I. GENERAL

A. Background

On July 29, 2019, the California Air Resources Board (CARB or Board) submitted the Final Statement of Reasons (FSOR) for the rulemaking action entitled “Proposed Alternative Certification Requirements and Test Procedures for Heavy-Duty Electric and Fuel-Cell Vehicles and Proposed Standards and Test Procedures for Zero-Emission Powertrains (Zero-Emission Powertrain Certification Regulation)” to the Office of Administrative Law (OAL) for its review and approval. On September 10, 2019, CARB submitted a request to withdraw the rulemaking file for this regulatory action to OAL, which OAL granted. On December 3, 2019, CARB is resubmitting the FSOR with an Addendum to the FSOR (and other final rulemaking documents) for this rulemaking action for OAL’s review and approval.

B. Non-Substantial Modifications

The non-substantial modifications, described below, clarify and do not materially alter the requirements, rights, responsibilities, conditions, or prescriptions contained in the amendments as adopted by CARB and approved by OAL. (See Cal. Code Regs., tit. 1, § 40)

After the July 29, 2019, submission to OAL, the following non-substantial modification were made to correct errors:

Attachment A: Final Regulation Order

- Section 1956.8(a)(8): Removed “(a)” from beginning of proposed text for subsection (a)(8) since the subsection “(a)” moniker is actually
earlier within the regulatory text (more specifically, it precedes subsection (1), as shown in the updated proposed regulatory text).

- Section 1956.8(a)(8): Added a comma after “27” for the adopted date of June 27, 2019, for improved grammar.

- Removed an erroneous extra space in the Authority and Reference note at the bottom of California Code of Regulations, title 13, section 1956.8.

- California Code of Regulations, title 17, section 95663: Struck the “last amended” date and added a new date in the incorporation by reference of the “California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles” to reflect the most-recent amendments, which occurred between the notice of this rulemaking and its original submittal to OAL.

Attachment B: California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles

- Table of Contents: Deleted the following terms from the specified line items of the Table of Contents for consistency with the previously adopted Heavy-Duty Phase 2 Greenhouse Gas Regulation (Phase 2) amendments. The terms below had previously been removed as a result of the Phase 2 regulation, adopted December 19, 2018, but had erroneously not been removed as of the final filing for this rulemaking.
  - Part 1037, Subpart F, 1037.540: Deleted “hybrid”
  - Part 1037, Subpart G, 1037.610: Deleted “innovative”
  - Appendix I to Part 1037: Deleted “Chassis”
  - Part 1066, Subpart D, 1066.310: Deleted “heavy-duty”
  - Part 1066, Subpart E: Deleted “Preparation”

- Subpart B, 1037.115(B)(3): Added a period to the end of the sentence for improved grammar.


- Subpart B, 1037.115(B)(3.1.5): Added the words “or” and “a” to fix grammar of a sentence in this provision for increased clarity.

- Subpart B, 1037.115(B)(3.3): Deleted “owner’s” and replaced with “diagnostic and repair” to increase clarity of which manual is being referred to in this provision.
• Subpart B, 1037.115(B)(3.3.2): Edited sentence to improve grammar by adding “software to the” for clarity purposes to explain what the Executive Officer is given access to upon request.

• Subpart B, 1037.140: Removed the underline from previously underlined text since the change was already adopted as part of the Phase 2 amendments on December 19, 2018.

• Subpart B, 1037.150: Removed the underline from previously underlined text since the change was already adopted as part of the Phase 2 amendments on December 19, 2018.

• Subpart G, 1037.635(1.): Removed “[Insert effective date of amendment for this rulemaking]” and replaced with “April 1, 2019,” the actual effective date for the Phase 2 amendments. This text should have been updated upon OAL-approval of the Phase 2 amendments, which occurred during the course of this rulemaking.

• Subpart I, 1037.801: Removed the underline from previously underlined text since the change was already adopted as part of the Phase 2 amendments on December 19, 2018.

• Subpart I, 1037.801(B.): Fixed alphabetical ordering of definitions by moving “Rated Energy Capacity” before “Usable Energy Capacity” and “U.S. Environmental Protection Agency.”

Attachment C: California Standards and Test Procedures for New 2021 and Subsequent Model Heavy-Duty Zero-Emission Powertrains

• Part I, B. Definitions:
  o Removed “hereby” from the “Battery-Electric Vehicle” definition that incorporates part of the Code of Federal Regulations (CFR) because it was redundant.
  o In the definition for “Battery Module,” moved a comma to improve grammar.

• Part I, C.1.1.2: Added a “the” to improve grammar.

• Part I, C.2.2: Added a comma to improve grammar.

• Part I, C.3.1: Deleted “On-Board Diagnostic System Requirements--2010 and Subsequent Model-Year Heavy-Duty Engines” as the title for California Code of Regulations, title 13, section 1971.1, because the title is
not necessary. The text already has the full citation of the California Code
of Regulations section.

• Part I, C.4.1: Deleted a period and added a colon to improve grammar.

• Part I, C.4.2.1: Added a comma to improve grammar.

• Part I, C.4.2.4: Removed hyphen to improve grammar.

• Part I, C.4.3.2: Edited sentence to improve grammar by adding “software
to the” for clarity purposes to explain what the Executive Officer is given
access to upon request.

• Part I, D: Edited the language so that it directly incorporates Society of
Automotive Engineers (SAE) J1798 within Part I, D, instead of through
California Code of Regulations, title 13, section 1956.8, as stated in the
original text.

• Part I, D.3: Spelled out the number three and deleted “3” for improved
grammar.

• Part I, E and F: Edited titles of each respective section to remove
capitalization for entire title in order to remain consistent with formatting of
previous section titles A-D.

• PART II, A – Z: Bolded titles of sections A through Z for consistency with
section titles in Part I.

• Part II, A.3.2 Deleted a colon for improved grammar.

• Part II, J.1: Removed underscore for improved grammar.

• Part II, J.1.4: Moved comma within the sentence and removed another
one for improved grammar.

• Part II, K.2: Added a comma for improved grammar.
II. Supplemental Rationale Applicable to the “Proposed California Standards and Test Procedures for New 2021 and Subsequent Model Heavy-Duty Zero-Emission Powertrains,” as set forth in Appendix E to the Staff Report: Initial Statement of Reasons and Attachment D to the Notice of Public Availability of Modified Text and Additional Documents, posted on May 13, 2019

Part I.C.1.1.1
As discussed in Appendix E to the Staff Report: Initial Statement of Reasons (ISOR), [Part I.C.1] is necessary to ensure certification families would be defined such that information derived for a certification family (e.g., rated energy capacity as determined through testing) is applicable to all powertrain configurations covered by the certification family and that issues, such as failures, could be easily traced back to a particular zero-emission configuration.

Batteries designed to directly accept electric power from off-board the vehicle may experience such failures, and thus, it is necessary to ensure that such batteries are included in this provision. This is only a clarification that these batteries are considered a battery-electric powertrain, even if such batteries are integrated into a fuel-cell powertrain. Staff believed clarification was necessary to prevent confusion amongst manufacturers.

Part. I.C.1.3
As stated in Appendix E to the ISOR, [Part I.C.1] is necessary to ensure certification families would be defined such that information derived for a certification family (e.g., rated energy capacity as determined through testing) is applicable to all powertrain configurations covered by the certification family and that issues, such as failures, could be easily traced back to a particular zero-emission configuration.

Part I.C.1.3 is only provided as a clarification that powertrains of different capacities may be grouped in one Executive Order, so long as each powertrain configuration conforms to the defining characteristics (i.e., cell construction, thermal management strategies, and battery management strategies) of the certification family covered by the Executive Order. This certification flexibility for manufacturers is something CARB and EPA have similarly allowed in the internal combustion engine and vehicle context. For example, see Phase 1 and Phase 2 Greenhouse Gas Emissions and Fuel Efficiency Standards - 40 CFR 1037.230 (a)(1).

The defining characteristics were selected because they are major influences on battery longevity and safety. It is well understood that cell design, operating...
temperature, and a battery pack’s “duty cycle” all impact how a battery cell changes (both physically and chemically) over time. Those changes result in gradual degradation, and ultimately failure, of battery packs. It is expected that all manufacturers developing a zero-emission powertrain or vehicle today are implementing design measures, such as a temperature management system, to reduce degradation rates and prevent premature battery failure.

From CARB’s perspective, certification families defined as such will allow staff to better understand and effectively address unexpected powertrain issues through the recall process.

**Part I.C.1.5**

The notification to the Executive Officer regarding added or modified powertrain configurations being thirty days was selected because it is a common timeframe provided to manufacturers to submit information to the Executive Officer. The following are some examples of other regulatory requirements that provide a 30-day timeframe for manufacturers to submit information:


  - Subsection E.2.5.1.1
  - Subsection E.2.5.1.2

  - Subsection E.2.5.1.3.4.2
  - Subsection E.2.5.3.3.3
• California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles (incorporated by reference in California Code of Regulations, title 13, section 1956.8)
  o Modifying 40 CFR Part 86, subsection 21.B.2.2
  o Modifying 40 CFR § 1036.108, Greenhouse gas emission standards, subsection 1(2)

• California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles (incorporated by reference in California Code of Regulations, title 13, section 1956.8)
  o Modifying 40 CFR § 1036.108, Greenhouse gas emission standards, subsection 1(2)

In addition, thirty days is an adequate amount of time to notify the Executive Officer because manufacturers will already have the required information on hand. That is, manufacturers will know what changes they have made to a certification family throughout the model year, and this part requires them to submit such information to the Executive Officer within 30 days of the end of the model year.

Part I.C.2.1.
Every production vehicle or engine must be in all material respects the same as those for which certification is granted (HSC 43106). Manufacturers are very familiar with this condition of certification as it is stated on every certification Executive Order issued by CARB today. In practice, this means that a manufacturer making major modifications to a production vehicle or engine such that it is no longer the same as the vehicle or engine that was originally certified would be required to re-certify the new vehicle or engine as a new certification family before offering the modified vehicle or engine for sale in California. This part affirms ZEPCert’s alignment with current certification protocols with respect to major changes.

For further explanation of the 30 day requirement within this provision, please see the response for Part I.C.1.5, above.

Part I.C.2.2.
Part I.C.2.2 (including all subordinate parts) supports the objectives of Part I.C.2, as discussed on page E-8 of Appendix E of the ISOR, by reiterating the components of a zero-emission powertrain that have a system monitoring and diagnostic system. These components are explicitly listed in the definition of “zero-emission powertrain” added to California Code of Regulations, title 13, section 1956.8, as part of this regulatory action
Part I.C.4.1.1 through Part I.C.4.1.6
As described in Attachment D to the Notice of Public Availability of Modified Text and Additional Documents (Attachment D), posted on May 13, 2019, many provisions are necessary to align the requirements with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. The regulatory language in Part I.C.4.1 states that,

For provisions in this section 4, consideration may be given to relevant factors, including, but not limited to, the following when evaluating a fair and reasonable price.

4.1.1 The net cost to manufacturer-franchised dealerships or authorized service networks for similar tools or information obtained from manufacturers when accounting for any discounts, rebates, or other incentive programs;
4.1.2 The cost to the manufacturer for preparing and distributing the tools or information, excluding any research and development costs incurred in designing the tools and methodology for repair. Amortized capital costs for the preparation and distribution of the tools may be included;
4.1.3 The price charged by other manufacturers for similar tools or information;
4.1.4 The means by which the tools or information are distributed;
4.1.5 The extent to which the tools or information are used, which includes the number of users, and frequency, duration, and volume of use; and
4.1.6 Inflation.

California Code of Regulations, title 13, section 1969, which applies to emissions control systems for internal combustion vehicles, specifies the criteria for a “Fair, reasonable, and nondiscriminatory price.” The criteria set forth in California Code of Regulations, title 13, section 1969 are the criteria upon which C.4.1.1 through C.4.1.6 are based.

Part I.D.1.
As stated in section III, IV.A.1, and IX.B of the ISOR, SAE J1798 is “a standardized, automotive-industry-developed test method” that is “for determining electric vehicle battery module performance.”

SAE J1798 “would provide a useful reference point by which different battery-based powertrains could be compared” and to evaluate failures for the purpose of implementing the warranty and recall requirements.

As stated in Appendix E of the ISOR,

[Part I.D.] sets forth, as a condition for certification, the requirement for a
manufacturer of a battery-electric powertrain to determine its rated energy capacity using a standardized test procedure.

In addition, Appendix E of the ISOR also states, [Part I.D.] is necessary because the resultant test values would provide a consistent metric by which potential purchasers could compare different product offerings. Therefore, this part is expected to result in better-informed purchase decisions and vehicles that are better-suited for their intended applications.

The purpose of Part I.D.1 is to help ensure the resultant test values are consistent by having manufacturers attest to performing the standardized battery test as specified in the required procedure, SAE J1798. We similarly require in Phase 1 and 2 for manufacturers to “unconditionally certify” (attest) that all vehicles in the vehicle family comply with the certification requirements (see Phase 1, 40 CFR 1037.205).

Part I.D.2.
As described in the ISOR, ZEPCert requires only one of the tests described in SAE J1798, the constant rate discharge test, as a condition of certification. Part I.D.2 clarifies which sections of SAE J1798 contain the procedures for the constant current battery discharge test.

Part I.F.2.4
As part of the interface at which tractive power is converted to mechanical power, the gear box, transmission, and transaxle are critical components of the zero-emission powertrain. As discussed in the ISOR (pg. 14), the information provided under the “Powertrain Monitoring and Diagnostic Strategy Information” provision is necessary to help CARB staff “understand potential causes of, and solutions to, problems experienced by HDEVs and HDFCVs, which would help inform the development of future zero-emission measures.” In addition, the provision is necessary so that CARB could use the “information to validate the effectiveness of zero-emission powertrain diagnostics systems should in-use problems arise (ISOR pg. 14).”

Part I.F.5.
As discussed in the ISOR (pg. 14), the information provided under the “Powertrain Monitoring and Diagnostic Strategy Information” provision is necessary to help CARB staff “understand potential causes of, and solutions to, problems experienced by HDEVs and HDFCVs, which would help inform the development of future zero-emission measures.” In addition, the provision is necessary so that CARB could use the “information to validate the effectiveness of zero-emission powertrain diagnostics systems should in-use problems arise.” Projected sales are a necessary component of the information that manufacturers submit so that CARB staff can investigate the pervasiveness of a
particular component failure. Additionally, CARB/EPA require the submittal of projected sales as part of Phase 1 and 2 applications (see 40 CFR 1037.205 (s)).

Part II.B.3.1
As described in Attachment D, the provisions of Part II.B.3 are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. Similar to California Code of Regulations, title 13, section 2036, which sets forth emissions control system warranty requirements, Part II.B.3.1 specifies that any warranted part repaired or replaced under warranty shall be warranted for the remaining warranty period.

Part II.B.3.7
As described in Attachment D, the provisions of Part II.B.3 are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities.

As discussed in the ISOR, the zero-emission powertrain is a replacement for an engine in an internal combustion vehicle. Therefore, Part II.B.3.7 mirrors California Code of Regulations, title 13, section 2036, subsections (d)(1) through (d)(11).

Part II.B.3.8
As described in Attachment D, the provisions of Part II.B.3 are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. California Code of Regulations, title 13, section 2036, which sets forth emissions control system warranty requirements, specifies that,

Throughout the vehicle or engine’s warranty period defined in subsection (b), the vehicle or engine manufacturer shall maintain a supply of warranted parts sufficient to meet the expected demand for such parts. The lack of availability of such parts or the incompleteness of repairs within a reasonable time period, not to exceed 30 days from the time the vehicle or engine is initially presented to the warranty station for repair, shall constitute an emergency for purposes of subsection (4).

As discussed in the ISOR, the zero-emission powertrain is a replacement for an engine in an internal combustion vehicle. Therefore, Part II.B.3.8 specifies that,

Throughout the zero-emission powertrain warranty period defined in subsection B.2, the zero-emission powertrain manufacturer shall maintain a supply of warranted parts sufficient to meet the expected demand for
such parts. The lack of availability of such parts or the incompleteness of repairs within a reasonable time period, not to exceed 30 days from the time the vehicle or powertrain is initially presented to the warranty station for repair, shall constitute an emergency for purposes of subsection B.3.4.

Part II.B.3.10.
As described in Attachment D, the provisions of Part II.B.3 are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities.

California Code of Regulations, title 13, section 2036, which sets forth emissions control system warranty requirements, specifies that,

Any add-on or modified part exempted by the Air Resources Board from the prohibitions of Vehicle Code section 27156 may be used on a vehicle or engine. Such use, in and of itself, shall not be grounds for disallowing a warranty claim made in accordance with this article. The vehicle or engine manufacturer shall not be liable under this article to warrant failures of warranted parts caused by the use of an add-on or modified part.

As discussed in the ISOR, the zero-emission powertrain is a replacement for an engine in an internal combustion vehicle. Therefore, Part II.B.3.10 specifies that,

Any add-on or modified part exempted by the Executive Officer from the prohibitions of Vehicle Code section 27156 may be used on a zero-emission powertrain. Such use, in and of itself, shall not be grounds for disallowing a warranty claim made in accordance with this Part. The zero-emission powertrain manufacturer shall not be liable under this Part to warrant failures of warranted parts caused by the use of an add-on or modified part.

Part II.B.4.
As described in Attachment D, many provisions are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities.

Similar to California Code of Regulations, title 13, section 2036, which sets forth emissions control system warranty requirements, this part requires that each “manufacturer shall furnish with each new vehicle or engine written instructions for the maintenance and use of the vehicle or engine by the owner.”

As discussed in the ISOR, the zero-emission powertrain is a replacement for an engine in an internal combustion vehicle. Therefore, to remain consistent across regulatory programs, Part II.B.4 specifies that manufacturers meet this requirement for a zero-emission powertrain.
Part II.F.1.
As described in Attachment D, the provisions of Part II.F are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. California Code of Regulations, title 13, section 2113, which sets forth emission-related recall provisions, specifies that,

When any manufacturer initiates a voluntary emission recall campaign, the manufacturer shall notify the Executive Officer of the recall at least 30 days before owner notification is to begin. The manufacturer shall also submit a voluntary recall plan for approval, as prescribed under Section 2114 of these procedures. A voluntary recall plan shall be deemed approved unless disapproved by the Executive Officer within 20 days after receipt of the recall plan.

Therefore, to remain consistent across regulatory programs, 30 days for notification of a recall and 20 days for disapproval of the plan are used in Part II.F.1.

Part II.F.2.
As described in Attachment D, the provisions of Part II.F are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. California Code of Regulations, title 13, section 2113, which sets forth emission-related recall provisions, specifies that,

The plan shall be submitted within 45 days following the receipt of a notification from the ARB that enforcement test results or other information demonstrate a vehicle or an engine noncompliance.

Therefore, to remain consistent across regulatory programs, 45 days was used in Part II.F.2. This provision, Part II.F.2, however, was removed as part of the 15-day package.

Part II.J.4.
As described in Attachment D, the provisions of Part II are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. California Code of Regulations, title 13, section 2119, which sets forth emissions control system warranty requirements, specifies that,
The information gathered by the manufacturer to compile the reports required by these procedures shall be retained for not less than one year beyond the useful life of the vehicles or engines and shall be made available to authorized personnel of the Air Resources Board upon request.

As discussed in the ISOR, the zero-emission powertrain is a replacement for an engine in an internal combustion vehicle. Therefore, to remain consistent across regulatory programs, Part II.J.4 specifies that manufacturers meet this requirement of one year for a zero-emission powertrain.

Part II.L.2. (Part II.K.2, as of the final amendments submitted to OAL)
As described in Attachment D, the provisions of Part II.L (Part II.K in the Final Regulatory Package) are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. California Code of Regulations, title 13, section 2123, which sets forth emission-related recall provisions, specifies that,

The notification shall include a description of each class or category of vehicles or engines encompassed by the determination of nonconformity, shall set forth the factual basis for the determination and shall designate a date at least 45 days from the date of receipt of such notification by which the manufacturer shall submit a plan to remedy the nonconformity.

Therefore, to remain consistent across regulatory programs, the lengths of 45 days are the same as in Part II.L.2.

Part II.M.2. (Part II.L.2, as of the final amendments submitted to OAL)
As described in Attachment D, the provisions of Part II.M (Part II.L.2 in the Final Regulatory Package) are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. California Code of Regulations, title 13, section 2125, which sets forth emission-related recall provisions, specifies that,

the manufacturer shall submit the recall plan required by Section 2125 within 30 days after receipt of the Board's decision.

Therefore, to remain consistent across regulatory programs, the length of 30 days is used in subsection Part II.M.2.
Part II.Y.1.1 (Part II.X.1.1, as of the final amendments submitted to OAL)
As described in Attachment D, the provisions of Part II.Y.1.1 (Part II.X.1.1 in the Final Regulatory Package) are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. California Code of Regulations, title 13, section 2144, which sets forth emission-related recall provisions, specifies that,

Subsequent to the filing of an emission warranty information report, a manufacturer shall submit quarterly reports updating the number and percentage of emission-related warranty claims with the most recent information, unless a recall has been implemented.

The requirement for quarterly submissions is the same as used in Part II.Y.1.1.

Part II.AA.1.1 & Part II.AA.1.2 (Part II.Y.1.1 & Part II.Y.1.2 as of the final amendments submitted to OAL)
As described in Attachment D, the provisions of Parts II.AA.1.1 and II.AA.1.2 (Parts II.Y.1.1 and II.Y.1.2 in Final Regulatory Package) are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. California Code of Regulations, title 13, section 2146, which sets forth emission-related recall provisions, specifies that,

(1) For 1990 and subsequent model-year vehicles or engines, when the failure of a specific emission related component exceeds the percentages specified in Section 2143 of these procedures. An emissions information report shall not be required sooner than 45 days after the field information report has been submitted to the Executive Officer.

(2) Not more than 45 days after the Executive Officer, with cause, requires such a report. For purposes of this section, "cause" shall be based upon any information in ARB possession which indicates that a failure of significant scope is occurring which might necessitate a recall, including but not limited to the in-use enforcement test results specified in Section 2140(a) above, and information gathered from ARB in-use surveillance activities, Smog Check inspections, and consumer complaints.

Therefore, to remain consistent across regulatory programs, the 45-day limit on submissions is the same as in Parts II.AA.1.1 and II.AA.1.2.
Part II.AB.1.1.3, Part II.AB.1.1.4, and Part II.AB.1.1.6 (Part II.Z.1.1.3, Part II.Z.1.1.4, and Part II.Z.1.1.6 as of the final amendments submitted to OAL)

As described in Attachment D, the provisions of Part II.AB.1.1 (Part II.Z.1.1 in the Final Regulatory Package) are necessary to align the warranty and recall requirements applicable to zero-emission powertrains with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities. Specifically, California Code of Regulations, title 13, section 2148, allows both, “The failure rates and the timing and extent of a remedy if no recall is required” and “Other factors specific to the failure,” to be used to determine the necessity of a recall, which are the same criteria as in Parts II.AB.1.1.3 and II.AB.1.1.4. This will help to ensure that zero-emission powertrains “are as effective and reliable as the internal combustion engines they replace,” as discussed in the ISOR (pg. 39).

As described in Attachment D, the provisions of Part II.AB are appropriate to provide alternatives for remedying component failures, such as through extended warranties or service campaigns, if they are at least as effective as warranty recalls atremedying the failures. Part II.AB.1.1.6 specifically allows for the Executive Officer to determine if extended warranty provisions are as effective as a recall to determine whether a recall is necessary.

III. Supplemental Rationale Applicable to the “Proposed Zero-Emission Powertrain Certification Amendments to California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles,” as set forth in Appendix E to the ISOR and Attachment D

Please see Attachment A to this Addendum entitled, “Incomplete Medium-Duty Vehicles as a subset of the Heavy-Duty Vehicle Weight Class,” for further explanation on how medium-duty vehicles interact within the larger heavy-duty vehicle weight class.

1037.115(B)3.1.6.1 through 3.1.6.6

As described in Attachment D, many provisions are necessary to align the requirements with the analogous requirements applicable to internal combustion engines and vehicles so as to minimize confusion and complexity for regulated entities.

The regulatory language states that,

For provisions in subsections 3.1.6 and 3.3, consideration may be given to relevant factors, including, but not limited to, the following when evaluating a fair and reasonable price.

3.1.6.1 The net cost to manufacturer-franchised dealerships or authorized service networks for similar tools or information obtained from manufacturers when accounting for any discounts, rebates, or other incentive programs;
3.1.6.2 The cost to the manufacturer for preparing and distributing the tools or information, excluding any research and development costs incurred in designing the tools and methodology for repair. Amortized capital costs for the preparation and distribution of the tools may be included;
3.1.6.3 The price charged by other manufacturers for similar tools or information;
3.1.6.4 The means by which the tools or information are distributed;
3.1.6.5 The extent to which the tools or information are used, which includes the number of users, and frequency, duration, and volume of use; and
3.1.6.6 Inflation.

California Code of Regulations, title 13, section 1969, which sets forth on-board diagnostic systems requirements for emissions control systems for internal combustion vehicles. The criteria set forth in California Code of Regulations, title 13, section 1969 are the criteria upon which 3.1.6.1 through 3.1.6.6 are based.
Incomplete Medium-Duty Vehicles as a subset of the Heavy-Duty Vehicle Weight Class

(Note: as referenced on p. 15 of this Addendum, Ch. III. Supplemental Rationale Applicable to the “Proposed Zero-Emission Powertrain Certification Amendments to California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles,” as set forth in Appendix E to the ISOR and Attachment D)

Under California regulations, motor vehicles are classified as light-duty, medium-duty and heavy-duty, based on the gross vehicle weight rating (GVWR), a measure of the vehicle weight plus defined load weight. Specifically, California Code of Regulations, title 13, section 1900(b)(6) defines a heavy-duty vehicle as any motor vehicle other than a passenger car having a GVWR greater than 8,500 pounds. California further subdivides heavy-duty vehicles into light heavy-duty (14,001 to 19,500 pounds GVWR), medium heavy-duty (19,501 to 33,000 pounds GVWR), and heavy heavy-duty (33,001 pounds or more GVWR) vehicle categories.¹

CARB has defined a subset of heavy-duty vehicles (i.e., vehicles with GVWRs between 8,501 to 14,000 pounds GVWR) as medium-duty vehicles.² Because this subset of vehicles has GVWRs greater than 8,500 pounds, they meet the criteria for a heavy-duty vehicle in California Code of Regulations, title 13, 1900(b)(6), and consequently there can be no dispute that medium-duty vehicles fall within the heavy-duty vehicle weight class.

A medium-duty vehicle without the primary load-carrying device or container installed may be certified as an incomplete vehicle. For a vehicle certifying as an incomplete vehicle, the engine is first certified to engine standards for both criteria-pollutant and greenhouse-gas emissions, then the vehicle is certified to separate vehicle standards for greenhouse-gas emissions only. This contrasts the certification for a complete vehicle, which only requires demonstrating compliance with vehicle standards (for both criteria pollutants and greenhouse gases). That is, vehicles certifying as complete vehicles are not subject to separate engine standards.³

² California Code of Regulations, title 13, section 1900(a)(13)
³ Evaporative emission standards may also apply regardless of whether a vehicle is certified as incomplete or complete.
A vehicle certified as an incomplete vehicle retains that certification classification even after the primary load-carrying device or container has been installed (and the medium-duty vehicle is deemed “complete”).

Federal regulations have comparable, but not entirely consistent definitions of heavy-duty vehicles, as shown by the table below. Notably, the federal regulations do not define medium-duty vehicles, so medium-duty vehicles would be designated as light heavy-duty vehicles under federal regulations.

<table>
<thead>
<tr>
<th>GVWR (pounds)</th>
<th>8,501-10,000</th>
<th>10,001-14,000</th>
<th>14,001-16,000</th>
<th>16,001-19,500</th>
<th>19,501-26,000</th>
<th>26,001-33,000</th>
<th>33,001+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>Light heavy-duty</td>
<td>Medium heavy-duty</td>
<td>Heavy heavy-duty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>Medium-duty</td>
<td>Light heavy-duty</td>
<td>Medium heavy-duty</td>
<td>Heavy heavy-duty</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>