State of California
AIR RESOURCES BOARD

**Final Statement of Reasons for Rulemaking,
Including Summary of Comments and Agency Response**

PUBLIC HEARING TO CONSIDER PROPOSED AMENDMENTS TO CALIFORNIA EMISSION CONTROL SYSTEM WARRANTY REGULATIONS AND MAINTENANCE PROVISIONS FOR 2022 AND SUBSEQUENT MODEL YEAR ON-ROAD HEAVY-DUTY DIESEL VEHICLES AND HEAVY-DUTY ENGINES WITH GROSS VEHICLE WEIGHT RATINGS GREATER THAN 14,000 POUNDS AND HEAVY-DUTY DIESEL ENGINES IN SUCH VEHICLES

Public Hearing Date: June 28, 2018
Agenda Item No.: 18-5-2

I. GENERAL

A. The Staff Report: Initial Statement of Reasons for Rulemaking (Staff Report or ISOR), entitled, "Public Hearing to Consider Proposed Amendments to California Emission Control System Warranty Regulations and Maintenance Provisions for 2022 and Subsequent Model Year On-Road Heavy-Duty Diesel Vehicles and Heavy-Duty Engines with Gross Vehicle Weight Ratings Greater than 14,000 Pounds and Heavy-Duty Diesel Engines in Such Vehicles," released to the public on May 8, 2018, is incorporated by reference herein. The Staff Report contains descriptions of the rationale for the proposed amendments, including Appendices A through J, which provide regulatory language and in-depth analysis in support of the rulemaking. On May 8, 2018, all references relied upon and identified in the staff report were made available to the public.

On June 28, 2018, the California Air Resources Board (CARB or Board) conducted a public hearing to consider the proposed amendments to the heavy-duty vehicle and engine warranty periods and the minimum allowable maintenance intervals. The Board received seven written comments during the 45-day comment period leading up to the hearing and heard oral testimony from eight stakeholders at the hearing. At the conclusion of the hearing, the Board approved Resolution 18-24, in which it approved the proposed amendments to the regulations and test procedures, including proposed 15-day modifications addressed at the hearing, and directed the Executive Officer to finalize the proposed amendments as specified in the Resolution pending comments related to the proposed 15-day modifications.

In particular, the Board approved staff's proposal to lengthen the California on-road heavy-duty vehicle and engine warranty periods such that manufacturers are required to warrant 2022 model year vehicles with heavy heavy-duty diesel engines (those certified for use in vehicles with gross vehicle weight rating (GVWR) greater than 33,000 pounds) for 350,000 miles or five years, whichever first occurs; vehicles with medium heavy-duty diesel engines (those certified for use in vehicles with GVWR greater than 19,500

pounds, but less than 33,000 pounds) for 150,000 miles or five years, whichever first occurs; and those with light heavy-duty diesel engines (those certified for use in vehicles greater than 14,000 pounds, but less than 19,500 pounds) for the full useful life of 110,000 miles or five years, whichever first occurs.

Additionally, the Board approved staff's proposal to remove the 3,000-hour warranty provision for diesel vehicles and engines to align with current federal warranty provisions that base the required emission warranty period on only miles and age, not on hours of operation.

The Board also approved staff's proposal to lengthen the minimum allowable maintenance intervals for heavy-duty engines to reflect current industry norms for scheduling replacement of emissions-related parts. This change limits manufacturers' ability to transfer the liability for part replacements to vehicle owners for emissions-related parts during the lengthened warranty periods, further strengthening warranty coverage.

The Board approved staff's proposal requiring manufacturers not to schedule replacements for turbochargers and exhaust gas recirculation systems during the useful life of the engine unless the manufacturer agrees to pay for the replacements.

The Board approved a clarification to the "General Emissions Warranty Coverage" applicability provision to include any part that causes the illumination of the heavy-duty on-board diagnostics (OBD) system's malfunction indicator light (MIL). Similarly, the Board approved a clarification to the definition of a "warranted part" such that the definition includes any part that affects the regulated emissions of criteria pollutants.

The text of the proposed modifications to the regulations, certification and test procedures, with the further modified text clearly indicated, was made available for a 15-day public comment period when a "Notice of Public Availability of Modified Text and Availability of Additional Documents," (15-Day Notice) was issued on January 2, 2019. Accordingly, the 15-day comment period started on January 2, 2019, and ended on January 17, 2019, at 5:00 p.m.

On the same date that the 15-Day Notice and all attachments were posted on CARB's website, the posted documents were also electronically distributed to other parties identified, per section 44(a), title 1, California Code of Regulations (CCR), in accordance with Government Code section 11340.85, including all persons having testified at the June 28, 2018, Board Hearing, all persons having submitted comments at the Board Hearing, all persons who submitted comments during the rulemaking comment period(s), and all organizations and individuals subscribed to the following CARB electronic distribution listings: Advanced Clean Trucks – "actruck," Innovative Clean Transit – "bus-act," On-Road Certification Program – "cert," Diesel Retrofit Program – "diesel-retrofit," Environmental Justice Stakeholders Group – "ej," Enforcement Activities – "enf," Freight Transport Efficiency Measures – "freight," Goods Movement Emission Reduction Program – "gmbond," Heavy-

Duty Vehicle Inspection and Maintenance – “hdim,” Heavy-Duty Low NOx – “hdlownox,” Heavy-Duty Vocational Vehicles GHG Program – “hdvvghg,” Carl Moyer Program – “moyer,” Mobile Source Program Mailouts and Manufacturers Advisory Correspondence (MACs) – “ms-mailings,” Truck and Bus Regulation – “onrdiesel,” Optional Reduced NOx Emission Standards for Heavy-Duty Engines – “optionnox,” Lower Emission School Bus Program – “schoolbus,” State Implementation Plan – “sip,” Sustainable Freight Transport Initiative – “sfti,” Solid Waste Collection Vehicles – “swcv,” and Waste Management Sector – “waste.”

This Final Statement of Reasons (FSOR) updates the Staff Report by identifying and providing the rationale for the modifications made to the originally proposed regulatory text, including non-substantive modifications. The FSOR also contains a summary of the comments received by CARB on the proposed amendments during the formal rulemaking process and CARB’s responses to those comments.

B. MANDATES AND FISCAL IMPACTS TO LOCAL GOVERNMENTS AND SCHOOL DISTRICTS

The Board has determined that this regulatory action will result in a mandate to local government agencies who purchase 2022 and subsequent model year heavy-duty vehicles greater than 14,000 pounds GVWR. However, the Board finds that the costs associated with this mandate are not reimbursable pursuant to Part 7 (commencing with section 17500), division 4, title 2 of the Government Code, because the additional costs and savings associated with the amendments apply generally to all entities that purchase affected engines and vehicles, private fleets and owners as well as state and local agencies.

The cost to local government in the current (2018/2019) fiscal year and two subsequent fiscal years is zero because the proposed amendments will not be implemented until year 2022. There will be costs and cost savings to local agencies who purchase heavy-duty vehicles greater than 14,000 pounds GVWR in future years. Local government agencies would be expected to pay a higher purchase price for new heavy-duty vehicles with engines covered by the proposed lengthened warranties and would also obtain the benefit of repair cost savings. CARB estimates the local government heavy-duty vehicle population to be about 8.1 percent of the state total, per CARB’s Emission Factors Model (EMFAC2017), thus local government would bear about 8.1 percent of the net cost of the proposed amendments. The cumulative regulatory cost to local government is estimated to be between $2,804,000 and $7,458,000 over 2022 through 2040, or approximately $148,000 to $393,000 per year on average.

C. CONSIDERATION OF ALTERNATIVES

The amended regulations now include warranty periods of 350,000 miles, 150,000 miles, and 110,000 miles for heavy-duty vehicles with heavy heavy-duty diesel engines, medium heavy-duty diesel engines, and light heavy-duty diesel engines, respectively. These warranty periods provide greater NOx and PM emission reductions than any of the alternatives

considered by staff, as illustrated in Table I-1 below.

As discussed in Chapter X of the Staff Report, staff analyzed the following alternatives to the Heavy-Duty Vehicle and Engine Warranty and Maintenance Interval amendments:

Alternative 1 would have required diesel heavy heavy-duty vehicles to comply with a lengthened warranty period of 350,000 miles, but would have retained the current warranty period for diesel light heavy-duty vehicles and medium heavy-duty vehicles. Alternative 1 was considered because it targets the class of vehicles with owners that stand to benefit the most from lengthened warranty periods and where there is the greatest disconnect between miles driven and required warranty periods. Given that diesel heavy heavy-duty vehicles have the highest rates of mileage accumulation, the current warranty period of 100,000 miles is not enough to ensure that emissions-related repairs are being performed as they should. As shown in Table I-1 below, Alternative 1 would provide 7.78 tons per day (tpd) of oxides of nitrogen (NOx) and 0.11 tpd of particulate matter (PM) emission reductions from heavy heavy-duty vehicles cumulatively over 2022 through 2040.

Table I-1. Costs, Benefits, and Cost-Effectiveness Comparison of Proposal and Alternatives (2017$)

NOx						
Scenario	**Net Regulatory Costs**		**Emission Reductions (tpd)**		**2022 through 2040 Cost-Effectiveness ($/lb.)**	
	Minimum	**Maximum**	**2030**	**2022-2040**	**Minimum**	**Maximum**
Proposed Amendments	$32,458,155	$86,339,875	0.75	14.96	$2.97	$7.91
Alternative 1	$9,901,443	$26,305,864	0.38	7.78	$1.74	$4.63
Alternative 2	$25,502,678	$68,250,410	0.55	10.99	$3.18	$8.51
PM						
Scenario	**Net Regulatory Costs**		**Emission Reductions (tpd)**		**2022 through 2040 Cost-Effectiveness ($/lb.)**	
	Minimum	**Maximum**	**2030**	**2022-2040**	**Minimum**	**Maximum**
Proposed Amendments	$2,156,493	$5,736,349	0.008	0.16	$18.35	$48.81
Alternative 1	$657,844	$1,747,739	0.006	0.11	$8.05	$21.38
Alternative 2	$1,694,377	$4,534,500	0.004	0.08	$30.54	$81.73

However, staff realized that 7.18 tpd of NOx and 0.05 tpd of PM emission

benefits would be lost by not including lengthened warranties for medium heavy-duty vehicles and light heavy-duty vehicles. Therefore, staff rejected Alternative 1 because it was less effective than the adopted amendments.

Alternative 2 would have required heavy heavy-duty vehicles to comply with a shorter warranty period of 250,000 miles. It would have required 185,000 miles for medium heavy-duty vehicles, and 110,000 miles for light heavy-duty vehicles. The 250,000 mile warranty for heavy heavy-duty vehicles was proposed by the Truck and Engine Manufacturers Association at the July 12, 2017 public workshop. As shown in Table I-1, this alternative would have provided about 11 tpd of NOx and 0.08 tpd of PM emission benefits, cumulative from 2022 through 2040, which is 27 percent and 50 percent less benefit, respectively, than the adopted amendments. The cost-effectiveness of this alternative ranges from $3.18 to $8.51 per pound of NOx and $30.54 to $81.73 per pound of PM, which is about 8 percent and 67 percent less cost-effective, respectively, than the adopted amendments. Staff rejected this alternative because it would yield very little emission benefit for heavy heavy-duty vehicles as most of these vehicles already have a warranty of 250,000 miles or more, and thus provides lower emission benefits and is also less cost-effective than the adopted amendments.

Table I-2 below provides a comparison of warranty period miles applicable to the proposed amendments versus Alternative 1 and Alternative 2.

Table I-2. Summary of Warranty Requirements in the Proposed Amendments and Alternatives

Heavy-Duty Category	Proposed Amendments (miles)	Alternative 1 (miles)	Alternative 2 (miles)
Heavy Heavy-Duty Vehicle	350,000	350,000	250,000
Medium Heavy-Duty Vehicle	150,000	100,000	185,000
Light Heavy-Duty Vehicle	110,000	100,000	110,000

For the reasons set forth in the Staff Report, in staff's comments and responses at the hearing, and in this FSOR, the Board determined that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulatory action was proposed, or would be as effective and less burdensome to affected private persons, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law than the action taken by the Board.

II. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL

A. MODIFICATIONS APPROVED AT THE BOARD HEARING AND PROVIDED FOR IN THE 15-DAY COMMENT PERIOD

Subsequent to the June 28, 2018, board hearing, modifications to the original proposal were made in order to address comments received during the 45-day public comment period. Staff released the 15-Day Notice that presented modifications to the regulatory and test procedure text pursuant to the Board's direction provided in Resolution 18-24. These modifications were explained in the "Notice of Public Availability of Modified Text" that was issued for a 15-day public comment period that began on January 2, 2019 and ended on January 17, 2019. Summarized below are the most significant modifications and staff's rationale for proposing such modifications:

1. Title 13, CCR:

   a. Section 2035 (c)(2)(C): Staff is proposing to clarify the date of incorporation for 40 Code of Federal Regulations (CFR) 1037.120, whereas placeholder language currently exists to approximate this date.

   b. Section 2035 (c)(2)(D): Staff is proposing to add language to clarify that the amendments to the definition of "warranted part" apply to only diesel-powered heavy-duty vehicles with engines that are certified on only diesel fuel. Additional grammatical revisions were made for clarifying applicability and readability.

   c. Section 2036 (b)(2): Staff is proposing to add clarifying language to ensure that the requirement that warranty coverage be extended to parts that illuminate the On-Board Diagnostics (OBD) Malfunction Indicator Light (MIL) be limited to only diesel-powered heavy-duty vehicles with engine families that are certified on only diesel fuel (e.g., dual-fuel engine families in which one fuel is diesel would not be covered). MIL illumination is only required for malfunctioning parts that affect the regulated emission of criteria pollutants. This includes parts that have a direct impact on criteria-pollutant emissions as well as parts that indirectly impact criteria-pollutant emissions as a result of the OBD system using these parts to monitor the performance of emissions-related parts with a direct impact. Parts that only affect the regulated emission of greenhouse gas pollutants are not required to be monitored by the OBD system. Additional grammatical revisions were made for clarifying applicability and readability.

   d. Section 2036 (c)(4)(B): Staff is proposing to add language that clarifies the lengthened warranty periods apply only to warranted parts that affect the regulated emission of criteria pollutants for only those heavy-duty vehicles with engine families that are certified on only diesel fuel. The greenhouse gas emissions-related parts identified in 2035(c)(2)(C), which include aerodynamic technologies such as skirts,

rear fairings, and low-rolling resistance tires, would not be required to meet the lengthened warranty periods. Also, engine families certified to diesel standards using alternative fuels, or dual fuels, would not be subject to the lengthened warranty periods. In addition, engine families certified on only diesel fuel for use in either hybrid vehicles exclusively or vehicles powered with fuel cells would not be subject to the lengthened warranty periods. However, engine families certified on only diesel fuel that have concurrent applications in both dedicated diesel-fueled vehicles and hybrid vehicles, would need to comply with the lengthened warranty periods in this section. Additional grammatical revisions were made for clarifying applicability and readability.

e. Section 2036 (f)(A): Staff is proposing to correct a typographical error regarding the date of incorporation for 40 CFR 1037.120. The current date is specified as October 26, 2016, but the correct date should be October 25, 2016.

f. Section 2036 (f)(1)(B): Staff is proposing to clarify the applicability of (f)(1)(B) by removing a provision that, as proposed, would exclude all manufacturers of heavy-duty vehicles and engines from supplying a list of warranted parts for new vehicles and engines that are capable of illuminating the MIL. The original intent of this provision was to ensure that the amended requirements of (f)(1)(B), i.e., the incorporation of parts capable of illuminating the MIL into the designated warrantable parts list furnished by the manufacturer, would apply only to parts that affect the regulated emission of criteria pollutants, and not parts that affect the regulated emission of greenhouse gas pollutants. The originally proposed provision, however, would have unintentionally exempted all heavy-duty vehicles from the requirements of (f)(1)(B) because all heavy-duty vehicles are required to be certified to both the greenhouse gas emission standards as well as the criteria pollutant emission standards by virtue of engines being part of the vehicles. This clearly was not the intent of the provision. Furthermore, staff has now determined that the provision is unnecessary because MIL illumination is only required for malfunctioning parts that directly impact criteria-pollutant emissions as well as parts that indirectly impact criteria-pollutant emissions as a result of the OBD system using them to monitor the performance of emissions-related parts with a direct impact. Parts that only affect the regulated emission of greenhouse gas pollutants are currently not required to be monitored by the OBD system. Staff is also proposing to delete a circular reference in the originally proposed text of (f)(1)(B). Additional grammatical revisions were made for clarifying applicability and readability.

2. “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” (incorporated by reference in 13 CCR):

a. Section 86.004-25 1.3: Staff is proposing to add language to clarify that the revised maintenance intervals only apply to heavy-duty vehicles and engine families that were certified on only diesel fuel. Those that were certified on fuels other than diesel would not be affected by the proposed changes, nor would engine families used exclusively in hybrid applications.

b. Section 86.004-25 1.5: Staff is proposing to add language to clarify that the revised maintenance intervals only apply to heavy-duty vehicles and engine families that were certified on only diesel fuel. Those that were certified on fuels other than diesel would not be affected by the proposed changes, nor would engine families used exclusively in hybrid applications.

c. Section 86.004-25 1.7: Staff is proposing to further clarify the applicability of this section to only parts that affect the regulated emissions of criteria pollutants and to heavy-duty engine families that were certified on only diesel fuel. Additionally, staff is proposing to clarify that sensors and actuators, integral to the operation of turbochargers and exhaust gas recirculation (EGR) valves and coolers that cannot be repaired without removing or replacing the turbocharger or EGR valve/cooler, shall not have repair/replacement maintenance intervals scheduled throughout the applicable useful life of the heavy-duty diesel engine. Non-integral sensors and actuators, while still necessary for the proper emissions critical functioning of the turbocharger or EGR systems, can be repaired or replaced at lesser cost because they do not require removal of the turbocharger or EGR system; therefore, lengthened maintenance intervals are not justified for these components.

3. "Staff Report: Initial Statement of Reasons, Public Hearing to Consider proposed Amendments to California Emission Control System Warranty Regulations and Maintenance Provisions for 2022 and Subsequent Model Year On-Road Heavy-Duty Diesel Vehicles and Heavy-Duty Engines with Gross Vehicle Weight Ratings Greater Than 14,000 Pounds and Heavy-Duty Engines in Such Vehicles":

a. The fourth sentence in Section X.A was modified to include a reference to Table X-2, providing substance to the values cited in the text.

b. The third sentence in Section X.B incorrectly cited Table 38, rather than Table X-2. There is no Table 38 in the Staff Report. Staff has therefore corrected the prior reference to Table 38 to now refer to the correct reference of Table X-2.

c. The third sentence in Section X.B also stated that Alternative 2 "would provide about 11 tons per day of NOx and 0.08 tons per day of PM emission benefits, cumulative from 2022 through 2040, which is 27 percent and 50 percent less benefit, respectively, than the proposed

amendments." These estimates of NOx and PM emission benefits were previously not expressly set forth in Table X-2. Staff has accordingly modified Table X-2 to include a column distinguishing cumulative Emission Reductions for 2022 through 2040 (tpd) vs. Emission Reductions in 2030 (tpd) for both PM and NOx.

d. The fourth sentence in Section X.B incorrectly cited Table 42 rather than Table X-2. There is no Table 42 in the Staff Report. Staff has therefore corrected the prior reference to Table 42 to now refer to the correct reference of Table X-2.

B. NON-SUBSTANTIAL MODIFICATIONS

No non-substantial modifications were made to the regulations, test procedures, or any other related document subsequent to the 15-day public comment period mentioned above.

III. DOCUMENTS INCORPORATED BY REFERENCE

The regulation and the incorporated test procedures adopted by the Executive Officer incorporate by reference the following documents:

- Section 1037.120, subpart B, part 1037, title 40, CFR, as last amended by the United States Environmental Protection Agency (U.S. EPA) on October 25, 2016, incorporated by reference in 13 CCR, sections 2035(c)(2)(C) and 2036(f)(1)(A).
- Amended test procedure "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel-Engines and Vehicles," last amended December 19, 2018, incorporated by reference in 13 CCR, sections 1956.8(b) and 2065.

The following document is incorporated by reference in the amended test procedure entitled "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as last amended December 19, 2018, by the rulemaking action associated with California Greenhouse Gas Emissions Standards for Medium- and Heavy-Duty Engines and Vehicles and Proposed Amendments to the Tractor-Trailer GHG Regulation, and not by this rulemaking action:

- Section 86.004-25, subpart T, part 86, title 40, CFR, as last amended by the U.S. EPA on October 25, 2016.

The CARB documents are readily available from CARB upon request and were made available in the context of this rulemaking in the manner specified in Government Code section 11346.5(b). The amended test procedures are available online at CARB's website https://ww2.arb.ca.gov/rulemaking/2018/hd-warranty-2018. The CFR is published by the Office of the Federal Registrar, National Archives and Records Administration, and is therefore readily available to the public https://www.govinfo.gov/app/collection/cfr.

The test procedures incorporate portions of the CFR because CARB's requirements are substantially based on the federal emission regulations. Manufacturers typically certify engines to a version of the federal emission standards and test procedures, which has been modified by state requirements. Incorporation of the federal regulations by reference makes it easier for manufacturers to know when the two sets of regulations are identical and when they differ. Each of the incorporated CFR provisions is identified by date in CARB's test procedure documents.

The test procedures are incorporated by reference because it would be cumbersome, unduly expensive, and otherwise impractical to print them in the CCR. Existing CARB administrative practice has been to have the test procedures incorporated by reference rather than printed in the CCR because the documents are lengthy and highly technical test methods and engineering documents that would add unnecessary additional volume to the regulation. They include the "nuts and bolts" engineering protocols, computer modeling, and laboratory practices required for certification of the regulated engines and vehicles and have an audience limited to the technical staff at a portion of reporting facilities, most of whom are already familiar with these methods and documents. Also, the incorporated documents were made available by CARB upon request during the rulemaking action and will continue to be available in the future from the CARB website at https://ww2.arb.ca.gov/rulemaking/2018/hd-warranty-2018. The documents are available from college and public libraries, or may be purchased directly from the publishers.

IV. SUMMARY OF COMMENTS AND AGENCY RESPONSE

Written comments were received during the 45-day comment period in response to the June 28, 2018 Board Hearing's public notice, and written and oral comments were presented at the Board Hearing. Listed below in Table 1 are the organizations and individuals that provided comments during the 45-day comment period:

Table 1 – 45-Day Commenters

Commenter	Affiliation
Nielsen, Erika (5/11/2018)	BorgWarner Inc. (BW)
Reif, Christian (6/19/2018)	Santa Clara Valley Transportation Authority (VTA)
French, Timothy (6/25/2018)	Truck and Engine Manufactures Assoc. (EMA)
Holmes, Laurie (6/25/2018)	Motor and Equipment Manufacturers Assoc. (MEMA)
Geller, Michael (6/25/2018)	Manufacturers of Emission Controls Assoc. (MECA)
Tunnell, Michael (6/25/2018)	American Trucking Associations (ATA)
Kinsey, John (6/25/2018)	Wagner Jones Helsley PC for John Lawson (Lawson)

Listed below in Table 2 are the organizations and individuals who provided oral testimony at the June 28, 2018, Board Hearing in Sacramento, California:

Table 2 – June 28, 2018, Board Hearing Presenters

Commenter	Affiliation
Lancaster, David R.	BorgWarner Inc. (BW)
Wallauch, Steve	Platinum Advisors Lobbyist (PA)
Geller, Michael D.	Manufacturers of Emission Controls Assoc. (MECA)
Blubaugh, Timothy A.	Truck and Engine Manufactures Assoc. (EMA)
Magavern, Bill	Coalition for Clean Air (CCA)
Tunnell, Michael	American Trucking Associations (ATA)
Barrett, Will	American Lung Assoc. (ALA)
McGhee, Lisa	San Diego Airport Parking Co. (SDAP)

Listed below in Table 3 are the organizations and individuals that submitted written comments on the modifications or additional supporting information during the 15-day comment period:

Table 3 – 15-Day Commenters

Commenter	Affiliation
Rocky Rushing	Coalition for Clean Air (CCA-15)
LeRoy Hoffman	Humboldt Towing, Inc. (HTI-15)

Comments Supporting the Amendments:

1. Comment: I support this proposal and request the Board to take into consideration how different diesel technology is to ZEVs. Diesel has been reliable for decades. (SDAP)
2. Comment: We strongly support the proposal that is before you, particularly, the elimination of the hours of operation limits. Our buses travel about on average 12 miles per hour. Therefore, you reach that 3,000-hour limit within 36,000 miles of travel operation. This is a major step forward for us, and we really appreciate the work that has been done and we urge your support for this rule. (PA)
3. Comment: The Coalition for Clean Air supports CARB's proposed heavy-duty warranty amendments. It is clear that the current standards are outdated and insufficient to the task of assuring that emission controls will work over the long term. If we have manufacturers who are selling and profiting from vehicles that will go 800,000 to a million miles, it is fair to ask

them to warranty the emission systems for the extended periods of 150,000 or 350,000 miles, as this proposal would have it. (CCA)

4. Comment: The American Lung Association strongly supports the Board's efforts to ensure that all the vehicles on the road are attaining their designated standards, and that the performance of all vehicles, especially in the heavy-duty sector, is contributing to a clean air future for all Californians. The proposal goes a long way to ensuring emission controls are maintained and functioning as intended over the full life of the vehicle. (ALA)

5. Comment: MEMA supports CARB's proposal to amend language in 13 CCR 2036(d) to align California's regulation with the existing federal provisions that do not allow scheduled maintenance to truncate the warranty. (MEMA)

6. Comment: We thank CARB staff for setting this intermediate stage of warranty life increase at 350,000 miles to allow component suppliers to better understand the economic impact of longer warranty periods on their business. We believe that this proposal will allow emission control technology suppliers time to evaluate the effects of increased warranty requirements. (MECA)

7. Comment: The Coalition for Clean Air supports the proposed 15-day amendment language to the California Emission Control System Warranty Regulations and Maintenance Provisions. Current warranty periods are hardly adequate for modern heavy-duty trucks that can remain in operation for more than a million miles, and as staff noted, less than a third of owners repair vehicle emission-control parts beyond warranty unless gas mileage or performance is significantly reduced. Extending warranties for heavy-duty diesel engines to 350,000 miles and increasing minimum allowed maintenance intervals as proposed not only makes sense from a clean-air and health perspective, but also for consumer protection purposes. (CCA-15)

   Agency Response: CARB agrees with Comments 1 through 7 that the warranty amendments are necessary to protect public health and reduce emissions from heavy-duty vehicles. CARB staff will continue to investigate emission control technologies for diesel engines and develop new regulations as appropriate.

Comments Related to Timing and Applicability:

8. Comment: Defer the proposed extended warranty and maintenance amendments so they are components of the more comprehensive suite of heavy-duty low-NOx regulations that CARB staff are anticipating for adoption at the end of 2019. By adopting extended warranty and maintenance intervals before considering what the applicable low-NOx emission requirements will be in 2024 and beyond, CARB is not proceeding in what would otherwise be the proper logical order. That out-of-order sequencing threatens to create feasibility issues for future emissions-related components by locking in their durability and maintenance requirements before we know what the design features of those future components might be and how they might perform in production vehicles and engines. (EMA)

9. Comment: We continue to recommend that CARB develop a holistic low-NOx emission regulation that incorporates all of the necessary components

instead of separate regulations for some elements such as warranty. (MECA)

Agency Response: CARB disagrees with the concerns raised in Comments 8 and 9 above regarding a delayed approach to longer warranty periods. Many heavy-duty trucks routinely remain in service far longer than the existing 100,000 mile warranty period, and many are already covered by extended warranties that exceed the lengthened warranty periods provided in CARB staff's amendments. Therefore, waiting to adopt lengthened warranty periods until future emission control technologies are demonstrated to be durable is technologically unnecessary, and would only serve to delay the emission benefits explained in Appendix F of the Staff Report. Longer warranty periods incentivize timely repairs of malfunctioning emissions related parts that might otherwise go unaddressed should vehicle owners have to pay out-of-pocket for those repairs. Timely repairs help to ensure that a vehicle's emissions control system continues to function properly throughout the vehicle's service life. Waiting to address the need for longer warranty periods to coincide with the omnibus low-NOx rulemaking currently underway would have failed to capitalize on the opportunity to maximize emission benefits.

10. Comment: CARB should add explicit regulatory language stating that the emissions warranty and maintenance periods specifically applicable to greenhouse gas components shall remain the same as those in effect prior to June 28, 2018. While the ISOR states, "there are no proposed modifications to the warranty periods specific to greenhouse gas components," the amended regulatory provisions do not make that sufficiently clear. (EMA)

    Agency Response: The amendments in 13 CCR 2035 (c)(2)(D)1., clearly define a warranted part, for the purposes of lengthening warranty in this rulemaking, as any part that affects the regulated emission of criteria pollutants from a motor vehicle or motor vehicle engine that is subject to California emission standards for 2022 and subsequent heavy-duty vehicles greater than 14,000 pounds GVWR. There are separate warranty periods defined in 13 CCR 2036 (c)(4.1) and (4.2) for heavy-duty vehicles certified to greenhouse gas emission standards compared to the amended requirements in 13 CCR 2036 (c)(4). The ISOR and the Summary and Rationale in Appendix I both state clearly that the proposed amendments in this rulemaking do not modify the current warranty requirements for greenhouse gas components. However, in response to this comment, CARB staff added additional clarifying language to 2036 (c)(4)(B) in the 15-Day Notice that references 2035 (c)(2)(D)1., further emphasizing that lengthened warranty coverage is limited only to those parts that affect criteria pollutants.

Comments Addressing Hourly Warranty Limits:

11. Comment: Extend warranty engine run hours from 3,000 hours to 9,000 hours for transit bus applications. Many transit agencies purchase extended warranties, but regularly see their extended warranty fall short of expectations when told that the engine has exceeded its operational hour limit of 3,000 hours. VTA has been unable to change this limit via negotiations with Cummins. (VTA)

12. Comment: Engine operating hours should be included in the warranty proposal. MEMA recommends that emission control system warranties are limited to 10,000 hours in heavy-duty vehicle Classes 4-8. A limit of 10,000 hours is a substantial increase over the current 3,000 hours but is more realistically representative of the five (5) years in-service for a typical 8-hour per day, non-stop operation, which is typical of what most vocational type vehicles would experience. Since there are many heavy-duty vehicle applications that are dependent on hours of operation and because minimum maintenance intervals still include hours of operations terms, it makes sense for CARB to continue limiting warranty periods based on hours of operation. (MEMA)

13. Comment: MECA suggests that CARB retain the concept of an hours limit in the current warranty rule update to account for high-use low-mileage vehicles. The hourly warranty limit increase should be proportional to the increased mileage limit being proposed. (MECA)

    Agency Response: CARB disagrees with the concerns raised in Comments 11, 12, and 13 above regarding the retention of hourly warranty periods. A key difference between current federal and California heavy-duty vehicle warranty requirements is that the preexisting California regulations included a provision allowing warranty periods for heavy-duty diesel engines to be limited based on “hours of operation” in addition to “time in service” (i.e., years) or accumulated miles. The original intent of limiting warranty periods on the basis of hours of operation was to prevent an unduly burdensome warranty obligation for vocational vehicles, such as refuse haulers, with engines that idle for many hours or that are driven very few miles at low speeds, and hence do not accumulate mileage as quickly as other heavy-duty vehicles. Such vocational applications may only accumulate 15,000 miles per year, but may idle for many hours. However, given that operating conditions in California are no more severe than in other states, it is difficult to justify keeping the provision, especially considering that vocational manufacturers have been successfully federally certifying engines and offering federal warranties that do not contain this 3,000-hour engine operating provision for years. The elimination of the hourly limit should therefore not present a burden to vocational vehicle manufacturers in that the amended yearly warranty period will not be extended beyond the current 5-year period already in effect. Just as they currently do federally, manufacturers would need to design engines to handle whatever hours of operation they could be expected to encounter during 5 years of operation.

Comments Addressing Minimum Allowable Maintenance Intervals:

14. Comment: Clarify and classify turbocharger and EGR electronic actuators and sensors to have the same minimum repair/replacement intervals as proposed for electronic control unit, sensors, and actuators. Enabling maintenance by repair or replacement of the actuator would ensure the emission performance of the engine remains within its limits. The EGR and turbocharger actuators are easily accessible and relatively inexpensive. As such, extending their warranty coverage beyond the distances shown in your table is unwarranted. In addition, replacing an external component by itself means the integrity of the air and EGR system would be maintained thereby avoiding collateral damage. These parts should not be included with the turbocharger or EGR systems as "Not replaceable." In some cases, the EGR electronic actuator is integrated with the EGR valve. In these cases, the entire EGR assembly (EGR electronic actuator and EGR valve) would need to be replaced according to the intervals described above. There are no integration issues with the turbocharger actuators or sensors. These parts can be changed without changing the turbocharger. (BW)

15. Comment: MEMA urges CARB to clarify that turbocharger electronic actuators and sensors and EGR electronic actuators and sensors have a minimum repair and replacement interval identical to the timetable of electronic control units, sensors, and actuators. The design of EGR and turbocharger electronic actuators and sensors are similar to other sensors and actuators as they employ exactly the same technology. Therefore, it is important that turbocharger and EGR electronic actuators and sensors are provided a reasonable timeframe for minimum repair and replacement similar to other actuators and sensors, and are not categorized as "not replaceable." To finalize a rule requiring a longer life, without providing a transition time to allow for design improvement would hurt the vehicle industry and could have a major negative impact on suppliers. (MEMA)

16. Comment: MECA requests that CARB staff include language similar to other "not replaceable" components like diesel particulate filters (DPF) and selective catalyst reduction (SCR) systems in the minimum repair/replacement interval tables to allow for certain components, which are part of a larger technology system, to be designated for repair or replacement. For components that are usually easily accessible and relatively inexpensive, we request that they be subject to the intervals designated for the "ECU, Sensors, Actuators" category in the "Heavy Heavy-Duty Diesel Engine (GVWR > 33,000 lb.) Maintenance Interval" table. In addition, we request that these parts not be included with the turbocharger or EGR system as "not replaceable." (MECA)

    Agency Response: CARB agrees with the concerns raised in Comments 14, 15, and 16 above with respect to sensors and actuators used by the turbocharger and EGR systems that are easily serviceable and that do not require removal and/or replacement of the entire system in order to make repairs. As a result, CARB staff changed the maintenance interval requirements in 86.004.25 of the California test procedures to address integrated sensors and actuators differently than non-integrated sensors and actuators as part of the 15-Day Amendments published on January 2, 2019.

As a result, only integrated sensors and actuators that cannot be repaired without removing the EGR or turbocharger are subject to the non-replacement provisions in 86.004-25 of the California test procedures. Other sensors and actuators used by these systems are subject only to the less stringent maintenance intervals specified for non-integrated usage.

17. Comment: There are many causation factors, including a high rate of misdiagnoses, that can drive emissions systems' components to have high failure or replacement rates. When emission system components fail, it is often a result of another component, a mechanical failure within the vehicle or an external condition. Further, inadequate or incomplete service diagnostic routines can also incorrectly identify faults in these components. Turbochargers, after being replaced, often fail again due to repairs conducted in an unclean environment or from failure to clean properly the upstream ducting and filters and downstream ducting and intercoolers. When turbocharger or EGR systems fail, it is often times a result of neglect, severe service operation, owner's vehicle maintenance habits, or poor road conditions. Further, other component failures could lead to emissions issues such as injection systems and after-treatment systems. Parts manufacturers should not be held liable for failures that are not their fault. (MEMA)

    Agency Response: While some heavy-duty engine families have been identified with extremely high failure rates for turbochargers, EGR systems, DPFs, and SCR, if the root causes for these failures are the owners' neglect, abuse, or maintenance habits, then it is not reasonable that the supplier should incur additional costs to replace these parts under a lengthened warranty. The existing provisions in 13 CCR 2036(j)(1) maintain that if a part failure (during the warranty period) is determined to be the result of abuse, neglect, improper maintenance, tampering or unapproved modifications, the warranty for that part may be revoked by the manufacturer. Therefore, CARB staff's proposal does not place any additional burdens on the supplier for circumstances beyond its control.

Comments Addressing the Economic Analysis:

18. Comment: MEMA urges CARB to more fully investigate and evaluate not only the actual technology issues behind the high failure rates observed in CARB's data, but also the economic impact expanding such warranties will have on various stakeholders, including the end-user (i.e., consumers and fleets). (MEMA)

    Agency Response: CARB staff's premise for amending the warranty periods is not defined exclusively by high failure rates or technology. Many heavy-duty vehicles have service lives that are multiple times beyond the existing 100,000 mile warranty period. The adoption of a lengthened warranty period for these engines greatly increases the likelihood that vehicle owners will address emission-related malfunctions in a timely manner throughout a greater portion of the heavy-duty vehicle's service life.

    With that said, the Economic Impacts Analysis/Assessment section of the ISOR, Section IX. A. 5., analyzed costs and savings to the vehicle purchaser and determined that on average the net cost (i.e., cost minus savings) on a per-vehicle basis for vehicle purchasers would be between $28 and $315. CARB staff's methodology in calculating these costs and savings is based on

current warranty claim rates for individual parts for the most recent model year for which a full five years of data (i.e., model year 2012) was available under today's emission warranties. CARB staff used those data to project the additional claims that would occur under the proposed longer warranties. Next, staff estimated fail rates for new parts covered under the amendments that are not covered today (i.e., on-board diagnostic sensors, etc., that provide necessary inputs for the monitoring of other parts that directly affect emissions). Then CARB staff estimated the cost of the projected new warranty claims by using parts and labor costs from heavy-duty repair shops and internet searches. After that, CARB staff assumed manufacturers would pass on the cost of covering claims under the lengthened warranty periods to vehicle purchasers via higher purchase prices, but that vehicle purchasers would recover much of these costs via savings from not having to pay for repairs out of pocket during the warranty period. A more detailed analysis of these methodologies and conclusions are available in the Staff Report's Appendix C: ECONOMIC IMPACT ANALYSIS / ASSESSMENT, at https://www.arb.ca.gov/regact/2018/hdwarranty18/appc.pdf?_ga=2.145610548.1274324560.1550599628-921340117.1451330431.

19. Comment: MEMA requests that CARB reflect the potential increased costs to suppliers in the staff's initial statement of reasons' economic impacts analysis and assessment. Suppliers may not have the necessary data and information needed to ensure improvement of parts capable of meeting the extended warranties. In order for suppliers to accurately estimate warranty cost on emission products and system products, suppliers will need to develop new programs to validate the new durability requirements of this warranty program. This will be needed for all components in the emissions control system resulting in a significant increase in costs to suppliers. Suppliers may likely bear more of the burden and costs of the extended warranty than the OEMs. (MEMA)

    Agency Response: As discussed in Section IX A. 5. D. of the Economics Impact Analysis/Assessment section of the ISOR, the amendments would have direct cost impacts on heavy-duty engine and vehicle manufacturers. Individual parts suppliers who have contractual agreements with the engine and vehicle manufacturers were incorporated into this analysis, but costs were not separately attributed to them because the manufacturer is ultimately responsible/liable for replacing parts under warranty. Furthermore, emissions-related parts are already required to remain durable throughout the useful life of the engine under existing federal and state laws as a condition of certification, and the amended warranty periods are still less than useful life. Under the presumption that the supplied parts were designed properly and the constraints of the parts' applicability were clearly expressed to the engine and vehicle manufacturers prior to purchase and installation, no additional reengineering or costs to suppliers should be necessary to address the warranty amendments. CARB staff has had many discussions with part suppliers, and has been told that the most critical and costly emission-related parts (i.e., DPFs, SCR, turbochargers, and EGR) are typically designed to last for at least 1,000,000 miles of heavy-duty vehicle service. This design period exceeds the maximum amended warranty period, as well as useful life, by more than 100 percent.

20. Comment: The longer warranty requirements will have a negative impact on aftermarket parts manufacturers due to the requirement that aftermarket parts may not be installed on vehicles that are currently under warranty. The availability of certain aftermarket parts will likely decrease in California if manufacturers of these parts are unable to recover the investment needed to develop, manufacture and market them. (MECA)

21. Comment: The extension of warranties will have a negative impact on the sale of aftermarket emissions parts. Longer warranties will have an implied restriction to use only OEM service parts (due to the risk of voided warranties). This may result in a near total monopoly for OEM service components. Eventually, this reduced demand will affect the availability of quality emissions-related components – equally equivalent in form, fit and function – for repairs during or after a warranty period. To minimize the potential negative impact to aftermarket businesses, MEMA recommends CARB include regulatory language that ensures aftermarket service providers have equal access to the necessary tooling (e.g. scan tools, etc.), and repair and diagnostic information as an OEM service provider. Allowing access to the tooling, and repair and diagnostic information would help maintain aftermarket competition and would help ensure that consumers and fleets owners continue to have market choice. Many vehicle owners typically will have warranty repairs and non-warranty repairs performed by the OEM service provider in order to reduce critical downtime. Reducing free and open competition would affect aftermarket service and parts suppliers in California – and across the U.S. – and has the potential to negatively impact the competitiveness and viability of smaller aftermarket companies. (MEMA)

    Agency Response: No changes were made in response to Comments 20 and 21. The amendments extend the emissions warranty period to a maximum of 350,000 miles on heavy-duty vehicles, so there will still be ample opportunities for aftermarket suppliers to sell products for as many as 650,000 miles per Class 8 engine considering the typical longevity of modern trucks. The bottom line is that the aftermarket business is not going to disappear when longer warranty periods are implemented, and will continue to be an integral part of meeting the future demand for replacement, add-on, and modified parts.

    The request for CARB to require equal access of tools and diagnostic information to service providers is outside the scope of this rulemaking action. However, 13 CCR 1969 (h)(1)(A) already requires engine manufacturers “to make available for purchase through reasonable business means all emission-related diagnostic tools currently available to covered persons, including installation software and data files used in such equipment.”

22. Comment: The costs associated with the time needed for truck makers and parts suppliers to investigate warranty claims, including the administrative effort to track and ship returned parts as well as the time to test and diagnose the root-cause of the failed component need to be included in the cost analysis. (MECA)

    Agency Response: The expenses referenced in Comment 22 are already factored in the total cost assessments. Section IX A. 3. of the Economic Impacts Analysis/Assessment section of the ISOR describes manufacturer

costs associated with submitting warranty claims data to CARB under 13 CCR sections 2141 to 2146 – those costs include costs associated with the actions identified above, including actions to investigate warranty claims, track and ship parts for analysis, and diagnosing the probable cause of failure. See e.g., 13 CCR sections 2146(c)(3), (4). Individual parts suppliers who have contractual agreements with the engine and vehicle manufacturers were also incorporated into this analysis, but costs were not separately attributed to them because the certifying manufacturer is ultimately responsible/liable for replacing parts under warranty.

23. Comment: Discrepancies exist between survey costs and the cost projections used in the ISOR. Statements indicate that companies currently purchase extended warranties for several thousand dollars and, by enacting these amendments, companies will now receive extended warranty coverage for a few hundred dollars. It is difficult to reconcile these numbers. (ATA)

    Agency Response: Contrary to ATA's statements in Comment, 23, CARB staff's cost projections in the ISOR are consistent with the survey results. On average for all heavy-duty vehicle classes, CARB estimates the post-markup and pre-financing additional capital costs per vehicle to be between $217 and $633, as explained in the ISOR and in Table 23 of Appendix C - Cost and Economic Analysis. The commenter suggests that these values are inconsistent with CARB staff's estimates for the increase in purchase price of vehicles with the amended lengthened warranty periods, which can range from $2,529 to $3,923 (pre-financed) as explained in Table IX-7 of the ISOR. There is no inconsistency. CARB staff's analysis of warranty coverage in the heavy-duty vehicle sector, based on the Institute for Social Research's (ISR) survey results, suggests that approximately 40 percent of new heavy-duty vehicles are purchased with warranties that extend coverage throughout useful-life. Of the remaining 60 percent not covered through useful-life, approximately 75 percent of Class 8 vehicles are purchased with "base" warranties of 250,000 miles. This leaves approximately 15 percent of Class 8 vehicles and 60 percent of Class 4-7 vehicles with only 100,000 mile warranty coverage. Therefore, there is not any additional cost to warrant a heavy-duty vehicle for which an owner already pays extra to warrant the vehicle through the amended warranty period. When averaged across all Class 4-8 vehicles, the majority of which are already covered beyond the amended warranty periods, the average cost per vehicle is significantly less than the cost to warrant a single vehicle that is only warranted to 100,000 miles. CARB maintains that this is an accurate representation of costs, especially should manufacturers choose to distribute costs evenly across product lines.

24. Comment: Due to the alignment of the Truck and Bus Rule, the planned low-NOx emissions standard, and the proposed warranty amendments, capital costs associated with new truck purchases in California will be uniquely affected and result in impacts that have not been addressed in the analysis. We ask the Board to reevaluate the costs involved with this proposal and/or consider an alternative approach which incentivizes the additional cost of the extended warranty coverage. (ATA)

    Agency Response: Although the request for an incentive program instead of mandatory warranty periods is outside the scope of this regulatory action, the

Agency nevertheless responds that the lengthened warranty periods are already an incentive program in that they encourage vehicle owners to replace emissions-related parts that they might otherwise not do if they had to pay out of pocket at the time of repair.

Further, the commenter requests CARB to evaluate the capital costs associated with new truck purchase requirements within the context of other future CARB rulemaking actions. This is outside the scope of this rulemaking action's cost analysis. For any future CARB rulemaking actions, the cost impacts of those future rulemaking actions will be evaluated as part of those actions – not in this rulemaking action. The California Administrative Procedure Act (APA) does not require that separate regulatory proposals generally relating to the same general subject matter or class of vehicles to be treated as shared projects, as the commenter appears to assert is the case.[1] Because regulations are necessarily developed over time, to address specific issues and legislative mandates, it would be difficult and unnecessary to analyze all potential regulations that purportedly relate in some way to a class or category of vehicles together in one document at one moment in time; the delays and complexities involved in attempting to do so, moreover, could well delay critical public health protections mandated by the legislature.

25. Comment: Decreased or shifted purchases as a result of the additional warranty cost are not addressed. Given the economics of supply and demand, an increase in cost is expected to decrease demand, resulting in an overall decrease in new truck purchases or a shift of purchases to less expensive options outside the State. (ATA)

    Agency Response: CARB disagrees that the interaction of the programs mentioned will present a unique challenge to California consumers, or that the warranty amendments will decrease new vehicle purchases or change the duration of ownership of secondhand heavy-duty vehicles. The amendments will not affect the longevity of heavy-duty vehicles with respect to service life, and secondhand vehicle owners will continue to buy according to their needs. Owners of new vehicles may keep their vehicles longer because of the lengthened warranty period requirements, but by the time the vehicles enter the secondhand market very little warranty period is likely to remain. CARB staff believes that the estimated maximum net increase in a vehicle purchase cost of $315 shown in Table IX-10, of the ISOR, would not result in a decrease in new vehicle purchases or a shift of purchases to outside California. With respect to consumers opting to purchase slightly less expensive vehicles out of state, the California Health and Safety Code already imposes a penalty of $37,500 for even offering for sale new motor vehicles that are not certified to California standards. Thus, CARB believes there is already sufficient deterrent against California-based vehicle owners from going out of state to purchase a heavy-duty vehicle for use in California.

[1] See Govt. Code § 11346.4(a) (requiring a state agency to provide notice of a proposed action to adopt, amend, or repeal a regulation at least 45 days prior to the hearing and close of public comment period of the proposed action; Govt. Code § 11342.595 (defining "proposed action" as the regulatory action, notice of which is submitted to the [OAL] for publication in the California Regulatory Notice Register."

Comments Addressing the Inventory Analysis:

26. Comment: Mileage accumulation rates need to be reexamined prior to adoption. At the most recent annual Transportation Research Board meeting, a poster titled, *Preliminary Findings from the California Vehicle Inventory and Use Survey (CA-VIUS)*, presented mileage data that is more than one-third fewer annual miles than the projections used by EMFAC to develop the proposed amendments. As California-registered trucks will be most affected by this proposal, incorrect mileage assumptions can lead to new truck buyers having to pay for a level of warranty protection they do not require. (ATA)

    Agency Response: In EMFAC, vehicle annual accrual mileage rates vary by vehicle age and by the type of vehicle. CARB staff believes that the poster cited by ATA presents the fleet average miles for Class 7–8 California-registered trucks while the EMFAC mileage accrual rates that ATA is referring to are mostly for the model year 2022 and newer trucks that would be affected by the amendments. Typically, newer trucks have higher mileage accrual rates than the average mileage accrual rates of trucks of all ages. As an example, CARB staff calculated the fleet average mileage accrual rates using EMFAC2017, which is basically average annual miles per truck for trucks of all ages. For Year 2030, EMFAC2017 fleet average mileage accrual rates for in-state heavy-duty trucks (Class 8 trucks) and International Registration Program (IRP) trucks are approximately 35,000 miles and 57,000 miles, respectively, which are much lower than the first few years' annual mileage accrual rates of the respective trucks (i.e., 50,000 miles for in-state heavy duty trucks and 80,000 miles for IRP trucks). CARB staff has recently received the Cal-VIUS data and is planning to incorporate information from this survey into the next version of the EMFAC model.

27. Comment: CARB impermissibly double-counts benefits from the proposed amendments. CARB has claimed similar reductions in NOx emissions and PM2.5 emissions in previous programs and rulemakings. CARB provides no explanation as to how these "benefits" will be achieved through the proposed amendments. Rather, CARB assumes that these "benefits" are solely the result of additional compliance as a result of fleet owners fixing problems under the Heavy-Duty Warranty, which CARB has failed to substantiate. (Lawson)

    Agency Response: CARB did not double-count the emissions benefits resulting from the amendments. The emissions benefits for the amendments were estimated using CARB's on-road emissions inventory model EMFAC2017, which was based on test data from several recent emissions testing projects (for details, see EMFAC2017 Technical Documentation at https://www.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf). Baseline NOx and PM inventories from EMFAC2017 were adjusted by applying a set of modified emission rates. The modified emission rates were obtained from making the frequency of a given tampering, mal-maintenance, or malfunction, under the current warranty periods, to be the same under the proposed longer warranty. The emission rate adjustments were capped at either 5 years or the proposed new warranty mileages, whichever came first. The NOx and PM2.5 emission benefits were estimated for the applicable heavy-duty

vehicles for calendar years 2022 to 2040. These data were obtained by testing randomly procured in-use vehicles on dynamometers and with portable emissions measurement systems (PEMS) and represent the current in-use emissions. Thus, the EMFAC2017 baseline reflects all previously implemented regulations and emissions benefits achieved through CARB's existing mobile source regulatory measures, and the estimated emissions reduction for the amendments therefore represents the emissions benefits attributable to this rulemaking action. Therefore, no double-counting of emission benefits has occurred. A thorough analysis of the emissions inventory methodologies employed for this rulemaking can be found in the Staff Report's Appendix F: ESTIMATED EMISSIONS BENEFITS, at https://www.arb.ca.gov/regact/2018/hdwarranty18/appf.pdf?_ga=2.16478774.1877743213.1550719676-8960283.1542217426.

Comments Addressing Process and the Environmental Analysis:

28. Comment: CARB should explicitly confirm in its FSOR that it will not attempt to enforce the proposed extended warranty and maintenance amendments prior to receiving a formal preemption waiver from U.S. EPA. The proposed extended warranty and maintenance amendments constitute standards relating to the control of emissions from new motor vehicles or new motor vehicle engines. Thus, prior to attempting to enforce the extended warranty and maintenance amendments, CARB will need to obtain and receive a preemption waiver from U.S. EPA. To obtain a waiver, CARB will need to demonstrate that the proposed extended warranty and maintenance amendments are consistent with section 202(a) of the Clean Air Act, which includes a 4-year lead time requirement. (EMA)

29. Comment: CARB's proposed action violates the Clean Air Act by not first seeking a section 209 waiver from U.S. EPA. (Lawson)

    Agency Response: To the extent the amendments require a waiver from section 209(a) of the federal Clean Air Act (CAA), CARB will submit a waiver request to U.S. EPA in accordance with section 209(b) of the CAA.

    As an initial matter, these amendments, which establish more rigorous emissions warranty provisions and maintenance provisions, appear to be more properly characterized as accompanying enforcement procedures to standards, in so far that they are relevant to a manufacturer's ability to produce vehicles and engines that comply with applicable standards for their useful lives. Motor and Equipment Manufacturer's Ass'n v. EPA, 627 F.2d 1095, 1111-1113 (D.C. Cir. 1979). Even if the amendments are characterized as standards relating to the control of emissions from new motor vehicles and new motor vehicle engines, CARB disagrees with the commenter's assertion that the provisions of the CAA section 202(a)(3)(C) apply to California under the waiver provision of CAA section 209(b). The text of section 202(a)(3)(C) itself dictates that the provision is not applicable to California:

    > "Any *standard promulgated or revised under this paragraph* and applicable to classes or categories of heavy-duty vehicles or engines shall apply for a period of no less than 3 model years beginning no earlier than the model year commencing 4 years after such revised standard is promulgated. [*Italics added for emphasis.*]"

The text states that “standards promulgated or revised under this paragraph,” that is, pursuant to the authority of CAA section 202(a), must provide the specified lead time and stability. However, California promulgates its standards pursuant to the authority of state law, and can enforce those standards once EPA grants California a waiver pursuant to the provisions of CAA section 209(b). Since section 202(a)(3)(C) is only applicable to standards promulgated under section 202(a) and since California does not promulgate its standards under 202(a), section 202(a)(3)(C) does not apply to California. Regardless, all the major provisions in the warranty amendments, including changes to the warranty periods, maintenance intervals, and incorporation of HD OBD MIL illumination to the definition of a warranted part, would not take effect until the 2022 model year.

The Agency also disagrees with the commenter’s claim that the Agency has violated the CAA by not obtaining a waiver under section 209(b) of the federal Clean Air Act before adopting the subject amendments.

The commenter’s claim appears to be based on solely focusing on the text of CAA section 209(a), without also recognizing the significance of CAA section 209(b), which expressly provides, in pertinent part, that the Administrator of EPA shall waive the preemptive provisions of CAA section 209(a) to any state that has adopted standards (other than crankcase emission standards) for the control of emissions from new motor vehicles or new motor vehicles prior to March 30, 1966, unless certain criteria are established. California is the only state that meets this eligibility criterion for granting waivers. *See, e.g.*, S. Rep. No. 90-403, at 632 (1967) and *Motor and Equipment Manufacturers Association v. EPA,* 627 F.2d 1095, 1101 fn. 1. (D.C. Cir. 1979).

In *Central Valley Chrysler-Jeep v. Goldstene,* 563 F.Supp.2d 1158 (E.D. Cal. 2008) the court rejected a similar claim that CARB violated CAA section 209(a) by not first obtaining a waiver before adopting certain motor vehicle emission regulations.

> “The meaning and purpose of subsection 209(b) is plain on its face—it constitutes an exception to the preemptive force of section 209(a). Subsection 209(b) provides that where California (the only state that fits the qualifying description of having regulated prior to March 30, 1966), has *adopted* a regulation of motor vehicle engine emissions, those regulations *shall* be granted a waiver from the preemptive force of subsection 209(a) *if* the specified requirements are met. Although section 209(a) may prohibit a state from adopting *or* attempting to enforce “any standard relating to the control of emissions from new motor vehicles,” that prohibition simply does not apply where California *adopts* regulations under the terms and conditions specified by section 209(b). There is absolutely rule of statutory construction that does what AIAM invites the court to do; that is, to invalidate the exception because the rule contains the word “or”.

563 F.Supp.2d 1158, 1163.

"[I]t is indisputable that the plain language of subsection 209(b) provides an exception to subsection 209(a) that allows California to adopt automobile emissions regulations and submit same to EPA for their consideration. AIAM cannot escape the fact that their interpretation of the interplay between subsections 209(a) and 209(b) would require that courts thwart the clearly stated intent of Congress to allow California to adopt regulations under subsection 209(b) that would be granted waiver from the application of subsection 209(a) if the statutory prerequisites are met.

Id. at 1164.

The commenter's claim is also inconsistent with EPA regulations implementing CAA § 209(e) that "set forth requirements and procedures for EPA authorization of California's enforcement of standards and other requirements relating to the control of emissions" from off-road engines.[2] Those regulations specify that California need not request or obtain an authorization before it adopts off-road emission standards or other emission-related requirements, but must request and obtain an authorization before it can enforce such standards and requirements.[3]

30. Comment: CARB has failed to comply with the APA by failing to look at all of its numerous rulemakings in 2018 and 2019, and their impacts on California truckers, in the aggregate. The HD Warranty rulemaking is just one of numerous rulemakings CARB is considering in 2018 and 2019 that will increase costs on the trucking industry. The EIA should be amended to consider the adverse cumulative impact of these regulations and the overwhelming likelihood that CARB will continue to fail to enforce the regulations against non-compliant truckers. (Lawson)

Agency Response: See the Agency Response to Comment 24. CARB also disagrees with the commenter's statement regarding the "overwhelming likelihood that CARB will continue to fail to enforce the regulations against non-compliant truckers." CARB vigorously enforces its diesel truck program requirements. Since 2011 CARB has successfully closed 1,015 fleet investigations and assessed more than $22 million in penalties for violations of CARB diesel rules. Over this same period, CARB also issued 27,413 citations and collected more than $11 million in penalties for violations of diesel program requirements on individual vehicles. CARB's 2017 Annual Report is publicly available, and provides detailed information about the Board's diesel enforcement activities.

See Attachment C to Resolution 18-24, "Responses to Comments on the Environmental Analysis," which was published on June 29, 2018, and can be found on the CARB rulemaking webpage at: https://www.arb.ca.gov/regact/2018/hdwarranty18/res-

[2] Final Rule, Air Pollution Control; Preemption of State Regulation for Nonroad Engine and Vehicle Standards 59 Fed. Reg. 36969 (July 20, 1994). These regulations were subsequently slightly modified and moved to 40 CFR part 1074.

[3] 40 CFR § 85.1604(a). "California shall request authorization to enforce its adopted standards and other requirements relating to the control of emissions from nonroad vehicles or engines that are otherwise not preempted by § 85.1603(b) or § 85.1603(c) from the Administrator of EPA and provide the record on which the state rulemaking was based." *See* 59 Fed. Reg. 36969, 36981-982 (July 20, 1994).

attc.pdf?_ga=2.152590138.241030633.1548262573-1334509895.1464292978,

31. Comment: CARB must prepare a Standardized Regulatory Impact Assessment (SRIA) for the proposed amendments. CARB did not prepare a SRIA because it improperly classified the proposed amendments as a non-major regulation. This conclusion is not supported by substantial evidence. CARB "expects manufacturers to markup warranty packages to include a profit, by as much as 45 percent." CARB's only source for this claim is a link from Fullbay, a company that provides HD repair software and does not engage in the sale of warranty packages of any kind. CARB misconstrues the Fullbay article's interpretation of "45 percent." CARB's claim that 45 percent is the markup ceiling for the HD Warranty is unsubstantiated by the evidence it cites. With no ceiling on what HD manufacturers could charge, fleet owners could expect the cost of HD warranties to cost more than three times its current price. (Lawson)

    Agency Response: No change was made in response to this comment. A SRIA is not required for this rulemaking action. A major regulation is defined in the State Administrative Manual 6600 as: "any proposed rulemaking action adopting, amending or repealing a regulation subject to review by the Office of administrative Law (OAL) that will have an economic impact on California business enterprises and individuals in an amount exceeding fifty million dollars ($50,000,000) in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through 12 months after the major regulation is estimated to be fully implemented (as estimated by the agency), computed without regard to any offsetting benefits or costs that might result directly or indirectly from that adoption, amendment or repeal." The annual economic impacts of the amendments to the heavy-duty warranty regulations do not exceed $50,000,000, and hence a SRIA is not required.

    In the cost analysis, Appendix C to the ISOR, the 45 percent value is referred to as a percentage of "markup" of extended warranty packages, and not as a percentage of "profit." The estimated lengthened warranty costs are based on the average retail prices of replacement parts and expected labor rates which already include a profit margin. Therefore, profit margins were not calculated for the purposes of estimating the lengthened warranty costs. However, because some manufacturers currently offer extended warranties at zero cost with the purchase of a heavy-duty vehicle and other manufacturers offer extended warranties for an extra charge at the time of vehicle purchase, the Fullbay article was used to estimate a reasonable "average" markup for longer warranties should manufacturers choose to increase the cost of warranties beyond only the estimated retail cost of repairs under the warranty amendments. A markup of 45 percent would be an approximate 31 percent profit according to the Fullbay article. This 45 percent additional markup provides a reasonable estimate of potential costs for lengthened warranty packages.

32. Comment: The current Economic Impact Assessment (EIA) for the proposed amendments does not meet the applicable standards. CARB admits that the costs impacts on manufacturers will be passed on to fleet owners who will purchase HD Warranties (Staff Report at p. 93). CARB staff however,

dismisses the costs passed onto fleet owners as "indirect cost impacts. This ignores the fact that fleet owners may have to pay more than three times for an extended HD warranty."

The EIA's discussion of the impacts of the amendments on the elimination of jobs within the state and the elimination of existing businesses within the state is also incomplete. (Lawson)

Agency Response: CARB disagrees with this comment. The Agency Response to Comment 31 is incorporated by reference into this response. Staff provided a detailed cost analysis in Appendix C, titled "Economic Impact Analysis/Assessment," as part of the ISOR Heavy-Duty Warranty package for public comments. The appendix details CARB's cost calculation assumptions and data sources. The estimated Heavy-Duty Warranty costs, as described in the appendix, were largely based on the current extended warranty purchase practices, warranty claim rates, and average retail prices of replacement parts and expected labor rates. CARB also included an additional markup range to cover the variability in potential costs for extended warranty packages that may be marked up beyond the cost of repairs.

As the regulated stakeholders, manufacturers would incur direct cost impacts due to the regulation. However, CARB recognizes that manufacturers could choose to pass on the Heavy-Duty Warranty costs to the purchasers of heavy-duty vehicles. Therefore, the cost analysis also considers the cost impact to the purchasers of California heavy-duty vehicles. The cost increase due to the lengthened warranties is estimated to range from $149 to $437 per vehicle before the addition of financing and markup (see Table 22 in Appendix C of the ISOR). If manufacturers choose to increase the cost of the lengthened warranties beyond the estimated additional repairs covered under the lengthened warranties, CARB estimates a markup of 45 percent resulting in a cost range of $217 to $633 per vehicle before financing (see Table 23 in Appendix C of the ISOR).

The actual cost impact per vehicle owner will vary depending on whether or not owners will purchase heavy-duty vehicles in a certain year and how many heavy-duty vehicles will be purchased. The increased costs are necessary to ensure the Heavy-Duty Warranty measure's criteria emissions benefits occur. In addition, there may be repair cost savings to fleets due to coverage of emission-related repairs for longer periods of mileage. These savings would offset the additional costs. CARB concluded that these costs would have minimal impact on California jobs and on the creation or elimination of businesses within California.

33. Comment: CARB's proposed action violates CEQA because CARB's certified regulatory program does not authorize a finding of exemption from CEQA and CARB is seeking to piecemeal environmental review. The ISOR for the proposed amendments does not discuss the potential environmental effects of the proposed amendments as required under the California Environmental Quality Act and CARB's certified regulatory program, but instead purports to find the proposed amendments are "exempt" from CEQA. CARB's certified regulatory program does not "include any mechanism for CARB to find a proposed regulatory action is 'exempt' from CARB's certified regulatory program or CEQA generally." The Staff Report/ISOR should

therefore be revised to include an Environmental Assessment, and recirculated for public review.

CARB is also seeking to impermissibly piecemeal environmental review by not analyzing "all of the upcoming regulations that affect the trucking industry together." "CARB's revised environmental document should include an analysis of all pending efforts to increase costs on the trucking industry, and analyze whether CARB's inability to enforce existing and future regulations will cause unintended environmental effects." (Lawson).

Agency Response: CARB disagrees with these comments. *See* Attachment C to Resolution 18-24, "Responses to Comments on the Environmental Analysis," presented and approved at the June 29, 2018 board hearing at: https://www.arb.ca.gov/regact/2018/hdwarranty18/res-attc.pdf?_ga=2.152590138.241030633.1548262573-1334509895.1464292978

Miscellaneous Comments:

34. Comment: The proposed amendments constitute a regulatory taking. "Responsible truckers will be required to spend millions of dollars in purchasing extended HD Warranties under the Proposed Amendments, in addition to their existing compliance with other programs and regulations. There is no ascertainable public benefit associated with the Proposed Amendments, particularly when viewed in the context of these other programs and regulations. Making matters worse, CARB is failing to evenly enforce the regulations currently on the books, and is actively harming the responsible truckers who have dutifully complied with CARB's myriad regulations targeting the trucking industry.

    CARB's actions – both with respect to the Proposed Amendments and cumulatively – result in a deprivation of private property in a manner that is arbitrary, capricious, and is of no benefit to the public. This violates well-settled constitutional property rights, and results in a regulatory taking. (See Kelo v. City of New London, Conn. (2005) 545 U.S. 469; see also Cal. Const. art 1, § 19). (Lawson)

    Agency Response: As an initial matter, the Agency disagrees that the amendments will not produce ascertainable public benefits. CARB estimates that the lengthened warranty periods for Class 4 - 8 vehicles will result in statewide NOx emission reductions of 1.49 tpd in 2040, statewide PM2.5 emission reductions of 0.016 tpd in 2040, which will result in 40 avoided premature mortalities due to the cumulative reductions in NOx and PM from 2022 to 2040. These reductions are meaningful, and will help California comply with upcoming national ambient air quality standards. The "concentration-response function" (CRF) is from Krewski, et al 2009 (Extended Follow-Up and Spatial Analysis of the American Cancer Society Study Linking Particulate Air Pollution and Mortality. Health Effects Institute Research Report 140. https://ephtracking.cdc.gov/docs/RR140-Krewski.pdf). The Agency also disputes the comment that it is failing to enforce existing regulations – see the Agency Response to Comment 33.

CARB staff disagrees with the commenter's assertion that the Proposed Amendments would constitute a regulatory taking of commenter's property rights.

As a threshold matter, the Agency notes that the commenter has not clearly stated which (or if any) of its property rights are allegedly infringed by the proposed amendments, and is therefore providing this response under the assumption that the commenter is alleging that the amendments will impair its property rights in its existing fleet of heavy-duty vehicles.

The "Takings Clause" of the Fifth Amendment to the United States Constitution prohibits the federal government from taking private property for public use, without just compensation. This prohibition extends to states by the Fourteenth Amendment to the United States Constitution.[4]

Governmental regulatory actions that require an owner to suffer permanent physical invasions of his or her property, or that completely deprive an owner of all economically beneficial use of his or her property will generally will be deemed *per se* takings for Fifth Amendment purposes. *Lingle v. Chevron U.S.A. Inc.*, 544 U.S. 528, 538 (2005).

Courts evaluate whether regulatory actions that extend beyond the above-mentioned categories and the special context of land-use exactions constitute regulatory takings using the standards set forth in *Penn Central Transp. Co. v. New York City, 438 U.S. 104 (1978)* (*Penn Central*). In that case, the United States Supreme Court identified several factors in evaluating whether regulatory takings exist, including the regulation's economic impact on the claimant, particularly "the extent to which the regulation has interfered with distinct investment-backed expectations", *Lingle,* 544 U.S. 528, 539 (*quoting* 438 U.S. 104, 124), and the character of the governmental action – *i.e.*, "whether it amounts to a physical invasion or instead merely affects property interests through "some public program adjusting the benefits and burdens of economic life to promote the common good." 544 U.S. 528, 539 (*quoting* 438 U.S. 104, 124). The *Lingle* court further stated that each of the above mentioned inquiries "aims to identify regulatory actions that are functionally equivalent to the classic taking in which government directly appropriates private property or ousts the owner from his domain. Accordingly, each of these tests focuses directly upon the severity of the burden that government imposes upon private property rights." 544 U.S. 528, 539.

In accordance with the above mentioned Supreme Court decisions, it is clear that the proposed amendments cannot be considered a regulatory taking of the commenter's property rights. The amendments do not effect a *per se* taking because they neither require the commenter to suffer a permanent physical invasion of the commenter's existing heavy-duty vehicles, nor completely deprive the commenter of all economically beneficial use of said vehicles. *This is apparent because the amendments only affect 2022 and newer model year heavy-duty vehicles and the heavy-duty diesel engines powering those vehicles, which have not even been produced, and*

[4] The Supreme Court applied the Takings Clause of the Fifth Amendment to the States through the Fourteenth Amendment Due Process Clause in *Chicago Burlington and Quincy R.R. v. City of Chicago*, 166 U.S. 226 (1897).

do not affect the preexisting warranty requirements applicable to commenter's existing heavy-duty trucks. The proposed amendments also do not rise to a regulatory taking under the *Penn Central* factors. As previously stated, the regulation does not and cannot adversely affect the commenter's economic interests, because it only establishes requirements applicable to future heavy-duty vehicles and engines that the commenter has not even acquired. Furthermore, it is clear that the commenter cannot establish that the amendments have interfered with its investment based expectations for the same reason – the amendments only affect future heavy-duty vehicles and heavy-duty engines which have not yet even been produced, and consequently the commenter cannot demonstrate it has acquired investment-based expectations in such vehicles and engines. Finally, the character of the amendments only affect the property interests of future purchasers of 2022 and newer vehicles and engines, and do not deprive vehicle owners of their property interests associated with the existing emissions warranties for their vehicles and engines.

Kelo v. City of New London, Connecticut, 545 U.S. 469 (2005) (Kelo) does not support the commenter's position that the amendments will deprive it of property in an arbitrary and capricious manner that provides no benefit to the public. Instead, the issue presented in that case was whether a city's plan to acquire real property via eminent domain, and then transfer that property to other private owners who would develop that property to implement a redevelopment plan, qualified as a "public use" within the meaning of the Takings Clause of the Fifth Amendment to the Constitution. 545 U.S. 469, 472, 477. The *Kelo* court stated "our public use jurisprudence has wisely eschewed rigid formulas and intrusive scrutiny in favor of affording legislatures broad latitude in determining what public needs justify the use of the takings power" 545 U.S. 469, 483, determined that the city formulated its development plan with the intent to obtain "appreciable benefits to the community", including new jobs and increased taxes, and accordingly held that because that plan clearly served a public purpose, the challenged takings met the public use requirement of the Fifth Amendment. 545 U.S. 469, 484. The Kelo court expressly stated that its holding did not preclude states from imposing public use restrictions that are more stringent than the federal baseline, and noted that California statutes only allow cities to take land for redevelopment in blighted areas.[5]

The commenter also cites to § 19, art. 1 of the California Constitution, which states that "State and local governments are prohibited from acquiring by eminent domain an owner-occupied residence for the purpose of conveying it to a private person." This citation is not relevant to this rulemaking action as it does establish any requirement pertaining to acquisition of property by eminent domain.

35. Comment: Violation of Equal Protection and Due Process.
"By CARB's own admission, direct costs incurred by engine and vehicle manufacturers due to the Proposed Amendments would be passed on to fleet owners by increasing the purchase price of the vehicle. … CARB has not provided rational justification for providing this significantly deferential treatment to engine and vehicle manufacturers compared to truckers. By

[5] Cal. Health & Safety Code Ann. §§ 33030–33037.

effectively allowing engine and vehicle manufacturers to pass the costs of repairs to their customers, CARB places responsible compliant fleet and truck owners at a significant competitive disadvantage. Moreover, CARB erroneously [estimates that] warranty packages could be marked up to include a profit by as much as 45%. (Staff Report at IX, IX-8, IX-9, IX-10). In reality, the warranty packages could be marked up to include a profit more than three times the price of current warranty packages (See Ex. A). The Staff Report fails to recognize this result, let alone provide any rational justification for it. This is a violation of Lawson's equal protection and due process rights.

Agency Response:

Regarding the commenter's concern about the 45 percent markup, the Agency Response to Comment 31 is incorporated by reference into this response.

The commenter claims that CARB is placing compliant fleet owners and truck owners at a competitive disadvantage by allowing engine and vehicle manufacturers to pass repair costs to their customers. CARB does not regulate the prices that engine and vehicle manufacturers charge, and hence CARB does not have the ability to prevent manufacturers from passing costs to their customers, or from setting their prices wherever they see fit. In addition, CARB disagrees that compliant fleets or truck owners are in any way placed at a competitive disadvantage by this rulemaking action. The rulemaking places requirements on manufacturers and does not place any requirements on fleets or truck owners.

CARB disagrees with the assertion that this rulemaking action violates commenter's equal protection and due process rights. Given the general nature of this comment, it is not possible to respond with specificity. Therefore, CARB provides the following general response.

a. Substantive Due Process

The Fourteenth Amendment to the United States Constitution prohibits states from depriving persons of "life, liberty, or property, without due process of law." The Fifth Amendment to the United States Constitution prohibits the federal government from depriving persons of "life, liberty, or property, without due process of law." These provisions have both procedural and substantive aspects. The substantive aspects of these due process protections ensure that the substance of challenged governmental actions are consistent with the provisions of the Constitution. The procedural aspects ensure that the government follows proper procedures in administering laws, and broadly require that a full and fair hearing be conducted before the government acts to directly impair a person's constitutionally cognizable life, liberty, or property interests.

In analyzing substantive due process challenges to a governmental action, courts first determine whether the action affects a fundamental right (or creates a suspect class of affected persons). Fundamental rights include the protections of most of the Bill of Rights. If a fundamental right is affected, a court will determine whether the challenged law was enacted to further a compelling governmental

interest, and whether the law was narrowly tailored to achieve that interest.

In this case, the commenter has not alleged that the rulemaking action impairs its fundamental constitutional rights, and CARB has also not identified any such impairments. The commenter therefore has the burden of demonstrating that the regulation is not rationally related to a permissible governmental interest.

As set forth in more detail in the Staff Report, Initial Statement of Reasons for this rulemaking action, CARB adopted this rulemaking action to achieve reductions in emissions of harmful air pollutants emitted by heavy-duty diesel vehicles. The subset of heavy-duty diesel vehicles affected by this rulemaking action comprise one of the largest sources of air pollution in California, and especially of emissions of oxides of nitrogen (NOx) and particulate matter (PM2.5). NOx is a precursor to ozone, and California therefore especially needs to reduce NOx emissions in order to attain the 2023 and 2031 national ambient air quality standards for ozone. California also needs to reduce emissions of PM2.5 to meet applicable state ambient air quality standards and to reduce the adverse health impacts of PM2.5, which include premature deaths, and heart and lung diseases. These considerations establish that the regulation serves the legitimate public purpose of protecting the health and welfare of California's residents, which purpose "clearly falls within the exercise of even the most traditional concept of what is compendiously known as the police power." *Huron Portland Cement Co.* (1960) 362 U.S. 440, 442.

The regulation is rationally related to this permissible governmental interest. Information from warranty claim rates, CARB's Heavy-Duty Vehicle In-Use Compliance Testing Program, and Truck and Bus In-Use Surveillance Program indicates existing heavy-duty emission related parts are not as durable as CARB initially believed, and consequently not sufficiently controlling the emissions from in-use heavy-duty vehicles. For instance, failures in diesel particulate filters and selective catalytic reduction can cause vehicle emissions to exceed required emissions levels by orders of magnitude.

In order to address these deficiencies, CARB adopted the regulations to reasonably address the aforementioned deficiencies in durabilities of emission control components. The regulations will help ensure that new heavy-duty on-road vehicles and engines will comply with their applicable emission standards, that vehicle owners will properly maintain and timely seek repairs of defects that cause such vehicles and engines to exceed emission standards during the applicable emissions warranty period, and will encourage engine and vehicle manufacturers to improve the durability of emission control systems and components. These considerations establish that the regulation constitutes a reasonable and rational means to implement a permissible governmental interest, and consequently the regulation will not violate commenter's substantive due process rights.

b. Equal Protection Claim

The Equal Protection Clause of the Fourteenth Amendment to the United States Constitution provides that no state shall "deny to any person within its jurisdiction the equal protection of the laws." This same limitation applies to the federal government through the Fifth Amendment's guarantee of due process.

The Equal Protection Clause requires that the government deal with similarly situated persons in a similar manner. Governments are not precluded from classifying persons or creating distinctions in adopting and enforcing laws, as long as those classifications or distinctions are not based on impermissible criteria, or are used to impermissibly burden a group of persons. Accordingly, unless a governmentally created classification substantially burdens the exercise of a fundamental constitutional right, or classifies affected persons upon a "suspected basis" (i.e., race, national origin, gender, or illegitimacy classifications), it will be upheld as long it has a rational relationship to any legitimate governmental interest. *City of Cleburne, Tex. v. Cleburne Living Center*, 473 U.S. 432, 439-440 (1985).

In this case, the regulation only imposes requirements upon manufacturers of new 2022 and subsequent model year California certified on-road heavy-duty diesel vehicles and the heavy-duty diesel engines used in such vehicles. This classification neither significantly burdens the exercise of a fundamental constitutional right nor classifies affected persons upon a constitutionally suspected basis, and clearly has a rational relationship to a legitimate governmental interest as established above in section a of this response.

c. Procedural Due Process

As previously stated in section a. of this response, the procedural aspects of the Fourteenth and the Fifth Amendments to the United States Constitution ensure that the government follows proper procedures in administering laws, and broadly requires that a full and fair hearing be conducted before the government acts to directly impair a person's constitutionally recognized life, liberty, or property interests.

However, in this case it appears that commenter cannot validly claim that this rulemaking action violates its procedural due process rights because this rulemaking action only establishes requirements that apply to heavy-duty vehicles and engines *that have not even been manufactured.* The commenter cannot establish that it has acquired a 2022 or newer model year heavy-duty vehicle or is legally entitled to such a vehicle.

The existence of a property interest is determined by reference to existing rules or understandings that stem from an independent source such as state law. *Philips v. Wash. Legal Foundation* 524 U.S. 156, 164 (1998) quoting *Board of Regents of State Colleges v. Roth*, 408 U.S. 564, 577 (1972) (Roth). In *Roth*, the United States Supreme Court explained that the existence of property rights is dependent upon the existence of a legitimate claim of entitlement – "[t]o have a property interest in a benefit, a person clearly must have more than an abstract need or desire for it. He must have more than a unilateral expectation

of it. He must, instead, have a legitimate claim of entitlement to it." 408 U.S. 564, 577. The court further explained that because the Constitution protects rather than creates property interests, the existence of a property interest is determined by reference to "existing rules or understandings that stem from an independent source such as state law." *Ibid.* The court then determined that an untenured teacher could not establish he had a property interest in continued employment, where he was hired under a fixed, one year-term contract that expressly did not provide for renewal of the contract, and consequently had no constitutional right to a hearing regarding the university's decision not to rehire him.

In this case, the commenter has not and cannot assert that it has a legitimate claim of entitlement to a 2022 or newer model heavy-duty vehicle or engine, and consequently cannot establish a property interest that entitles it to the procedural due process protections of the Fourteenth Amendment of the United States.

Notwithstanding this conclusion, the commenter was provided a full notice of this regulatory action because CARB fully complied with the provisions of the California Administrative Procedures Act and the California Environmental Quality Act in promulgating the final regulation.

36. Comment: Require warranty service campaigns on shared sub-systems between Cummins ISB and ISL engine platforms to apply to both equally. VTA operates both ISL and ISB engines of similar model years and has seen field service campaigns to make critical system improvements to both engines. On several occasions, VTA has noted long-term durability issues with sub-systems shared between the engine aftertreatment systems. These issues are addressed only sometimes on the ISL platform. The most critical have been the exhaust gas cooler and the selective catalytic reduction service campaigns. Cummins has replaced these systems for only the ISL engines with improved and more durable designs. VTA's ISB engines have nearly identical units as those replaced on the ISL engines (same size, connections, sensors, operational conditions, etc.). The older design-based ISB units are regularly failing before their expected end of life. (VTA)

    Agency Response: This comment is beyond the scope of this rulemaking action, which does not affect the EWIR requirements in sections 13 CCR 2141-2149. However, manufacturers are responsible for compiling warranty claim rates under current regulations and to submit reports to CARB when such rates exceed a certain threshold percentage. With that said, even though sub-systems may be identical between platforms, the engine/chassis designs may differ significantly such that the sub-systems are failure prone in one platform but not in another. CARB staff responsible for administering the EWIR program are aware of this comment and will investigate the matter accordingly.

37. Comment: CARB should make it clear in the final regulations that any warranty claims for parts that are covered by extended warranties will not be included in calculating any warranty claims rates for EWIR purposes. In proposed section 2036(c)(4)(B), CARB has included language stating that "extended warranties on select parts do not extend the emission warranty

requirements for the entire engine, but only for those parts." That language is fine as far as it goes, but it should go farther. Where a manufacturer elects to provide an extended warranty for certain parts beyond the regulatory required warranty, any warranty claims that may occur during that extended period should not be included in calculating percentage claims rates for EWIR purposes (e.g., 2 percent claims rate based on unscreened claims and 4 percent claims rate based on screened claims for EWIR reporting). The EWIR thresholds were set with the regulatory warranty periods in mind, not extended warranty periods, which means that warranty claims that might occur during extended warranty periods should not be included for EWIR purposes. Otherwise, manifestly unfair and overly-inclusive EWIR results will arise and manufacturers will be deterred from offering extended warranties, which would be a clearly undesirable outcome. (EMA)

Agency Response: This comment is beyond the scope of this rulemaking action, which does not affect the existing reporting requirements in sections 13 CCR 2141-2149. Nevertheless, CARB staff disagrees that manufacturers should not be required to report warranty claims rates for parts that are covered under extended warranties. The EWIR regulations do not expressly allow manufacturers to limit the reporting of claim rates to the mandatory warranty period of 100,000 miles, and such an interpretation makes no sense. The warranty reporting requirements are meant to provide early indications of problems arising from in-use engines and vehicles, and the commenter's suggestion would only serve to permit manufacturers to withhold data for parts that are covered by extended warranties – which does not further CARB's objectives of obtaining the requested information that will enable timely actions to verify the presence of defects and appropriate remedial actions.

38. Comment: Proposed section 2036(f)(1)(B) is unclear and overly broad. Firstly, this section includes the phrase "in addition to the parts indicated in section (f)(1)," which is inherently confusing because the provision is itself contained in section (f)(1). The self-reflective reference to section (f)(1) appears to be an error. Secondly, the provision would require manufacturers to include in their lists of warranty-covered parts "any emissions-related part that can cause the vehicle's on-board diagnostic malfunction indicator light to illuminate." This language remains unduly broad and ambiguous, and could lead to unnecessary disputes at the time of engine/vehicle certification regarding whether a given manufacturer's list is sufficiently inclusive of emissions-related parts, especially in the case of non-integrated manufacturers that may not know all of the vehicle (or engine) components that might activate an OBD MIL. (EMA)

    Agency Response: We agree with the commenter regarding the clarity of CARB staff's originally proposed modifications to section 13 CCR 2036 (f)(1)(B) and thus modified the applicability of 13 CCR (f)(1)(B) as part of the 15-Day Notice for this rulemaking by deleting the circular reference "in addition to the parts indicated in section (f)(1)" per the commenter's recommendation. We also removed a provision that, as proposed, would have unintentionally exempted all heavy-duty vehicle and engine manufacturers from supplying a list of warranted parts capable of illuminating

the MIL for new vehicles and engines. The provision was determined unnecessary because MIL illumination is only required for malfunctioning parts that directly impact criteria pollutant emissions as well as parts that indirectly impact criteria pollutant emissions as a result of the OBD system using them to monitor the performance of emissions-related parts with a direct impact. Parts that only affect the regulated emission of greenhouse gas pollutants are not required to be monitored by the OBD system.

39. Comment: CARB should include a specific commitment in the FSOR that CARB staff will work with engine manufacturers (through EMA) to develop an appropriate list of the relevant emissions-related parts that can cause an on-road heavy-duty vehicle's OBD MIL to illuminate. Similarly, CARB staff should work with engine manufacturers to reach consensus on which emissions-related components should not be on that list. Having that type of general standardized list will help obviate the numerous certification issues that otherwise are likely to impede the timely issuance of Executive Orders. (EMA)

    Agency Response: CARB disagrees that CARB staff and industry should be required to develop a list of emissions-related (aka warranted) parts that can cause the MIL to illuminate. One of CARB staff's objectives in linking heavy-duty warranty to MIL illumination was to eliminate the need to update an ever-changing parts list similar to the existing requirements for light- and medium-duty warranties in 13 CCR 2037 (b)(2). The amendments simplify the identification of an emissions-related part by specifying that failures that cause the vehicle's OBD MIL to illuminate would be considered a warrantable condition. Because the HD OBD system is required to monitor all criteria pollutant emissions-related components and systems for proper operation, a heavy-duty OBD system provides a perfect tool for alerting the vehicle operator to emissions-related failures and malfunctions that should be repaired during the warranty period without the need for a list. A heavy-duty OBD system even stores fault codes that specifically identify the malfunction, which can aid in vehicle repairs. Under the amended regulations, any failure that lights the MIL, including malfunctioning components that directly increase emissions as well as those that indirectly increase emissions (e.g., sensors used only to monitor other emissions-related components) would be covered under the emissions warranty.

40. Comment: MECA recommends that CARB explore a requirement that repair shops become licensed and keep records of the diagnosis, repair and replacement of emission control parts under warranty that will be shared with OEMs and the specific component suppliers. (MECA)

    Agency Response: The request for CARB to require licensing of service providers, and data sharing between manufacturer and supplier is outside the scope of these amendments. Nonetheless, it would seem to be in the best interests of all parties, i.e., engine manufacturers and parts suppliers, to share warranty claims information with each other to ensure development of the most durable components at the lowest costs.

41. Comment: MECA supports the adoption of a comprehensive inspection and maintenance program to ensure that emission controls are maintained, remain on vehicles and continue to function properly to deliver the expected emission benefits. (MECA)

42. Comment: Integral to improving the quality of air in California – arguably the most polluted in the nation – is the passage of a smog-check like program for heavy-duty diesel trucks as envisioned in last year's SB 210 by Senator Connie Leyva. (CCA-15)

    Agency Response: While CARB staff agrees in principal with Comments 41 and 42 that a statewide Inspection and Maintenance Program would greatly enhance California's ability to ensure that the emission controls on heavy-duty vehicles remain functional in-use, these comments are outside the scope of the warranty amendments in this rulemaking.

43. Comment: An incentive-based approach should be used to reduce potential economic impacts. The ISOR indicates one of the benefits of the proposed amendments is to protect heavy-duty vehicle owners from having to pay for future repair costs resulting from recent changes to the state's Heavy-Duty Inspection Programs. With approximately slightly more than 40 percent of the heavy-duty vehicle population already meeting the requirements of these proposed amendments, an alternative option would be for the state to offset the cost of the extended warranty with a voluntary program directed at the state's new truck buyers. This approach could use incentive funding to encourage buyers to avoid future costs associated with maintenance. This would not only help reduce some of the adverse economic impacts for new truck buyers but would also support the state's truck dealership network; while allowing the state to continue to reduce emissions. (ATA)

    Agency Response: The request for an incentive-based approach instead of mandatory warranty periods is outside the scope of these amendments. However, CARB maintains that the amended lengthened warranty periods incentivize vehicle owners to replace emissions-related parts that they might otherwise not do if they had to pay out of pocket. While CARB recognizes that stand-alone incentive programs can be an effective means to reduce emissions and reduce consumer costs, such programs are voluntary and their effectiveness limited to available funding. This makes them less reliable than regulatory mandates such as the heavy-duty warranty amendments of this rulemaking.

44. Comment: This Board is creating incentive programs and vouchers to accelerate the adoption of ZEVs. Therefore, ZEVs require the same measures currently. There is no health code standard for ZEV vehicles when they fail. You have to go back to a diesel vehicle, which creates the consequences of emissions. More improvements like this are necessary for all technology. (SDAP)

    Agency Response: The commenter appears to be requesting that CARB adopt and/or lengthen warranty requirements for electric vehicles. CARB opted not to lengthen the warranty requirements for heavy-duty ZEVs as part of these amendments so as not to provide a disincentive to manufacturers developing heavy-duty ZEV technology, which is in a relatively early development stage versus diesel technology. Nonetheless, CARB's Heavy-Duty Diesel Off-Road Strategies Branch is currently investigating appropriate regulations for certifying and warrantying electrified heavy-duty vehicles.

45. Comment: This new ruling, to be only able to drive 1000 miles, limits us from doing the emergency response that is required in this area. California Tow Truck Association is working to get the towing industry to be qualified as emergency responders. This ruling can put us out of business and have 10 families out of work. Since we are the only big rig in an area of 150 miles, it will cause a lot of problems for our clients, our auto club customers, the local police, and the Highway Patrol that requires us to respond to a big rig accident. (HTI-15)

    Agency Response: The commenter appears to be referring to a provision in CARB's On-Road Heavy-Duty Diesel Vehicle In-Use Regulation (Truck and Bus Rule) limiting usage for some older vocational vehicle types. Therefore, this comment is beyond the scope of CARB staff's warranty amendments, which do not affect the existing Truck and Bus Rule requirements found in section 13 CCR 2025 - Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

V. Peer Review

Health and Safety Code Section 57004 sets forth requirements for peer review of identified portions of rulemakings proposed by entities within the California Environmental Protection Agency, including CARB. Specifically, the scientific basis or scientific portion of a proposed rule may be subject to this peer review process. Here, CARB determined that the rulemaking at issue does not contain a scientific basis or a scientific portion subject to peer review, and thus no peer review as set forth in section 57004 was or is needed to be performed.