chapter II, Section C.6; and the description of proposed emission warranty information and reporting clarifications and amendments is included in Chapter III, Section A.6.

**Section 2423. Exhaust Emission Standards and Test Procedures - Off-Road Compression-Ignition Engines.**

**Subsection (n)**

**Purpose**

The purpose of this amendment is to require manufacturers of APUs certified in California to comply with the proposed certification requirements in §1039.699 of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression-Ignition Engines, Part I-D." §1039.699 requires that APUs be certified to a 0.02 g/kW-hr PM emission standard to be legally installed in on-road tractors in California beginning with 2024 model year units.

**Rationale**

As discussed in Chapter III Section 10 of the Staff Report, this amendment is necessary because the current version of §1037.106(g)(2) of the "California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles," April 1, 2019, requires tractor manufacturers to install federally certified APUs instead of California certified units. The reason for this requirement is because, unlike in the federal provisions, CARB does not yet have a regulation in place requiring APUs to certify to a 0.02 g/kW-hr PM emission standard. California engines used in APUs are currently required to comply with only a 0.4 g/kW-hr PM standard under the Off-Road Tier 4 regulations. Therefore, CARB staff proposes to incorporate the federal certification requirements for APUs into CARB's off-road regulations, which will authorize CARB to take independent corrective action to resolve any violations of this requirement should they occur in-use. Independent enforcement authority will ensure that the emission benefits attributed to the requirements in §1037.106(g)(2) will be fully realized and protected in California.

The current APU requirements are described in Chapter I, Section B.10 of this Staff Report; the need for amendments related to APUs is described in Chapter II, Section C.10; and the description of proposed APU amendments and their feasibility is included in Chapter III, Section A.10.

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

**Subsection (c)(3)(A)c.**

**Purpose**

The purpose of this amendment is to create a new subsection (c)(3)c that would align the APU PM requirements adopted in the Phase 2 GHG regulations with the ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Idling ATCM) of title 13, CCR, section 2485. The PM requirements for APUs adopted in the California Phase 2 GHG regulations are currently proposed in this rulemaking to be codified in title 13, CCR, sections 2423(n).

**Rationale**

The proposed amendment is necessary to establish that APUs certified according to the procedures in the Phase 2 GHG requirements are also compliant with the requirements in the Idling ATCM and thus can be legally operated in California. Furthermore, it would provide assurance to trucking businesses that operate APUs in California, that APUs certified according to the Phase 2 GHG standards are also legal to operate in California. The proposed requirements are described in the Staff Report, Chapter III, section 10.

The Phase 2 GHG regulations identify APUs as enabling technologies to meet the Phase 2 GHG standards for sleeper cab tractors. However, in order to get GHG credit towards complying with the Phase 2 GHG tractor standards, the regulation requires that diesel APU's installed on tractors have to be certified to a PM standard of 0.02 g/kW-hr rather than the 0.40 g/kW-hr PM standard required for similar off-road diesel engines not used in APU applications. This standard is specified in 40 CFR 1039.699 and in this rulemaking, it is proposed that these requirements be incorporated in title 13, CCR, section 2423(n) to align California regulations with the federal regulations. Furthermore, it is proposed that the Idling ATCM references title 13, CCR, section 2423(n) so that the two California regulations are aligned and allow trucking businesses to legally operate in California APUs certified according to the Phase 2 GHG regulations.