APPENDIX K

List of Proposed Changes to Title 13, CCR and Incorporated Test Procedures

List of Changes to Appendix A – Proposed Regulation Order

Amendments to Title 13, CCR, Section 1900

Subsection (b)(9): It is necessary to revise this definition to align the California definition of a heavy-duty vehicle with the federal definition of a heavy-duty vehicle.

Subsection (b)(14): It is necessary to revise this definition to include vehicles certified to section 1961.2.

Subsection (b)(16): It is necessary to revise this definition to include vehicles certified to section 1961.2.

Amendments to Title 13, CCR, Section 1956.8

Subsection (b): The date that the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" was last amended has been changed. This change is needed to incorporate by reference the version of this document that includes the modifications from this rulemaking.

Subsection (d):

The date that the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines" was last amended has been changed. This change is needed to incorporate by reference the versions of these documents that include the modifications from this rulemaking.

The "California Non-Methane Organic Gas Test Procedures" has been split into two test procedures, the "California Non-Methane Organic Gas Test Procedures for 1993 through 2016 Model Year Vehicles" and the "California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Year Vehicles." It is necessary to modify this section to incorporate the two new documents. Also, since these two documents are incorporated by reference in section 1961.2, it is necessary to remove the date of amendment

for the “California Non-Methane Organic Gas Test Procedures” to avoid duplication of where this document is incorporated.

Amendments to Title 13, CCR, Section 1961.2

Subsection (a)

Subsection (a)(1): It is necessary to add four footnotes to this table for the following reasons:

Footnote 3 is needed to clarify that the standards set forth in the table apply at both low altitude and high altitude except as noted in footnote 4.

Footnote 4 is needed to establish alternative standards for passenger cars and light-duty trucks when tested at high altitude conditions.

Footnote 5 is needed to specify that LEV395, ULEV340, LEV630, and ULEV570 standards only apply for the 2015 through 2021 model years.

Footnote 6 is needed to establish an additional NOx emission standard for vehicles certifying to LEV395, ULEV340, LEV630, and ULEV570 standards.

Subsection (a)(2)

Subsection (a)(2)(D)

Subsection (a)(2)(D)1: It is necessary to revise this subsection to ensure that manufacturers do not backslide in their percent phase-in of the 3 mg/mi PM standard.

Subsection (a)(4): It is necessary to modify this subsection to specify that the 50^{o}F exhaust emission standards for LEV III vehicles only applies at 4,000 miles. It is also necessary to correct the number of a subsection that is referenced and the letter of a section that is referenced to reflect the re-numbering of these subsections.

Subsection (a)(6): It is necessary to change the CFR section that is incorporated by this subsection to incorporate the currently applicable version of the highway test procedures.

Subsection (a)(7)

Subsection (a)(7)(A)

Subsection (a)(7)(A)1: It is necessary to modify this subsection to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use.

Subsection (a)(7)(A)2: It is necessary to modify this subsection to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use.

It is also necessary to modify three table footnotes for the following reasons:

Footnote 2: It is necessary to modify this footnote in order to: 1) clarify the mileage to which manufacturers must project emission values for LEV II carryover vehicles, 2) clarify that the NMHC-to-NMOG conversion factor only applies to testing using E10 certification gasoline, and 3) specify that LEV II carryover test groups must certify to bins and be subject to their bin values through full useful life.

Footnote 5: It is necessary to modify this footnote to clarify that manufacturers shall report the emission value of, and the number of vehicles in, each test group used to calculate the SFTP fleet average to the Executive Officer.

Footnote 7: It is necessary to modify this footnote to clarify that federally-certified test groups are not required to certify to the LEV III SFTP CO standard.

Subsection (a)(7)(B): It is necessary to modify the this subsection: 1) to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use, 2) to modify the table to establish a more stringent PM standard, and 3) to add a footnote to the table to clarify the applicability of the standards.

Subsection (a)(7)(C): It is necessary to modify this subsection to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use.

It is also necessary to modify two table footnotes for the following reasons:

Footnote 4: It is necessary to modify this footnote to indicate that the specifications described in either CFR 86.107–96(d)(1) or §1066.105 for the road speed fan may be used.

Footnote 6: It is necessary to modify this footnote to specify that test groups certifying to LEV III SFTP NMOG+NOx standards must be the same test groups certifying to LEV III FTP NMOG+NOx standards.

Subsection (a)(7)(D): It is necessary to modify this subsection to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use.

It is also necessary to modify two table footnotes for the following reasons:

Footnote 3: It is necessary to modify this footnote to indicate that the specifications described in either CFR 86.107–96(d)(1) or §1066.105 for the road speed fan may be used.

Footnote 5: It is necessary to modify this footnote to clarify that manufacturers may use FTP emission values in place of SC03 emission values when determining the composite emission value of a test group if it can be demonstrated that FTP emissions are higher than or equivalent to SC03 emissions.Subsection (a)(8)

Subsection (a)(8)(A): It is necessary to modify this subsection to clarify that LEV III criteria pollutant interim in-use compliance standards apply to the first two model years that a test group is certified to LEV III standards that are more stringent than the standards to which the test group was certified in a prior model year.

Subsection (a)(8)(C)

Subsection (a)(8)(C)1 It is necessary to modify this subsection to reduce the years of applicability of the relaxed SFTP NMOG+NOx interim in-use standards.

Subsection (a)(8)(C)2: It is necessary to modify this subsection to establish new applicability of the relaxed SFTP PM interim in-use standards.

Subparagraph (a)(8)(C)2.a: It is necessary to modify this subparagraph to establish a new SFTP PM interim in-use standard that correlates with the lower SFTP PM certification standard.

Subsection (a)(11)

It is necessary to delete the “as adopted” date in this subsection to ensure that the most current version of the referenced test procedures is incorporated.

It is necessary to add language to this subsection to clarify that NMOG credits for Direct Ozone Reduction Technology may only be used for determining compliance with exhaust emission standards that apply at FTP conditions.

Subsection (a)(12)

Subsection (a)(12)(A): It is necessary to modify this subsection to incorporate a CFR citation of where Tier 3 emission bins are located.

Subsection (a)(13): It is necessary to modify this subsection to correct a referenced subsection of the regulations.

Subsection (b)

Subsection (b)(1)

Subsection (b)(1)(B)

Subsection (b)(1)(B)2

It is necessary to add text to this subsection to indicate how these formulas can be applied to off-vehicle charge capable hybrid electric vehicles that are certified to LEV II standards.

The formulas in this subsection refer to two separate test procedures for determining the zero-emission VMT allowance for off-vehicle charge capable hybrid electric vehicles – one applies for the 2009 through 2017 model years and the second applies for the 2018 and subsequent model years. It is clear in the 2009 through 2017 model year test procedure what zero-emission VMT allowances should be used in these formulas. However, it is not clear in the 2018 and subsequent model year test procedures what zero-emission VMT allowances should be used in these formulas.

It is necessary to add language to this subsection to clarify the values that should be used.

It is necessary to remove the last sentence from this subsection, because it excludes off-vehicle charge capable hybrid electric vehicles that are certified to LEV II standards from using these formulas.

Subsection (b)(1)(C)

Subsection (b)(1)(C)1: It is necessary to revise this subparagraph to establish new exhaust emission standards for small volume manufacturers.

Subsection (b)(3)

Subsection (b)(3)(A)

It is necessary to give this subsection and give it a title, because the structure of subsection (b)(3) has been changed.

It is necessary to add footnote 1 to this table to specify that LEV395, ULEV340, LEV630, and ULEV570 standards only apply for the 2015 through 2021 model years.

Subsection (b)(3)(C): It is necessary to create a new umbrella section heading that describes alternate phase-in schedules for medium-duty vehicles, because a new alternative has been added to these test procedures.

Subparagraph (b)(3)(C)1: It is necessary to create a new umbrella section heading to specify that the alternate phase-in schedules contained herein apply to all manufacturers.

Subparagraph (b)(3)(C)1.a: It is necessary to add this subparagraph to establish an alternate fleet average phase-in schedule for medium-duty LEV III vehicles.

Subparagraph (b)(3)(C)1.b: This subparagraph is needed to establish formulas for calculating the fleet average NMOG+NOx emission values for medium-duty vehicles 8,501 to 10,000 lbs GVW.

Subparagraph (b)(3)(C)1.c: This subparagraph is needed to establish formulas for calculating the fleet average NMOG+NOx emission values for medium-duty vehicles 10,001 to 14,000 lbs GVW.

Subparagraph (b)(3)(C)1.d: This subparagraph is needed to specify the values that are used in the formulas in subparagraphs (b)(3)(C)1.b and (b)(3)(C)1.c.

Subparagraph (b)(3)(C)1.e: This subparagraph is needed to establish criteria for calculating the NMOG+NOx contribution factor for off-vehicle charge capable hybrid electric vehicles.

Subparagraph (b)(3)(C)1.e.i: This subparagraph is needed to specify the formulas for calculating the hybrid electric vehicle contribution factors for medium-duty vehicles 8,501 – 10,000 lbs. GVWR.

Subparagraph (b)(3)(C)1.e.ii: This subparagraph is needed to specify the formulas for calculating the hybrid electric vehicle contribution factors for medium-duty vehicles 10,001 – 14,000 lbs. GVWR.

Subparagraph (b)(3)(C)2: It is necessary to re-number this subparagraph and to modify the title of this subparagraph to specify that the alternate phase-in schedule contained herein only apply to manufacturers with a limited number of medium-duty test groups.

Subparagraphs 1 through 4: It is necessary to re-number these subparagraphs, because subparagraph (b)(3)(C)2 has been re-numbered.

Subsection (b)(4)

Subparagraph (b)(4)(B): It is necessary to modify this footnote to specify that test groups certifying to LEV III SFTP NMOG+NOx standards must be the same test groups that are certifying to LEV III FTP NMOG+NOx standards.

Subsection (c)

Subsection (c)(2): It is necessary to create a new umbrella section heading that describes the method for calculating NMOG+NOx credits for medium-

duty vehicles, because a second method has been added to these test procedures.

Subsection (c)(2)(A): It is necessary to re-number this subsection, because the structure of subsection (c)(2) has been changed.

Subsection (c)(2)(A)1: It is necessary to re-number this subsection, because subsection (c)(2)(A) has been re-numbered.

Subsection (c)(2)(A)2: It is necessary to re-number this subsection, because subsection (c)(2)(A) has been re-numbered.

Subsection (c)(2)(A)3: It is necessary to re-number this subsection, because subsection (c)(2)(A) has been re-numbered.

Subsection (c)(2)(B): It is necessary to add this subsection to establish a method for calculating fleet average NMOG+NOx credits and debits for medium-duty vehicles that certify to a fleet average phase-in.

Subsection (c)(2)(B)1: It is necessary to add this subsection to set forth the formula that must be used to calculate medium-duty fleet average value each year.

Subsection (c)(2)(B)2: This subsection is needed to establish criteria for earning medium-duty fleet average credits and debits.

Subsection (c)(2)(C)

It is necessary to re-number this subsection, because subsection (c)(2) has been re-structured.

It is necessary to add text to this subsection to add restrictions on how medium-duty zero-emission vehicles may be included in the calculation of NMOG+NOx credits and debits.

Subsection (c)(3)

Subsection (c)(3)(A): It is necessary to revise this subsection to include provisions for medium-duty vehicles that comply with the LEV III program by meeting a NMOG+NOx fleet average.

Subsection (c)(5): This subsection is needed to specify how vehicle equivalent credits and debits may be converted to fleet average NMOG+NOx credits and debits.

Subsection (d)

It is necessary to amend this subsection to update the amended date of the incorporated “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.”

Also, the “California Non-Methane Organic Gas Test Procedures” has been split into two test procedures, the “California Non-Methane Organic Gas Test Procedures for 1993 through 2016 Model Year Vehicles” and the “California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Year Vehicles.” It is necessary to modify this section to incorporate the two new documents.

Amendments to Title 13, CCR, Section 1962.2

Subsection (h)

Subsection (h)(1):

It is necessary to amend this subsection to update the amended date of the incorporated "California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes."

Amendments to Title 13, CCR, Section 1965

It is necessary to amend this subsection to update the amended date of the incorporated “California Environmental Performance Label Specifications for 2009 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles.”

Amendments to Title 13, CCR, Section 1976

Subsection (b)

Subsection (b)(1)

Subsection (b)(1)(G)

Subsection (b)(1)(G)1

Subsection (b)(1)(G)1.b, Footnote (2): This change is necessary to add a useful life requirement for the canister bleed emission standard and to clarify that deterioration factors are not needed for this standard.

Subsection (b)(1)(G)2, Footnote (1): The amendment to this footnote is needed to change the required compliance basis from projected to actual sales volumes for purposes of the alternative phase-in.

Subsection (b)(1)(G)3: The purpose of this subsection is to specify the allowance to carry over emissions data for vehicles certified to the optional LEV II zero-evaporative standards to meet LEV III requirements. The proposed amendment is necessary to extend this allowance one additional year, through model year 2019.

Subsection (b)(1)(G)6: This added subsection is needed to establish the effective leak diameter standard and procedure .

Subsection (b)(1)(G)7: This new subsection is necessary to establish evaporative emission requirements for vehicles equipped with an auxiliary engine and fuel system.

Subsection (c): This change is necessary to revise the amended date of the evaporative emission test procedures.

Amendments to Title 13, CCR, Section 1978

Subsection (a)

Subsection (a)(1): This amendment is needed to: 1) expand the applicability of the refueling emission standards to vehicles greater than 14,000 pounds gross vehicle weight rating (GVWR) and 2) update the reference to the standard for compressed natural gas vehicle fueling connection devices so that it refers to the most recent version of the standard.

Subsection (a)(2): The purpose of this subsection is to provide an option for manufacturers to provide an attestation of compliance in lieu of testing for certifying diesel-fueled vehicles to the refueling emission standard. The

changes to this subsection are necessary to remove the fuel vapor pressure and fuel tank temperature criteria for this option.

Subsection (a)(4): It is necessary to modify this subsection to clarify that all incomplete vehicles are exempt from the refueling standard, regardless of vehicle weight.

Subsection (b): This change is necessary to revise the amended date of the refueling test procedures.

Appendix B – "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles"

List of Documents to be Used in Conjunction with this Document

11 and 12: The "California Non-Methane Organic Gas Test Procedures" has been split into two test procedures, the "California Non-Methane Organic Gas Test Procedures for 1993 through 2016 Model Year Vehicles" and the "California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Year Vehicles." It is necessary to modify this section to incorporate the two new documents.

13: It is necessary to re-number this document, because a new document has been added to this list.

Last sentence: It is necessary to delete the last part of this sentence, because it is not accurate.

Part I. Subpart A

Section 1

Subsection 1.1: It is necessary to modify this subsection to incorporate the most current version of CFR §86.1801-12. This change is needed to allow harmonization with federal regulations. Since the most current version of §86.1801-12 differs from the version that is currently incorporated into these test procedures, additions and deletions to the most current version of §86.1801-12 to reflect its new structure and text.

Section 2

Subsections 2.1 and 2.4: It is necessary to modify these subsections to include the versions of 40 CFR that will be applicable in 2017 and subsequent model years.

Part I. Subpart B

Section 1

Subsection 1.1: It is necessary to amend this subsection to incorporate the most recent definitions set forth in CFR §86.1803-01 into these test

procedures. This change is needed to allow harmonization with federal regulations.

Section 2

"Battery electric vehicle" – It is necessary to add this definition, because the term is used in section H of these test procedures.

"Emergency Vehicle" – It is necessary to modify this definition to include fire trucks in the definition of "emergency vehicle."

"Federal Tier II emission Bin 3, or Bin 4, or Bin 8" – It is necessary to add "Bin 8" to this definition , because the term is used in section H of these test procedures.

"Federal Tier III emission Bin 85 or Bin 110" – It is necessary to add this definition, because the terms 85 and Bin 110 are used in section H of these test procedures.

"Highway Test Procedures" – It is necessary to change the CFR section that is cited by this definition to incorporate the currently applicable version of the highway test procedures.

"Non-methane organic gas" – The "California Non-Methane Organic Gas Test Procedures" has been split into two test procedures, the "California Non-Methane Organic Gas Test Procedures for 1993 through 2016 Model Year Vehicles" and the "California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Year Vehicles." It is necessary to modify this section to incorporate the two new documents.

Part I. Subpart C

Section 1

Subsection 1.2: It is necessary to add this subsection to these test procedures to incorporate the version of CFR §86.1805-17 that will be applicable in 2017 and subsequent model years.

Subsections 1.2.1 through 1.2.6: The changes to these subsections are needed to reflect the differences between the federal Tier 3 regulations and California's LEV III regulations.

Section 2

Subsection 2.2: It is necessary to add this subsection to these test procedures to incorporate the version of CFR §86.1806-17 that will be applicable in 2017 and subsequent model years.

Subsections 2.3: It is necessary to re-number this subsection, because a new subsection 2.2 has been added to the document.

Section 3

Subsection 3.1: The reference to CFR §86.1807-07 has been replaced with a reference to CFR §86.1807-01, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Subsection 3.1.9: It is necessary to add this subsection to indicate that subparagraph §86.1807-01 (h) is not applicable in California.

Section 4: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 5: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Part I. Subpart D

Section 1: It is necessary to amend the introduction paragraph for this section to only allow it to apply in the 2015 and 2016 model years. It is necessary to re-number the subparagraphs that are incorporated in this section to provide a consistent format with the rest of this test procedure.

Subsection 1.3: It is necessary to add language to clarify that Altitude Requirements do not apply for demonstrating compliance with cold temperature NMHC emission standards, because these standards do not apply in California.

Subsection 1.6: It is necessary to modify this subsection to add clarifying language.

Subsection 1.6.5: It is necessary to modify this subsection to indicate that the specifications described in either CFR §86.108-00 or §1066.210 for a single-roll electric dynamometer may be used.

Subsection 1.6.9: It is necessary to correct a typographical error in this subsection.

Subsection 1.10: It is necessary to modify this subsection to clarify how the adjustment factors in this subparagraph may be used to demonstrate compliance with emission standards.

Section 2: It is necessary to add this subsection to these test procedures to incorporate the version of §86.1810-17 that will be applicable in 2017 and subsequent model years.

Subsections 2.1 through 2.7: It is necessary to make amendments to §86.1810-17 to incorporate California-specific provisions.

Subsection 2.7.1: This subsection is necessary to specify enrichment limits that apply during SFTP testing.

Subsection 2.7.2: This subsection is necessary to specify allowances for commanded enrichment during SFTP testing.

Subsection 2.7.3: This subsection is necessary to specify engine calibration requirements for A/C-on operation during SFTP testing.

Subsection 2.7.4: This subsection is necessary to specify “lean-on-cruise” calibration requirements during SFTP testing.

Subsection 2.7.5: This subsection incorporates an existing procedure for measuring NMHC in lieu of NMOG and is necessary to maintain a consistent format throughout Section 2. In addition, it is necessary to amend the existing procedure so that it only applies to gasoline-fueled vehicles.

Section 3: It is necessary to re-number this section, to provide a consistent format with the rest of Subpart D.

Subsection 3.3: The “California Non-Methane Organic Gas Test Procedures” has been split into two test procedures, the “California Non-Methane Organic Gas Test Procedures for 1993 through 2016 Model Year Vehicles” and the “California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Year Vehicles.” It is necessary to modify this section to incorporate the two new documents.

Part I. Subpart E California Exhaust Emission Standards

Introduction: It is necessary to correct an incorrect date in the introduction.

Section 1

Subsection 1.1

Subsection 1.1.2: It is necessary to add four footnotes to this table for the following reasons:

Footnote 3 is needed to clarify that the standards set forth in the table apply at both low altitude and high altitude except as noted in footnote 4.

Footnote 4 is needed to establish alternative standards for passenger cars and light-duty trucks when tested at high altitude conditions.

Footnote 5 is needed to specify that LEV395, ULEV340, LEV630, and ULEV570 standards only apply for the 2015 through 2021 model years.

Footnote 6 is needed to establish an additional NOx emission standard for vehicles certifying to LEV395, ULEV340, LEV630, and ULEV570 standards.

Subsection 1.1.2.1

Subsection 1.1.2.1.4

Subsection 1.1.2.1.4.1: It is necessary to revise this subsection to ensure that manufacturers do not backslide in their percent phase-in of the 3 mg/mi PM standard.

Subsection 1.2

Subsection 1.2.2

Subsection 1.2.2.1

Subsection 1.2.2.1.1: It is necessary to modify this subsection to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use.

Subsection 1.2.2.1.2: It is necessary to modify this subsection to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use.

It is also necessary to modify three table footnotes for the following reasons:

Footnote 2: It is necessary to modify this footnote in order to: 1) clarify the mileage to which manufacturers must project emission values for LEV II carryover vehicles, 2) clarify that the NMHC-to-NMOG conversion factor only applies to testing using E10 certification gasoline, and 3) specify that LEV II carryover test groups must certify to bins and be subject to their bin values through full useful life.

Footnote 5: It is necessary to modify this footnote to clarify that manufacturers shall report the emission value of, and the number of vehicles in, each test group used to calculate the SFTP fleet average to the Executive Officer.

Footnote 7: It is necessary to modify this footnote to clarify that federally-certified test groups are not required to certify to the LEV III SFTP CO standard.

Subsection 1.2.2.2: It is necessary to modify this subsection: 1) to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use, 2) to modify the table to establish a more stringent PM standard, and 3) to add a footnote to the table to clarify the applicability of the standards.

Subsection 1.2.2.3: It is necessary to modify this subsection to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use.

It is also necessary to modify two table footnotes for the following reasons:

Footnote 4: It is necessary to modify this footnote to indicate that the specifications described in either CFR 86.107–96(d)(1) or §1066.105 for the road speed fan may be used.

Footnote 6: It is necessary to modify this footnote to specify that test groups certifying to LEV III SFTP NMOG+NOx

standards must be the same test groups certifying to LEV III FTP NMOG+NOx standards.

Subsection 1.2.2.4: It is necessary to modify this subsection to establish a requirement for fuel-flexible vehicles to test on each blend of fuels the vehicle is designed to use.

It is necessary to modify two table footnotes for the following reasons:

Footnote 3: It is necessary to modify this footnote to indicate that the specifications described in either CFR 86.107–96(d)(1) or §1066.105 for the road speed fan may be used.

Footnote 5: It is necessary to modify this footnote to clarify that manufacturers may use FTP emission values in place of SC03 emission values when determining the composite emission value of a test group if it can be demonstrated that FTP emission are higher than or equivalent to SC03 emissions.

Subsection 1.4

Subsection 1.4.1: It is necessary to modify this subsection to specify that the 50^{o}F exhaust emission standards for LEV II vehicles only applies at 4,000 miles. It is also necessary to correct the number of a subsection that is referenced to reflect the re-numbering of that subsection.

Subsection 1.4.2: It is necessary to modify this subsection to specify that the 50^{o}F exhaust emission standards for LEV III vehicles only applies at 4,000 miles. It is also necessary to correct the number of a subsection that is referenced and the letter of a section that is referenced to reflect the re-numbering of these subsections.

Subsection 1.6: It is necessary to change the CFR section that is cited by this subsection to incorporate the currently applicable version of the highway test procedures.

Subsection 1.10: It is necessary to add language to this subsection to clarify that NMOG credits for Direct Ozone Reduction Technology may only be used for determining compliance with exhaust emission standards that apply at FTP conditions.

Section 2

Subsection 2.1

Subsection 2.1.2

Subsection 2.1.2.2

It is necessary to add text to this subsection to indicate how these formulas can be applied to off-vehicle charge capable hybrid electric vehicles that are certified to LEV II standards.

The formulas in this subsection refer to two separate test procedures for determining the zero-emission VMT allowance for off-vehicle charge capable hybrid electric vehicles – one applies for the 2009 through 2017 model years and the second applies for the 2018 and subsequent model years. It is clear in the 2009 through 2017 model year test procedure what zero-emission VMT allowances should be used in these formulas. However, it is not clear in the 2018 and subsequent model year test procedures what zero-emission VMT allowances should be used in these formulas. It is necessary to add language to this subsection to clarify the values that should be used.

It is necessary to remove the last sentence from this subsection, because it excludes off-vehicle charge capable hybrid electric vehicles that are certified to LEV II standards from using these formulas.

Subsection 2.1.3

Subparagraph (a): It is necessary to revise this subparagraph to establish new exhaust emission standards for small volume manufacturers.

Subsection 2.3

Subsection 2.3.1

It is necessary to re-number this subsection and give it a title, because the structure of subsection 2.3 has been changed.

It is necessary to add footnote 1 to this table to specify that LEV395, ULEV340, LEV630, and ULEV570 standards only apply for the 2015 through 2021 model years.

Subsection 2.3.2: It is necessary to re-number this subsection, because the structure of subsection 2.3 has been changed.

Subsection 2.3.3: It is necessary to create a new umbrella section heading that describes alternate phase-in schedules for medium-duty vehicles, because a new alternative has been added to these test procedures.

Subparagraph 2.3.3.1: It is necessary to create a new umbrella section heading to specify that the alternate phase-in schedules contained herein apply to all manufacturers.

Subparagraph 2.3.3.1.1: It is necessary to add this subparagraph to establish an alternate fleet average phase-in schedule for medium-duty LEV III vehicles.

Subparagraph 2.3.3.1.2: This subparagraph is needed to establish formulas for calculating the fleet average NMOG+NOx emission values for medium-duty vehicles 8,501 to 10,000 lbs GVWR.

Subparagraph 2.3.3.1.3: This subparagraph is needed to establish formulas for calculating the fleet average NMOG+NOx emission values for medium-duty vehicles 10,001 to 14,000 lbs. GVWR.

Subparagraph 2.3.3.1.4: This subparagraph is needed to specify the values that are used in the formulas in subparagraphs 2.3.3.1.2 and 2.3.3.1.3, above.

Subparagraph 2.3.3.1.5: This subparagraph is needed to establish criteria for calculating the NMOG+NOx contribution factor for off-vehicle charge capable hybrid electric vehicles.

Subparagraph 2.3.3.1.5.1: This subparagraph is needed to specify the formulas for calculating the hybrid electric vehicle contribution factors for medium-duty vehicles 8,501 – 10,000 lbs. GVWR.

Subparagraph 2.3.3.1.5.2: This subparagraph is needed to specify the formulas for calculating the hybrid electric vehicle

contribution factors for medium-duty vehicles 10,001 – 14,000 lbs. GVWR.

Subparagraph 2.3.3.2: It is necessary to re-number this subparagraph to make it part of subsection 2.3.3 and to modify the title of this subparagraph to specify that the alternate phase-in schedule contained herein only apply to manufacturers with a limited number of medium-duty test groups.

Subparagraphs (a) through (d): It is necessary to re-number these subparagraphs, because subparagraph 2.3.3.2 has been re-numbered.

Subsection 2.3.4: It is necessary to re-number this subsection, because the structure of subsection 2.3 has been changed.

Section 3

Subsection 3.1

Subsection 3.1.2: It is necessary to create a new umbrella section heading that describes the method for calculating NMOG+NOx credits for medium-duty vehicles, because a second method has been added to these test procedures.

Subsection 3.1.2.1: It is necessary to re-number this subsection, because the structure of subsection 3.1.2 has been changed.

Subsection 3.1.2.1.1: It is necessary to re-number this subsection, because subsection 3.1.2.1 has been re-numbered.

Subsection 3.1.2.1.2: It is necessary to re-number this subsection, because subsection 3.1.2.1 has been re-numbered.

Subsection 3.1.2.1.3: It is necessary to re-number this subsection, because subsection 3.1.2.1 has been re-numbered.

Subsection 3.1.2.2: It is necessary to add this subsection to establish a method for calculating fleet average NMOG+NOx credits and debits for medium-duty vehicles that certify to a fleet average phase-in.

Subsection 3.1.2.2.1: It is necessary to add this subsection to set forth the formula that must be used to calculate medium-duty fleet average value each year.

Subsection 3.1.2.2.2: This subsection is needed to establish criteria for earning medium-duty fleet average credits and debits.

Subsection 3.1.2.3

It is necessary to re-number this subsection, because subsection 3.1.2 has been re-structured.

It is necessary to add text to this subsection to add restrictions on how medium-duty zero-emission vehicles may be included in the calculation of NMOG+NOx credits and debits.

Subsection 3.1.2.4: It is necessary to re-number this subsection, because subsection 3.1.2 has been re-structured.

Subsection 3.1.3

Subsection 3.1.3.1: It is necessary to revise this subsection to include provisions for medium-duty vehicles that comply with the LEV III program by meeting a NMOG+NOx fleet average.

Subsection 3.1.5: This subsection is needed to specify how vehicle equivalent credits and debits may be converted to fleet average NMOG+NOx credits and debits.

Section 4: It is necessary to modify this subsection to clarify that LEV III criteria pollutant interim in-use compliance standards apply to the first two model years that a test group is certified to LEV III standards that are more stringent than the standards to which the test group was certified in a prior model year.

Subsection 4.3

Subsection 4.3.1: It is necessary to modify this subsection to reduce the years of applicability of the relaxed SFTP NMOG+NOx interim in-use standards.

Subsection 4.3.2: It is necessary to modify this subsection to establish new applicability of the relaxed SFTP PM interim in-use standards.

Subparagraph (a): It is necessary to modify this subparagraph to establish a new SFTP PM interim in-use standard that correlates with the lower SFTP PM certification standard.

Part I. Subpart F

Section 4

Subsection 4.2: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1823-08. This change is needed to allow harmonization with federal regulations.

Section 7

Subsection 7.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1826-01. This change is needed to allow harmonization with federal regulations.

Part I. Subpart G

Section 2

Subsection 2.1: The reference to CFR §86.1828-10 has been replaced with a reference to CFR §86.1828-01, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Subsection 2.2

Subsection 2.2.2: It is necessary to modify this subsection to correct a reference to a section that has been re-numbered.

Subsection 2.3: It is necessary to add this subsection to establish criteria for selection of emission data vehicles that are used to demonstrate compliance with LEV III particulate matter standards.

Section 3

Subsection 3.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1829-01. This change is needed to allow harmonization with federal regulations.

Subsection 3.1.4: It is necessary to delete this subsection, because it is no longer needed.

Subsection 3.1.5: It is necessary to delete this subsection, because it is no longer needed.

Subsection 3.1.6: It is necessary to re-number this subsection as 3.1.4, because subsections 3.1.4 and 3.1.5 have been deleted.

Subsection 3.2: It is necessary to add this subsection to these test procedures to incorporate the version of CFR §86.1829-15 that will be applicable in 2015 and subsequent model years.

Subsections 3.2.1 through 3.2.1: The changes to these subsections are needed to incorporate California-specific provisions.

Subsection 3.3: It is necessary to re-number this subsection, because a new subsection 3.2 is being added. It is necessary to modify this subsection to fix an incorrect reference.

Subsections 3.4

It is necessary to re-number this subsection, because a new subsection 3.2 is being added.

It is necessary to change the CFR section that is cited by this subsection to incorporate the currently applicable version of the highway test procedures.

Subsection 3.5: It is necessary to re-number this subsection, because a new subsection 3.2 is being added.

Subsection 3.6: It is necessary to re-number this subsection, because a new subsection 3.2 is being added. It is necessary to modify this subsection to fix an incorrect reference.

Section 11

Subsection 11.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1837-01. This change is needed to allow harmonization with federal regulations.

Subsection 11.2: It is necessary to amend this subsection to change the referenced document.

Section 12

Subsection 12.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1838-01. This change is needed to allow harmonization with federal regulations.

Section 14

Subsection 14.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1840-01. This change is needed to allow harmonization with federal regulations.

Part I. Subpart H

Section 1

Subsection 1.4: It is necessary to modify this subsection to incorporate a CFR citation of where Tier 3 emission bins are located.

Subsections 1.4.1

Subsection 1.4.1.1: Subsection 1.4.1 requires that all federally-certified vehicle models certified for sale in California in accordance with subparagraph 1.4 be subject to California 50^{o}F exhaust emission standards. However, no such standards exist for federal Tier II emission Bin 8 or to federal Tier III emission Bin 85 or Bin 110. Since vehicles that are certified to these emission bins may be sold in California as a "cleaner federal vehicle" compared to certain LEV II vehicles, it is necessary to amend this subsection to exempt vehicles that are certified to federal Tier II emission Bins 8 or to federal Tier III emission Bin 85 or Bin 110 from California 50^{o}F exhaust emission standards.

Section 3

Subsection 3.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1843-01. This change is needed to allow harmonization with federal regulations.

Subsection 3.2:

This subsection currently requires manufacturers of hydrogen vehicles to submit projected California sales and fuel economy data and additional data pertaining to vehicle design prior to vehicle certification. It is necessary to also request information concerning fuel tank capacity, vehicle type, vehicle range, and vehicle name data to meet the legislatively required infrastructure planning reports ARB is directed to submit under AB 8. The change from air basin reporting to county

reporting is needed to further assist in CARB's legislatively required infrastructure planning reports

It is necessary to modify this subsection to request similar data for electric vehicles and plug-in hybrid electric vehicles to meet the legislatively required infrastructure planning efforts and to assist in maintaining a financial sustainable incentive program for these types of vehicles.

Section 4

Subsection 4.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1844-01. This change is needed to allow harmonization with federal regulations.

Subsection 4.1.2: It is necessary to modify these subsections to incorporate California-specific provisions in the current version of CFR §86.1844-01.

Subsection 4.1.4: It is necessary to modify these subsections to incorporate California-specific provisions in the current version of CFR §86.1844-01.

Part I. Subpart I

Section 1

Subsection 1.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1845-04. This change is needed to allow harmonization with federal regulations.

Subsection 1.1.1: It is necessary to amend this subsection to fix an incorrect table number. It is necessary to also amend this subsection to clarify that vehicles that are tested by a small volume manufacturer for in-use verification to demonstrate compliance with FTP particulate emission standards must also be tested to demonstrate compliance with SFTP particulate emission standards.

Subsection 1.1.2: It is necessary to amend this subsection to fix an incorrect table number. It is necessary to also amend this subsection to clarify that vehicles that are tested by a large volume manufacturer for in-use verification to demonstrate compliance with FTP particulate emission standards must also be tested to demonstrate compliance with SFTP particulate emission standards.

Subsection 1.1.3: It is necessary to amend this subsection to delete an unnecessary condition that determines when this subsection applies.

Subsection 1.1.4:

The reference to CFR §86.1845-01 has been replaced with a reference to CFR §86.1845-04, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

It is also necessary to modify this subsection to specify that high altitude testing shall not apply at 50^{o}F.

Section 2

Subsection 2.1: It is necessary to amend this subsection to incorporate the most current version of CFR §86.1846-01. This change is needed to allow harmonization with federal regulations.

Subsection 2.2: It is necessary to amend this subsection to reflect the re-numbering of a currently incorporated section of these test procedures.

Part I. Subpart J

Section 1: The CFR section incorporated by this section has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 10: It is necessary to add this section to incorporate a new section of the CFR. This change is needed to ensure that these test procedures are current.

Sections 11 through 20: It is necessary to re-number these sections because new sections have been added to these test procedures.

Section 12: It is necessary to add this section to incorporate a new section of the CFR. This change is needed to ensure that these test procedures are current.

Section 14: It is necessary to modify this subsection to incorporate the most current version of §86.1863-07. This change is needed to allow harmonization with federal regulations.

Section 17: It is necessary to modify this section to correctly specify the applicability of this section.

Sections 18 through 20: It is necessary to add these sections to incorporate new sections of the CFR. This is needed to ensure that these test procedures are current.

Part II. Introductory Paragraph

It is necessary to modify the introductory paragraph to incorporate a recently adopted part of the CFR. This change is needed to allow harmonization with federal regulations.

Part II. Subpart A

Section 100.1

86.101: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations. It is necessary to modify this section to incorporate California-specific provisions.

86.102: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 100.2

86.106-96: The reference to CFR section §86.106-00 has been replaced with a reference to CFR §86.106-96, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

86.110-94: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 100.3

86.113-94: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.113-04: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.113-07: It is necessary to delete the reference to this section, because it has been deleted from the CFR.

86.113-15: It is necessary to It is necessary to add this section to incorporate a new section of the CFR. This change is needed to allow harmonization with federal regulations.

Subsection 100.3.1

Subsection 100.3.1.1: It is necessary to modify this subsection to allow LEV II vehicles to be certified using Tier 3 gasoline as an option to California gasoline.

Subsection 100.3.1.2

It is necessary to modify this subsection to allow LEV III vehicles to be certified using Tier 3 gasoline as an option to California gasoline.

It is necessary to modify the table to change the allowable ethanol content of LEV III certification gasoline and to specify a test method for measuring the ethanol content.

Subsection 100.3.2

Subsection 100.3.2.1: The reference to CFR §86.113-07 has been replaced with a reference to CFR §86.113-94, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Subsection 100.3.4: It is necessary to delete text that is no longer necessary and to re-number the changes to this subsection to reflect the deleted text.

Subsection 100.3.4.1: It is necessary to modify this subsection to allow California vehicles to be certified using Tier 3 E85 as an option to California E85.

Subsection 100.3.4.3: These changes establish the option to use federal E10 test fuel and federal test conditions as an alternative to California test fuel and conditions for evaporative emission testing and specifies fuel requirements for refueling testing of flexible fuel vehicles. These changes

are needed to establish fuel reciprocity between the LEV III and Tier 3 evaporative emission programs and to clarify refueling test fuel requirements.

Deleted Subsection 100.3.8: It is necessary to delete this subsection, because it incorporates an old section of the CFR that has been deleted from the CFR.

New Subsection 100.3.8

It is necessary to re-number this subsection, because a previous subsection has been deleted.

The reference to CFR §86.113-07 has been replaced with references to CFR §86.113-15 and §1065.710, which contain the applicable versions of this section. This change is needed to allow harmonization with federal regulations.

86.115-78: The reference to CFR §86.115-00 has been replaced with a reference to CFR §86.115-78, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Section 100.4

86.117-96: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 100.5

86.128-79: The reference to CFR §86.128-00 has been replaced with a reference to CFR §86.128-79, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

86.130-96: The reference to CFR §86.130-00 has been replaced with a reference to CFR §86.130-96, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Subsection 100.5.2

Subsection 100.5.2.1: It is necessary to modify this subsection to correct a referenced section and to remove a reference to pre-2015 model year vehicles, which may not be certified using these test procedures.

Subsection 100.5.2.2: It is necessary to modify this subsection to remove unnecessary text.

86.131-96: The reference to CFR §86.131-00 has been replaced with a reference to CFR §86.131-96, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

86.133-96: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.134-96: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.137-94: The reference to CFR §86.137-96 has been replaced with a reference to CFR §86.137-94, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

86.142-90: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.143-96: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 100.5.4

Subsection 100.5.4.1: The “California Non-Methane Organic Gas Test Procedures” has been split into two test procedures, the “California Non-Methane Organic Gas Test Procedures for 1993 through 2016 Model Year Vehicles” and the “California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Year Vehicles.” It is necessary to modify this section to incorporate the two new documents.

Subsection 100.5.5: It is necessary to modify this subsection to specify the years of applicability for the following test procedures and to adjust the numbering of this subsection to conform to the format of these test procedures.

Subsection 100.5.5.1: It is necessary to modify the title of this subsection in order to clarify that it applies to US06 testing.

86.162-00: It is necessary to remove the reference to this CFR section, because it has been deleted from the CFR.

86.167-17: It is necessary to remove the reference to this CFR section, because it has been deleted from the CFR.

Part II. Subpart B

It is necessary to add language to the title of this subpart to clarify where in the CFR Subpart C resides.

86.201: The reference to CFR §86.201-11 has been replaced with a reference to CFR §86.201, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Section 200.1

The reference to CFR §86.201-94 has been replaced with a reference to CFR §86.201, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

It is necessary to amend this subparagraph to specify the model years to which Part II Subpart B applies.

86.213: The reference to CFR §86.213-11 has been replaced with a reference to CFR §86.213, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Appendix I to Part 86: It is necessary to modify this subsection to incorporate the most current version of Appendix I to Part 86. This change is needed to allow harmonization with federal regulations.

Part II. Subpart C

Over the next eight years, most of the testing specifications that are currently in CFR Part 86 will be moved to new CFR Part 1066. It is necessary to incorporate CFR Part 1066 into these test procedures to allow harmonization with federal regulations. Except as noted below, there are no California-specific changes to Part 1066.

Section 1

1066.1: Modifications to this section are needed to establish California-specific applicability requirements.

Section 2

1066.145: Modifications to this section are needed to establish California-specific test fuel requirements.

Section 6: Modifications to this section are needed to specify California-specific hybrid and electric vehicle testing requirements.

Section 7

1066.635: Modifications to this section are needed to establish California-specific NMOG determination requirements.

Section 9

1066.831: Modifications to this section are needed to incorporate the name of the applicable California test cycle.

Part II. Subparts D through H

It is necessary to re-letter these subparts, because a new Part II Subpart C has been added to these test procedures.

List of Changes to Appendix C – "California Non-Methane Organic Gas Test Procedures"

Document Title

California's "Non-Methane Organic Gas Test Procedures" is being split into two separate test procedures to correspond with the incorporation of 40 CFR Part 1066 beginning with the 2017 model year. The title of this document has been changed from "California Non-Methane Organic Gas Test Procedures" to "California Non-Methane Organic Gas Test Procedures for 1993 through 2016 Model Year Vehicles" to indicate that is only applies to 1994 through 2016 model year vehicles. This change is necessary to distinguish the non-methane organic gas test procedures that will apply in 2017 and subsequent model years from the current non-methane organic gas test procedures ending in and applicable only through the 2016 model year. A new test procedure, titled "California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Year Vehicles," has been created and incorporated by reference in section 1961,2, title 13, CCR.

Part A, General Applicability and Requirements

Section 1: Statements have been added to specify the vehicle types to which this procedure applies. This change is necessary due to splitting the document into separate test procedures based on model year.

Section 5

A reference number was added to an SAE procedure cited in this section that is also in the references listed at the end of the NMOG Test Procedures. This change is necessary for clarity.

Statements have been added to specify the model years and standards to which this procedure applies. This change is necessary due to splitting the document into separate test procedures based on model year.

Part C, Determination of Alcohols in Automotive Source Samples by Gas Chromatography, Method No. 1001

Section 1

Subsection 1.2: A period was added to an abbreviation to correct a prior typographical error. This change is necessary for clarity.

Section 8

Subsection 8.7: A reference number was changed. It is necessary to re-number the references because a reference was deleted from the list of references.

Part D, Determination of C_2 to C_5 Hydrocarbons in Automotive Source Samples by Gas Chromatography, Method No. 1002

Section 1

Subsection 1.1: A statement was added to provide context of the reference that had been cited. This change is necessary for clarity.

Section 7

Subsection 7.1: The response factor formula was corrected to: add back the divisor line that had been inadvertently removed during a prior revision to this procedure; and to remove the hyphen in “NIST-traceable” to avoid confusing the hyphen with a minus sign. These changes were necessary for clarity.

Section 8

Subsection 8.7: A reference number was changed. It is necessary to re-number the references because a reference was deleted from the list of references.

Part E, Determination of C_6 to C_{12} Hydrocarbons in Automotive Source Samples by Gas Chromatography, Method No. 1003.

Section 1

Subsection 1.1: A statement was added to provide context of the reference that had been cited. This change is necessary for clarity.

Section 7

Subsection 7.1: The response factor formula was corrected to remove the hyphen in “NIST-traceable” to avoid confusing the hyphen with a minus sign. This change is necessary for clarity.

Section 8

Subsection 8.7: A reference number was changed. It is necessary to re-number the references because a reference was deleted from the list of references.

Part F, Determination of Aldehyde and Ketone Compounds in Automotive Source Samples by High Performance Liquid Chromatography, Method No. 1004

Section 1

Subsection 1.2: A reference number was changed. It is necessary to re-number the references because a reference was deleted from the list of references.

Section 3

Subsection 3.3: A statement has been added to clarify that vehicles with high NOx emissions are of particular concern. This change is necessary to ensure accuracy of sampling.

Subsection 3.3.1: This section is needed to clarify the meaning of subsection 3.3.

Subsection 3.3.2: This section is needed to clarify the meaning of subsection 3.3.

Subsection 3.3.3: This section is needed to clarify the meaning of subsection 3.3.

Section 5

Subsection 5.7: A reference number was changed. It is necessary to re-number the references because a reference was deleted from the list of references.

Section 6

Subsection 6.3.1.1: This section has been added to define the elution volume, which is used in calculations in Part G. This change is necessary for clarity.

Section 7

Subsection 7.2: The response factor formula is being corrected to add back the divisor line that had been inadvertently removed during a prior revision to this procedure. This change is necessary for accuracy and clarity.

Section 8

Subsection 8.7: A reference number is being changed. It is necessary to re-number the references because a reference was deleted from the list of references.

Part G, Determination of NMOG Mass Emissions

Section 5

Subsection 5.2

Subsection 5.2.5: The standard room temperature has been corrected from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Subsection 5.2.8: The standard room temperature has been corrected from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Subsection 5.4

Subsection 5.4.1

The degree symbol has been removed from the Kelvin units in the first sample data table. This change was made to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for clarity.

The standard room temperature has been corrected from 293.16°K to 293.15 K in four equations of the sample calculation. The degree symbol has also been removed from two additional Kelvin temperatures. These changes were made to correct prior typographical errors and to follow the convention of presenting

temperatures in Kelvin without a degree symbol. These changes are necessary for accuracy and clarity.

Section 6

Subsection 6.2

Subsection 6.2.5: The standard room temperature has been corrected from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Subsection 6.2.8: The standard room temperature has been corrected from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Subsection 6.4

Section 6.4.1

The degree symbol has been removed from the Kelvin units in the first sample data table. This change was made to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for clarity.

The standard room temperature has been corrected from 293.16°K to 293.15 K in four equations of the sample calculation. The degree symbol has also been removed from two additional Kelvin temperatures. These changes were made to correct prior typographical errors and to follow the convention of presenting temperatures in Kelvin without a degree symbol. These changes are necessary for accuracy and clarity.

Appendix 1, List of Compounds

The Chemical Abstract Service (CAS) number for one compound, cis-1-methyl-3-ethylcyclopentane, has been revised. This change is necessary to correct a typographical error in the previous version of this procedure.

Appendix 2, Definitions and Commonly Used Abbreviations

Five abbreviations have been added that had been inadvertently overlooked in prior versions of this procedure. These changes are necessary for clarity.

The definition of the hydrocarbon density, HC_{dens}, has been changed to correct the standard conditions from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the dilution air temperature, $Itemp_d$, has been changed to remove the degree symbol from the Kelvin units. This change was made to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for clarity.

The definition of the dilute exhaust temperature, $Itemp_e$, has been changed to remove the degree symbol from the Kelvin units. This change was made to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for clarity.

The definition of the total volume of dilution air, $Ivol_d$, has been changed to correct the standard conditions from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the total volume of dilute exhaust , $Ivol_e$, has been changed to correct the standard conditions from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the molecular volume, Mol. Vol., has been changed to correct the standard conditions from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the non-methane hydrocarbon density, $NMHC_{dens}$, has been changed to correct the standard conditions from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the

convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the carbonyl density, RHO_{dens}, has been changed to correct the standard conditions from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the alcohol density, ROH_{dens}, has been changed to correct the standard conditions from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the total dilute exhaust volume, VMIX, has been changed to correct the standard conditions from 293.16°K to 293.15 K. This change was made to correct a prior typographical error and to follow the convention of presenting Kelvin temperatures without a degree symbol. This change is necessary for accuracy and clarity.

Appendix 3, References

Reference [5] – The procedure number has been changed to correct a typographical error. This change is necessary for clarity.

Reference [9] – This reference was removed, as it is the same procedure cited in Reference [7], with an earlier revision date. This change is necessary for clarity.

References [10] through [12] were re-numbered to [9] through [11]. These changes are necessary due to the removal of Reference [9].

New Appendix D – "California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Motor Vehicles"

It is necessary to create this new document the "California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Motor Vehicles," because the proposed new requirements are different enough from the current ones that if the new requirements are simply added to the current ones, the resulting document would be cumbersome and difficult to read.

Table of Contents

G. The word "Mass" has been removed because the calculations for NMOG mass determination are now in 40 CFR Part 1066. This change is necessary to be consistent with the removal of the duplicative calculations.

Part A, General Applicability and Requirements

Section 1: It is necessary to revise this section to make it applicable to all vehicles that will be sold in California in 2017 and subsequent model years.

Section 2: This section is identical to that currently applicable in California.

Section 3

The table has been updated to reflect analytical requirements for vehicles of model year 2017 or newer. This change is necessary to harmonize with U.S. EPA requirements specified in 40 CFR Part 1066.

It is necessary to revise this section to incorporate alternatives to direct measurement of carbonyls.

Old Section 4: It is necessary to delete this section, because it does not apply to 2017 and subsequent model year vehicles.

New Section 4 (Re-numbered from Section 5)

It is necessary to re-number this section, because the current Section 4 has been deleted.

It is necessary to revise this section to add a reference for an incorporated test procedure.

It is also necessary to revise this section to correct the name of the currently applicable referenced test procedure and to remove the reference to "reactivity adjusted" NMOG, since reactivity adjustment is no longer allowed.

New Section 5 (Re-numbered from Section 6)

It is necessary to re-number this section, because the current Section 5 has been deleted.

The word “Mass” has been removed because the calculations for NMOG mass determination are now in 40 CFR Part 1066. This change is necessary to be consistent with the removal of the duplicative calculations.

A statement has been added referencing 40 CFR 1066 as providing instructions for calculating NMOG. This change is required to be consistent with the changes in Part G of these test procedures.

Part B, Determination of Non-Methane Hydrocarbon Mass Emissions by Flame Ionization Detection

Section 1: The section title, “Introduction,” was removed because it is now the only section of Part B. This change is necessary for clarity.

Subsection 1.1: A statement was added to specify that motor vehicles and/or engines are tested and the results calculated according to several parts of 40 CFR. This is necessary for clarity, as the majority of Part B has been removed from the NMOG Test Procedures.

Subsection 1.2: Language was changed to reflect that the procedures listed in Subsection 1.1 are the procedures for determining NMHC mass emissions. This is necessary for clarity, as the majority of Part B has been removed from the NMOG Test Procedures. This section has also been re-numbered, which is necessary after adding Section 1.1.

Subsection 1.3: This section is unchanged, but has been split from the content of Subsection 1.2. This change is necessary for clarity.

Subsection 1.4: It is necessary to re-number this statement to reflect the sections added above it.

Section 2: This section has been removed because the NMOG mass calculations are now in 40 CFR Part 1066. Instructions for total hydrocarbon measurement and calculations are provided in 40 CFR, Parts 86, 1065 and/or 1066. The removal of this section is necessary to remove the duplicative instructions.

Section 3: This section has been removed because the NMOG mass calculations are now in 40 CFR Part 1066. Instructions for methane measurement and calculations are provided in 40 CFR, Parts 86, 1065 and/or 1066. The removal of this section is necessary to remove the duplicative instructions.

Section 4: This section has been removed because the NMOG mass calculations are now in 40 CFR Part 1066. Instructions for calculating the total HC FID response to methane are provided in 40 CFR, Parts 86, 1065 and/or 1066. The removal of this section is necessary to remove the duplicative calculations.

Section 5: This section has been removed because the NMOG mass calculations are now in 40 CFR Part 1066. Instructions for calculating the NMHC mass emission per test phase are provided in 40 CFR, Parts 86, 1065 and/or 1066. The removal of this section is necessary to remove the duplicative calculations.

Section 6: This section has been removed because the NMOG mass calculations are now in 40 CFR Part 1066. Instructions for calculating the total weighted NMHC mass emissions are provided in 40 CFR, Parts 86, 1065 and/or 1066. The removal of this section is necessary to remove the duplicative calculations.

Section 7: This section has been removed because the NMOG mass calculations are now in 40 CFR Part 1066. Sample calculations for equations provided in 40 CFR, Parts 86, 1065 and/or 1066 are unnecessary in the NMOG Test Procedures. The removal of this section is necessary to remove the duplicative calculations.

Part C, Determination of Alcohols in Automotive Source Samples by Gas Chromatography, Method 1001

Section 1: This section is identical to that currently applicable in California, except as follows.

Subsection 1.2

A period has been added to an abbreviation to correct a prior typographical error. This change is necessary for clarity.

A reference number has been changed. It is necessary to re-number the references because references were deleted from the list of references.

Sections 2 through 7: These sections are identical to those currently applicable in California.

Section 8: This section is identical to that currently applicable in California, except as follows.

Section 8.7: A reference number was changed. It is necessary to re-number the references because references were deleted from the list of references.

Part D, Determination of C_2 to C_5 Hydrocarbons in Automotive Source Samples by Gas Chromatography, Method No. 1002

Section 1: This section is identical to that currently applicable in California, except as follows.

Subsection 1.1

A statement has been added to provide the context of the reference cited. This change is necessary for clarity.

A reference number has been changed. It is necessary to re-number the references because references were deleted from the list of references.

Sections 2 through 6: These sections are identical to those currently applicable in California.

Section 7: This section is identical to that currently applicable in California, except as follows.

Subsection 7.1: The response factor formula has been corrected to: add back the divisor line that had been inadvertently removed during a prior revision to this procedure; and to remove the hyphen in “NIST-traceable” to avoid confusing the hyphen with a minus sign. These changes are necessary for accuracy and clarity.

Section 8: This section is identical to that currently applicable in California, except as follows.

Subsection 8.7: A reference number has been changed. It is necessary to re-number the references because references were deleted from the list of references.

Part E, Determination of C_6 to C_{12} Hydrocarbons in Automotive Source Samples by Gas Chromatography, Method No. 1003

Section 1: This section is identical to that currently applicable in California, except as follows.

Subsection 1.1

A statement has been added to provide the context of the reference cited. This change is necessary for clarity.

A reference number has been changed. It is necessary to re-number the references because references were deleted from the list of references.

Sections 2 through 6: These sections are identical to those currently applicable in California.

Section 7: This section is identical to that currently applicable in California, except as follows.

Subsection 7.1: The response factor formula has been corrected to remove the hyphen in "NIST-traceable" to avoid confusing the hyphen with a minus sign. This change is necessary for accuracy and clarity.

Section 8: This section is identical to that currently applicable in California, except as follows.

Subsection 8.7: A reference number has been changed. It is necessary to re-number the references because references were deleted from the list of references.

Part F, Determination of Aldehyde and Ketone Compounds in Automotive Source Samples by High Performance Liquid Chromatography, Method No. 1004

Section 1: This section is identical to that currently applicable in California, except as follows.

Subsection 1.2: A reference number has been changed. It is necessary to re-number the references because references were deleted from the list of references.

Section 2: This section is identical to that currently applicable in California.

Section 3: This section is identical to that currently applicable in California, except as follows.

Subsection 3.3: A statement has been added to clarify that vehicles with high NOx emissions are of particular concern. This change is necessary to ensure accuracy of sampling.

Subsection 3.3.1: This subsection has been added to clarify the meaning of subsection 3.3.

Subsection 3.3.2: This subsection has been added to clarify the meaning of subsection 3.3.

Subsection 3.3.3: This subsection was added to clarify the meaning of subsection 3.3.

Section 4: This section is identical to that currently applicable in California.

Section 5: This section is identical to that currently applicable in California, except as follows.

Subsection 5.7: A reference number has been changed. It is necessary to re-number the references because references were deleted from the list of references.

Section 6: This section is identical to that currently applicable in California, except as follows.

Subsection 6.3.1.1: This section has been added to define the elution volume, which is used in calculations. This change is necessary for accuracy and clarity.

Section 7: This section is identical to that currently applicable in California, except as follows.

Subsection 7.2

The response factor formula has been corrected to add back the divisor line that had been inadvertently removed during a prior revision to this procedure. This change is necessary for accuracy and clarity.

A statement has been added that the cartridge volume in this equation is the elution volume defined in subsection 6.3.1.1.

Section 8: This section is identical to that currently applicable in California,

except as follows.

Subsection 8.7: A reference number has been changed. It is necessary to re-number the references, because references were deleted from the list of references.

Part G, Determination of NMOG ~~Mass~~ Emissions – The word “Mass” has been removed because the calculations for NMOG mass determination are now in 40 CFR Part 1066. This change is necessary to be consistent with the removal of the duplicative calculations.

Section 1: This section is identical to that currently applicable in California, except as follows.

Subsection 1.1: The word “mass” has been removed because the calculations for NMOG mass determination are now in 40 CFR Part 1066. This change is necessary to be consistent with the removal of the duplicative calculations.

Subsection 1.2: This section has been added to explicitly state in the introduction the compounds that make up NMOG. This change is necessary for clarity.

Subsection 1.3: This section has been added to specify that the NMOG Test Procedures address only emissions in concentration units and that the mass calculations are presented in 40 CFR Parts 1065 and 1066. This change is necessary due to the separation of test procedures based on model years to harmonize with U.S. EPA requirements for models 2017 and later.

Subsection 1.4: This section was re-numbered. It is necessary to re-number the sections because of adding the above two sections.

Section 2: This section is identical to that currently applicable in California, except as follows.

Subsection 2.1: This section was reorganized to separate the FID method from the GC method. This change is necessary for clarity.

Subsection 2.1.1: A separate sub-section has been created for the FID method. This change is necessary for clarity.

Subsection 2.1.1.1: This section adds a reference to 40 CFR Part 1065, subpart G and removes references to other parts of the NMOG

Test Procedures that have been deleted. It also removes a sentence about the GC method, as it is now discussed in Section 2.1.2. These changes were made for clarity and to remove moot references.

Subsection 2.1.1.2: This section adds a reference to 40 CFR Part 1065, subpart G. It also deletes specific calculation instructions, as they are now contained in 40 CFR Part 1065, subpart G. This change is necessary for clarity and to fully harmonize with the U.S. EPA test procedures.

Subsection 2.2: This section has been deleted, as the calculations therein are now contained in 40 CFR Part 1065, subpart G and in 40 CFR Part 1066. This change is necessary for clarity and to fully harmonize with the U.S. E.P.A. test procedures.

Subsection 2.3: This section was deleted, as the calculations therein are now contained in 40 CFR Part 1066 section 1066.935. This change is necessary for clarity and to ensure full harmonization with the U.S. E.P.A. test procedures.

Subsection 2.1.2: A separate sub-section has been created for the GC method. This change is necessary for clarity.

Subsection 2.1.2.1: This section, which references Section 4, "Speciated Hydrocarbon Mass Emissions Calculation," was moved from the former Section 2.1. This rearrangement is necessary for clarity.

Subsection 2.1.2.2: This section has been added to reference 40 CFR Part 1066, Sub-part G, Section 1066.605, equation 1066.605-1, and explain that the individual hydrocarbons are then summed. This change is necessary because the calculations for NMOG mass determination are now in 40 CFR Part 1066.

Section 2.1.2.3: The subsection number was added when the text of Subsection 2.1 was reorganized and Subsections 2.2 and 2.3 were deleted. This change is necessary for clarity.

Subsection 2.2: This section has been created from the reorganization of the former Subsection 2.1. This change is necessary for clarity.

Subsection 2.2.1: The text of this subsection has been moved from the former Section 2.1. This change is necessary for clarity.

Subsection 2.2.2: This section was added to specify that the equation for converting alcohol results to mass is now found in 40 CFR Part 1066, Sub-part G, Section 1066.605, equation 1066.605-1. This change is necessary due to the deletion of mass calculations from the NMOG Test Procedures because they duplicate those found in 40 CFR Part 1066.

Subsection 2.3: This subsection has been created from the reorganization of the former Subsection 2.1. This change is necessary for clarity.

Subsection 2.3.1: The text of this subsection has been moved from the former Subsection 2.1. This change is necessary for clarity.

Subsection 2.3.2: This subsection was added to specify that the equation for converting carbonyl results to mass is now found in 40 CFR Part 1066, Sub-part G, Section 1066.605, equation 1066.605-1. This change is necessary due to the deletion of mass calculations from the NMOG Test Procedures because they duplicate those found in 40 CFR Part 1066.

Subsection 2.4: This subsection has been added to specify that the dilution factor is determined according to 40 CFR Part 1066, subpart G, Section 1066.610, equation 1066-610-2. This change is necessary, as the dilution factor calculation has been removed from the NMOG Test Procedures because it duplicates the calculations found in 40 CFR Part 1066.

Subsection 2.5: This subsection has been added to specify that the NMOG weighted mass emission calculations are given in 40 CFR Part 1066, Section 1066.635. This change is necessary, as this calculation has been removed from the NMOG Test Procedures because it duplicates the calculations found in 40 CFR Part 1066.

Old Section 3: This section, “Dilution factor and NMHC Mass Emission Calculation,” has been removed because it is in 40 CFR Part 1066, subpart G, Section 1066.610. This removal of the duplicative calculations is necessary for clarity and for ensuring full harmonization with 40 CFR Part 1066.

New Section 3. (Re-numbered from Section 4.): This section is identical to that currently applicable in California, except as follows.

It is necessary to re-number the section, as a preceding section has been deleted.

The word “Mass” has been removed from the section title because the mass calculations have been removed from the NMOG Test Procedures and are

now given in 40 CFR Part 1066. This change is necessary to be consistent with the removal of the duplicative calculations.

Subsection 3.1

Additional references were added. These changes are necessary due to the publication of 40 CFR Parts 1065 and 1066.

The words “weighted mass” have been deleted because the mass calculations have been removed from the NMOG Test Procedures and are now in 40 CFR Part 1066. This change is necessary to be consistent with the removal of the duplicative calculations.

Subsection 3.2: The word “Mass” has been removed from the subsection title because the mass calculations have been removed from the NMOG Test Procedures and are now in 40 CFR Part 1066. This change is necessary to be consistent with the removal of the duplicative calculations.

Subsection 3.2.1

Language has been added to specify that, for each hydrocarbon measured, the equations below and in 40 CFR Part 1066, Section 1066.601 are used to calculate the hydrocarbon mass emissions. This added language is necessary for clarity, since the mass calculations have been removed from the NMOG Test Procedures.

The hydrocarbon mass equation has been deleted, as it is now in 40 CFR Part 1066. This change is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

This section has been reorganized to include several sub-sections. This change is necessary for clarity.

Subsection 3.2.1.2: This section was added to provide the density calculation used later in the document. This change is necessary for accuracy and clarity.

Subsection 3.2.1.3: This section was added to specify that the dilution factor equation is found in 40 CFR Part 1066. This change is necessary because the equation has been removed from these test procedures.

Subsection 3.2.1.4: This section was added to specify that the user takes the hydrocarbon values determined by the NMOG Test

Procedures and inserts them into 40 CFR Part 1066, equation 1066.605-1 to obtain the individual hydrocarbon mass emissions. This change is necessary because the equation has been removed from these test procedures.

Subsection 3.2.2: This section was added to specify what to do with the individual hydrocarbon masses. This change is necessary, as 40 CFR Part 1066 does not address measurement of individual hydrocarbon compounds.

Subsection 3.2.3: This section was added to specify that the sum of individual hydrocarbon masses is inserted into 40 CFR Part 1066, Section 1066.635, to determine NMOG. This change in necessary, as this equation has been removed from these test procedures.

Subsection 4.3: This section was deleted because this equation is now in 40 CFR Part 1066. The removal of this duplicative equation is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

Subsection 3.3: (Re-numbered from Subsection 4.4): It is necessary to re-number the section, as preceding sections and/or sub-sections have been deleted.

Subsection 3.3.1

The words “weighted” and “mass” have been deleted and the words “Phase 1” were inserted. These changes are necessary, as the mass calculations have been removed from these test procedures.

Several columns in the sample data table have been removed. They are no longer needed, as the mass calculations have been removed from the NMOG Test Procedures. This change is necessary for clarity.

The DF calculation has been deleted, as the mass calculations have been removed from the NMOG Test Procedures. Instead, language was added to specify that the DF is calculated according to 40 CFR Part 1066, Section 1066.610, equation 1066-610-2. This change is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

The NMHCe, and CO equations have been deleted, as the DF calculation in which they are used has been removed from the NMOG Test Procedures. This change is necessary for clarity and to ensure

harmonization with 40 CFR Part 1066.

The conversion factor of liters per ft3 of a gas was changed from 28.316 liter/ft^3 to 28.3168 liter/ft^3. This change is necessary for accuracy.

Subsection 3.3.2: This section was added to provide instructions of what to do with the values calculated in Section 3.3.1, using 40 CFR Part 1066. This change is necessary, as the mass calculations have been removed from these test procedures.

Subsection 3.3.3

This section was added to provide instructions of how to use the mass data to determine NMOG, using 40 CFR Part 1066. This change is necessary, as the mass calculations have been removed from these test procedures.

Sample calculations of mass and weighted mass have been deleted, as the mass calculations have been removed from the NMOG Test Procedures. This change is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

Section 4 (Re-numbered from Section 5): This section is identical to that currently applicable in California, except as follows.

It is necessary to re-number the section, as a preceding section has been deleted.

The word “Mass” has been removed from the section title because the mass calculations have been removed from the NMOG Test Procedures and are now given in 40 CFR Part 1066. This change is necessary for accuracy and clarity.

Subsection 4.1

Additional references were added. These changes are necessary due to the publication of 40 CFR Parts 1065 and 1066.

A parenthesis was removed to correct a typographical error in the previous version. This change is necessary for clarity.

The words “weighted mass” have been deleted because the mass calculations have been removed from the NMOG Test Procedures and are

now given in 40 CFR Part 1066. This change is necessary for accuracy and clarity.

Subsection 4.2: The word “Mass” has been removed from the section title because the mass calculations have been removed from the NMOG Test Procedures and are now given in 40 CFR Part 1066. This change is necessary for accuracy and clarity.

Subsection 4.2.1

Language was added to specify that, for each alcohol measured, the equations below and in 40 CFR Part 1066 are used to calculate the alcohol mass emissions. This added language is necessary for clarity, since the mass calculations have been removed from these test procedures.

The alcohol mass equation has been deleted, as it is now in 40 CFR Part 1066. This change is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

Subsection 4.2.5: The standard room temperature has been corrected from 293.16°K to 293.15 K. This change has been made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Subsection 4.2.8: The standard room temperature has been corrected from 293.16°K to 293.15 K. This change has been made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Subsection 4.2.9: This subsection has been added to provide the density calculation used later in the document. This change is necessary for accuracy and clarity.

Subsection 4.2.10: This subsection has been added to specify that the dilution factor equation is found in 40 CFR Part 1066. This change is necessary because the equation has been removed from these test procedures.

Subsection 4.2.11: This subsection has been added to specify that the user takes the alcohol values determined by the NMOG Test Procedures

and inserts them into 40 CFR Part 1066, equation 1066.605-1 to generate the alcohol mass emissions. This change is necessary because the equation has been removed from these test procedures.

Subsection 4.2.12: This subsection has been added to specify that the individual alcohol masses are used to determine NMOG according to 40 CFR Part 1066, Section 1066.635. This change is necessary, because these equations have been removed from these test procedures.

Subsection 5.3: This section has been deleted because this equation is now in 40 CFR Part 1066. The removal of this duplicate equation is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

Subsection 4.3 (Re-numbered from Subsection 5.4): It is necessary to re-number the section, as preceding sections and/or sub-sections have been deleted.

Subsection 4.3.1

The capitalization of the word “Section” was changed to be consistent with other section references throughout the document.

The words “weighted” and “mass” were deleted and the words “Phase 1” were inserted. These changes are necessary, as the mass calculations have been removed from these test procedures.

Two columns in the sample data tables have been removed. They are no longer needed, as the mass calculations have been removed from these test procedures. This change is necessary for clarity.

The standard room temperature has been corrected from 293.16°K to 293.15°K in four equations of the sample calculation. The degree symbol has also been removed from two additional Kelvin temperatures. These changes have been made to correct prior typographical errors and to follow the convention of presenting temperatures in Kelvin without a degree symbol. These changes are necessary for accuracy and clarity.

The DF was changed to reference 40 Part CFR 1066, Section 1066.610, equation 1066-610-2, rather than Subsection 3.3 of Part G of these test procedures, as that section has been deleted. This change is necessary for clarity and to ensure harmonization with 40 Part CFR 1066.

The conversion factor of liters per ft^3 of a gas was changed from 28.316 liter/ft^3 to 28.3168 liter/ft^3. This change is necessary for accuracy.

Subsection 4.3.2: This section was added to provide instructions of what to do with the values calculated in Subsection 4.3.1, using 40 CFR Part 1066. This change is necessary, as the mass calculations have been removed from these test procedures.

Subsection 4.3.3

This section was added to provide instructions of how to use the mass data to determine NMOG, using 40 CFR Part 1066. This change is necessary, as the mass calculations have been removed from these test procedures.

Sample calculations of mass and weighted mass have been deleted, as the mass calculations have been removed from the NMOG Test Procedures. This change is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

Section 5 (Re-numbered from Section 6): This section is identical to that currently applicable in California, except as follows.

It is necessary to re-number the section, as a preceding section has been deleted.

The word “Mass” has been removed from the section title because the mass calculations have been removed from the NMOG Test Procedures and are now given in 40 CFR Part 1066. This change is necessary for accuracy and clarity.

Subsection 5.1

Additional references were added. These changes are necessary due to the publication of 40 CFR Parts 1065 and 1066.

The words “weighted mass” were deleted because the mass calculations have been removed from the NMOG Test Procedures and are now given in 40 CFR Part 1066. This change is necessary for accuracy and clarity.

Subsection 5.2: The word “Mass” has been removed from the section title because the mass calculations have been removed from the NMOG Test

Procedures and are now given in 40 CFR Part 1066. This change is necessary for accuracy and clarity.

Subsection 5.2.1

Language was added to specify that, for each carbonyl measured, the equations below and in 40 CFR Part 1066 are used to calculate the carbonyl mass emissions. This added language is necessary for clarity, since the mass calculations have been removed from the NMOG Test Procedures.

The carbonyl mass equation has been deleted, as it is now in 40 CFR Part 1066. This change is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

Subsection 5.2.5: The standard room temperature has been corrected from 293.16°K to 293.15°K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Subsection 5.2.8: The standard room temperature has been corrected from 293.16°K to 293.15°K. This change has been made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Subsection 5.2.9: This subsection was added to provide the density calculation used later in the document. This change is necessary for accuracy and clarity.

Subsection 5.2.10: This subsection was added to specify that the dilution factor equation is found in 40 CFR Part 1066. This change is necessary because the equation has been removed from these test procedures.

Subsection 5.2.11: This section was added to specify that the user takes the carbonyl values determined by the NMOG Test Procedures and inserts them into 40 CFR Part 1066, equation 1066.605-1 to obtain the carbonyl mass emissions. This change is necessary because the equation has been removed from these test procedures.

Subsection 5.2.12: This section was added to specify that the individual carbonyl masses are used to determine NMOG according to 40 CFR Part

1066, Section 1066.635. This change in necessary, because these equations have been removed from these test procedures.

Subsection 6.3: This section was deleted because this equation is now in 40 CFR Part 1066. The removal of this duplicate equation is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

Subsection 5.3 (Re-numbered from Section 6.4): It is necessary to re-number the section, as preceding sections and/or sub-sections have been deleted.

Subsection 5.3.1

The capitalization of the word “Section” was changed to be consistent with other section references throughout the document.

The words “weighted” and “mass” were deleted and the words “Phase 1” were inserted. The words “and acetaldehyde” have also been removed. These changes are necessary, as the mass calculations have been removed from these test procedures and sample concentration calculations were provided only for Phase 1 formaldehyde.

Two columns in the sample data tables have been removed. They are no longer needed, as the mass calculations have been removed from these test procedures. This change is necessary for clarity.

The standard room temperature has been corrected from 293.16°K to 293.15°K in four equations of the sample calculation. The degree symbol has also been removed from two additional Kelvin temperatures. These changes were made to correct prior typographical errors and to follow the convention of presenting temperatures in Kelvin without a degree symbol. These changes are necessary for accuracy and clarity.

The conversion factor of liters per ft^3 of a gas has been changed from 28.316 liter/ft^3 to 28.3168 liter/ft^3. This change is necessary for accuracy.

Subsection 5.3.2: This subsection has been added to provide instructions of what to do with the values calculated in Subsection 5.3.1, using 40 CFR Part 1066. This change is necessary, as the mass calculations have been

removed from these test procedures.

Subsection 5.3.3

This subsection has been added to provide instructions of how to use the mass data to determine NMOG, using 40 CFR Part 1066. This change is necessary, as the mass calculations have been removed from these test procedures.

Sample calculations of mass and weighted mass have been deleted, as the mass calculations have been removed from the NMOG Test Procedures. This change is necessary for clarity and to ensure harmonization with 40 CFR Part 1066.

Section 7: This entire section has been removed, as the calculations are given in 40 CFR, Parts 1065 and 1066. The duplicative calculations have been deleted for clarity and to ensure harmonization with 40 CFR, Parts 1065 and 1066.

Section 8: This entire section has been removed, as the calculations are given in 40 CFR, Parts 1065 and 1066. The duplicative calculations have been deleted for clarity and to ensure harmonization with 40 CFR, Parts 1065 and 1066.

Appendix 1, List of Compounds: This section is identical to that currently applicable in California, except as follows.

The Chemical Abstract Service (CAS) number for one compound, cis-1-methyl-3-ethylcyclopentane, has been revised. This change is necessary to correct a typographical error in the previous version of this procedure.

Appendix 2, Definitions and Commonly Used Abbreviations: This section is identical to that currently applicable in California, except as follows.

Five abbreviations have been added that were inadvertently overlooked in prior versions of this procedure. Twenty-eight abbreviations were deleted, as the terms have been deleted from this procedure. These changes are necessary for clarity.

The definition of the hydrocarbon density, HC_{dens}, has been changed to correct the standard conditions from 293.16°K to 293.15°K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the dilution air temperature, $Itemp_d$, has been changed to remove the degree symbol from the Kelvin units. This change was made to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for clarity.

The definition of the dilute exhaust temperature, $Itemp_e$, has been changed to remove the degree symbol from the Kelvin units. This change was made to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for clarity.

The definition of the total volume of dilution air, $Ivol_d$, has been changed to correct the standard conditions from 293.16°K to 293.15°K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the total volume of dilute exhaust , $Ivol_e$, has been changed to correct the standard conditions from 293.16°K to 293.15°K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the molecular volume, Mol. Vol., has been changed to correct the standard conditions from 293.16°K to 293.15°K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the carbonyl density, RHO_{dens}, has been changed to correct the standard conditions from 293.16°K to 293.15°K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

The definition of the alcohol density, ROH_{dens}, has been changed to correct the standard conditions from 293.16°K to 293.15°K. This change was made to correct a prior typographical error and to follow the convention of presenting temperatures in Kelvin without a degree symbol. This change is necessary for accuracy and clarity.

Appendix 3, References: This section is identical to that currently applicable in California, except as follows.

Reference [1] – This reference, Code of Federal Regulations, Title 40, Part 1066, has been added. This change is necessary, as many calculations that were in the NMOG Test Procedures are now in CFR 40 Part 1066.

Reference [2] – The reference number has been changed. This is necessary to accommodate the addition of Reference [1].

Reference [3] – The reference has been changed to add Code of Federal Regulations, Title 40, Part 1065 and delete SAE J254. These changes are necessary, as many calculations that were in the NMOG Test Procedures are now in CFR 40 Part 1065 and the references to SAE J254 have been removed from the NMOG Test Procedures.

Reference [4] – This reference, SAE 770141, has been deleted. This change is necessary because the references to SAE 770141 have been removed from the NMOG Test Procedures.

Reference [4] – This reference, SAE J1151, was re-numbered from Reference [5]. It is necessary to re-number the references after once reference was removed. The procedure number has also been changed to correct a typographical error. This change was necessary for accuracy and clarity.

Reference [5] – This reference was re-numbered from Reference [6]. It is necessary to re-number the references after one reference was removed.

Reference [6] – This reference was re-numbered from Reference [7]. It is necessary to re-number the references after one reference was removed.

Reference [7] – This reference was re-numbered from Reference [8]. It is necessary to re-number the references after one reference was removed.

Reference [9] – This reference was removed, as it is the same procedure cited in Reference [6], with an earlier revision date. This change is necessary for clarity.

References [10] through [12] were re-numbered to [8 through 10]. It is necessary to re-number the references after two references were removed.

List of Changes to Appendix E – "California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles"

In "NOTE"

Sections 4 and 5: These changes are necessary to update references so that they refer to the most recent exhaust test procedures.

Part I. Subpart A

Section 1

Subsection 1.2: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures.

Subsection 1.7: The subsection is being added to incorporate a reference to the Code of Federal Regulations (CFR) section that sets forth the requirements for migration to 40 CFR part 1066. This subsection is needed to provide guidance on which 40 CFR part applies where the California procedure provides the option of following either 40 CFR part 86 or 40 CFR part 1066.

Part I. Subpart B

Section 1: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures.

Part I. Subpart C

Section 1: The purpose of this subpart is to describe "useful life" as it pertains to emissions compliance. It is necessary to modify this subpart to update a reference so that it refers to the most current version of the applicable CFR section. Also, it is necessary to add a useful life requirement for the canister bleed emission standard.

Part I. Subpart D

Section 1

Subsection 1.1: This change is necessary to update a reference so that it refers to the most recent version of the referenced CFR section.

Section 2: The purpose of this section is to allow compliance based on engineering evaluation in lieu of testing for heavy-duty vehicles over 14,000 lbs. GVWR and incomplete medium-duty vehicles. It is necessary to modify this

section to incorporate additional requirements for an engineering evaluation that are set forth in 40 CFR §1037.103 (c).

Section 3: This new subsection is necessary to establish new evaporative emission requirements for vehicles equipped with an auxiliary engine and fuel system.

Part I. Subpart E

Section 1

Subsection 1(e)

Subsection 1(e)(ii), Footnote (1): The amendment to this footnote is needed to change the required compliance basis from projected to actual sales volume for purposes of the alternative phase-in.

Subsection 1(e)(iii): The purpose of this subsection is to specify the allowance to carry over emissions data for vehicles certified to the optional LEV II zero-evaporative standards to meet LEV III requirements. The proposed amendment is necessary to extend this allowance one additional model year, through model year 2019.

Subsection 1(e)(vi): This new subsection is needed to establish the effective leak diameter standard and procedure .

Part II. Subpart A

Section 1: This change is necessary to refer to the most recent version of the referenced CFR section.

Section 2

Subsection 2.1

Subsection 2.1(e): It is necessary to modify this subsection to update a reference so that it refers to the most recent version of the referenced CFR section and to add a new reference to CFR provisions pertaining evaporative diurnal and leak confirmatory testing.

Subsection 2.3

Subsection 2.3.1: The proposed amendment is necessary to remove a reference to useful life mileage values that no longer apply.

Subsection 2.6: This new subsection is necessary to incorporate a reference to 40 CFR §86.1824-08, which sets forth fuel requirements for durability mileage accumulation.

Subsection 2.7: This change is necessary to specify that deterioration factors are not needed for the canister bleed emission standard.

Section 3

Subsection 3.1: This change is necessary to update a reference so that it refers to the most recent version of the referenced CFR section.

Subsections 3.2 and 3.5: The changes to these subsections are necessary to incorporate a reference to the definition of “small volume manufacturer,” which is used in these test procedures.

Section 4

Subsection 4.1: This change is necessary to update a reference so that it refers to the most recent version of the referenced CFR section.

Section 5

Subsection 5.1: This change is needed to update a reference so that it refers to the most recent version of the referenced CFR section and to set forth California-only modifications to the referenced CFR section.

Subsection 5.4

Subsection 5.4.1: The proposed amendment is needed to correct an error in the section reference.

Subsection 5.5: This new subsection is necessary to incorporate a reference to 40 CFR §86.1829-15(e), which better harmonizes California procedures with federal procedures.

Part III. Subpart A

Section 2

Subsection 2.1

Subsection 2.1.1: This subsection is necessary to incorporate a new reference to 40 CFR §1066, which better harmonizes California procedures with federal procedures.

Part III. Subpart B

Section 1: This change is necessary to clarify that references to methanol in this section also apply to ethanol.

Subsection 1.1

Subsection 1.1.3

Subsection 1.1.3.5: This subsection sets forth the quantity of propane and methanol/ethanol that must be injected into the sealed housing for evaporative determination (SHED) for a recovery test. The change to this subsection is necessary to update the injection values so that they correlate better with current emission standards.

Subsection 1.2

Subsection 1.2.1: This new subsection is necessary to incorporate a new reference to 40 CFR §1066, which better harmonizes California procedures with federal procedures.

Part III. Subpart C

Section 1

Subsection 1.3: This subsection is being modified to replace existing procedures with a reference to equivalent procedures set forth in 40 CFR §1066, which better harmonizes California procedures with federal procedures.

Subsection 1.5: This change is necessary to update a reference so that it refers to the most recent version of the referenced CFR section.

Part III. Subpart D

Section 1

Subsection 1.1: The change to this section is needed to replace an explicit reference to the California LEV III certification fuel specifications with a general reference to gasoline containing 10 percent ethanol by volume

Subsection 1.3

Subsection 1.3.2: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures.

Subsection 1.6

Subsection 1.6.1: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures.

Subsection 1.7

Subsections 1.7.1 and 1.7.2: These changes are necessary to update references so that they refer to the most recent versions of the referenced CFR sections.

Subsection 1.7.4.1: This change is needed to specify an alternate method of establishing the 10 percent fuel tank fill level, which provides manufacturers with additional testing flexibility.

Subsection 1.7.9: This change is needed to clarify that exhaust emission sampling is not necessary in the exhaust emission test portion of an evaporative emission test sequence when testing a plug-in hybrid electric vehicle with a non-integrated refueling canister only system.

Subsection 1.12

Subsection 1.12.1: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures.

Subsections 1.12.5, 1.12.6, 1.18.5, and 1.18.6: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures

Section 3

Subsection 3.1

Subsection 3.1.2: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures

Subsection 3.3

Subsection 3.3.6

Subsection 3.3.6.8: This change is necessary to clarify which dispense conditions to use for different possible fuel types.

Section 4

Subsection 4.1: This change is necessary to update a reference so that if refers to the most recent version of the referenced CFR section.

Subsection 4.3: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures.

Section 5

Subsection 5.2: This change is necessary to incorporate a new reference to a 40 CFR §1066 section, which better harmonizes California procedures with federal procedures.

Section 6

Subsection 6.1: This change is necessary to update a reference so that if refers to the most recent version of the referenced CFR section.

Subsection 6.3: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures.

Section 7

Subsection 7.3: This subsection is being modified to replace existing procedures with a reference to equivalent procedures set forth in 40 CFR §1066, which better harmonizes California procedures with federal procedures.

Section 8

Subsection 8.1

Subsection 8.1.5: This subsection is being modified to replace existing procedures with a reference to equivalent procedures set forth in 40 CFR §1066, which better harmonizes California procedures with federal procedures.

Subsection 8.1.8: These changes are necessary to update references so that they refer to the most recent versions of the referenced CFR sections.

Subsection 8.2

Subsection 8.2.2: This subsection is being modified to replace existing procedures with a reference to equivalent procedures set forth in 40 CFR

§1066, which better harmonizes California procedures with federal procedures.

Subsection 8.2.3: These changes are necessary to update references so that they refer to the most recent versions of the referenced CFR sections.

Subsection 8.2.9: This change is needed to update a reference so that it refers to the most recent version of the referenced CFR section.

Section 9

Subsection 9.2 and 9.3: The changes to these subsections are needed to correct references to the content of section 11 of these test procedures.

Section 10

Subsection 10.3

Subsection 10.3.9: The change to this subsection ise needed to correct references to the content of section 11 of these test procedures.

Section 11

Subsection 11.3

Subsections 11.3.1

Subsections 11.3.1(a) and 11.3.1(b) The change to these sections is needed to replace an explicit reference to the California LEV III certification fuel specifications with a general reference to gasoline containing 10 percent ethanol by volume.

Part III. Subpart G

Section 1: This change is needed to update a reference so that it refers to the most recent version of the referenced CFR section.

Section 2: This section is being modified to establish an allowance to use federal E10 certification test fuel along with traditional federal test conditions, as an alternative to the California test fuel and test conditions, for evaporative emission testing.

List of Changes to Appendix F – "California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles"

In "NOTE"

Sections 3 and 4: It is necessary to modify these sections to incorporate references to the new exhaust test procedures.

Subpart S

Section I

Subsection I.A

Subsection I.A.1: It is necessary to modify this subsection to update the applicability of these test procedures to include heavy-duty vehicles and to improve the subsection's format.

Subsection I.A.8: It is necessary to modify this subsection to update test fuel requirements and to improve the subsection's format.

Subsection I.B

Subsections I.B.2, I.B.3, and I.B.4: It is necessary to modify these subsections to add definitions for new terms used in these test procedures.

Subsection I.C

Subsection I.C.1: This change is needed to update a reference so that it refers to the most recent version of the referenced CFR section.

Subsection I.E

Subsection I.E.1: This change is needed to update a reference so that it refers to the most recent version of the referenced CFR section.

Subsection I.E.1.4: The changes to this subsection are necessary to adjust for modifications present in the most recent version of the referenced CFR section.

Subsection I.F

Subsection I.F.2: This change is necessary to streamline these test procedures.

Subsection I.F.2.2: The purpose of this subsection is to provide an option for manufacturers to provide an attestation of compliance in lieu of testing for certifying diesel-fueled vehicles to the refueling emission standard. The changes to this subsection are necessary to remove the fuel vapor pressure and fuel tank temperature criteria for this option.

Subsection I.F.2.3: This proposal expands the applicability of these procedures to heavy-duty vehicles. The change to this subsection is necessary to expand the applicability of a refueling test exemption to include incomplete vehicles in the heavy-duty weight class, which is consistent with the treatment of incomplete vehicles in the medium-duty weight class.

Subsection I.G: This new subsection is necessary to incorporate a reference to 40 CFR §86.1829-15(e), which better harmonizes California procedures with federal procedures.

Section II

Subsection II.B

Subsection II.B.4

Subsections II.B.4, II.B.4.1.1, II.B.4.1.3, II.B.4.1.3.2, and II.B.4.1.3.3: These changes are necessary to update references so that they refer to the most recent versions of the referenced CFR sections.

Subsection II.B.4.4: It is necessary to modify this subsection to correct an error in a CFR section reference and to specify version dates in CFR references that currently do not have them.

Subsections II.B.4.4.2.1 and II.B.4.4.10: These changes are needed to update a reference so that it refers to the most recent version of the referenced CFR section.

Subsection II.B.7: This change is needed to clarify that ethanol emissions may be accounted for using a mass adjustment factor.

List of Changes to Appendix G – "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines"

List of Documents to be Used in Conjunction with this Document

1. It is necessary to remove the "last amended" dates for the test procedures in bullets 1, 4, and 5 to ensure that these bullets incorporate the applicable versions of these documents.

2. It is necessary to remove the "last amended" dates for the test procedures in footnote 1 to ensure that this footnote references the applicable versions of these documents.

Introductory Paragraph: It is necessary to modify this paragraph to correct the name of the test procedures.

Part I. Subpart A

Section 1

Subsection A

Subsection 1

Subsection 1.2: The document "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" has been split into two documents. The title of the new document that is applicable to this section 1961.1 is the "California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles." Modifications to this subsection are needed to correctly reference the applicable document.

Subsection 1.5: The reference to CFR §86.092-14 has been replaced with a reference to CFR §86.098-14, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Subsection 2

Subsection 2.5: The reference to CFR §86.092-14 has been replaced with a reference to CFR §86.098-14, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Subsection 3

The federal Tier 3 regulation modified and restructured CFR section §86.016-1 by removing and rearranging earlier (September 15, 2011) text. It is necessary to incorporate the CFR section that contains the currently applicable (Tier 3) version of §86.016-1. This change is needed to allow harmonization with federal regulations.

It is necessary to remove modifications to the September 15, 2011 version of CFR §86.016-1 where the modified language no longer exists and to add clarifying language to §86.016-1 where California's requirements differ from federal requirements.

Section 7: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 10

Subsection A

Subsection 3: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 4: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 14

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 17: It is necessary to remove two sections of the CFR that are currently referenced because they no longer exist.

Section 20: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 21

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 2: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 22: The reference to CFR §86.001-22 has been replaced with a reference to CFR §86.094-22, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Section 23

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 2: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 25: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 26: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 28

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 29: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 30

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 2: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 35

Subsection A

Subsection 2: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 37: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 38

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 1.3: It is necessary to amend this subparagraph to include a new subparagraph that was added to the CFR.

Subsection 2: It is necessary to remove this subsection because the incorporated section of the CFR has been removed from the CFR.

Subsection 3

It is necessary to re-number subsection 3 to call it subsection 2, because subsection 2 has been removed from these test procedures.

The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Part II. Subpart N

The title of this subpart has been changed in the CFR. It is necessary to similarly change the title of this subpart to show that change.

86.1305-2004. 86.1306-96, 86.1306-07, 86.1308-84, 86.1309-90, 86.1311-94, 86.1313-94, 86.1313-98, 86.1313-2004, 86.1313-94, 86.1314-94, 86.1316-94, 86.1318-84, 86.1319-90, 86.1320-90, 86.1321-94, 86.1322-84, 86.1323-84, 86.1323-2007, 86.1324 84, 86.1325-94, 86.1326-90, 86.1327-98, 86.1330-90, 86.1332-90, 86.1333-90, 86.1334-84, 86.1335-90, 86.1336-84, 86.1337-96, 86.1337-2007, 86.1338-84, 86.1338-2007, 86.1340-94, 86.1341-98

The references to these sections were deleted, because they no longer appear in the CFR.

86.1301-90 The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.1305-2010 The number of this section was changed to 86.1305, because it was changes in the CFR. The version of CFR §86.1305 incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.1313-2007 The reference to this section was deleted, because it no longer appears in the CFR.

Subsections A and B

All changes to subsections A and B were deleted because they apply to CFR §§ 86.1313-94, 86.1313-98, 86.1313-2004, and 86.1313-2007, all of which have been deleted from the CFR.

86.1333-2010 The number of this section was changed to 86.1333, because it was changes in the CFR. The version of CFR §86.1333 incorporated by this

subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.1342-94 The reference to this section was deleted, because it no longer appears in the CFR.

Subsections A and B

All changes to subsections A and B were deleted because they apply to CFR §86.1342-94, which has been deleted from the CFR.

86.1344-94 The reference to this section was deleted, because it no longer appears in the CFR.

Part 1036. Subpart B

1036.115 The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Part 1065. Subpart A

1065.1, 1065.2, 1065.10, 1065.12, 1065.15, 1065.20, 1065.25

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart B

1065.130, 1065.140, 1065.145, 1065.170

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart C

1065.201, 1065.202, 1065.205, 1065.210, 1065.225, 1065.230, 1065.240, 1065.250, 1065.260, 1065.270, 1065.272, 1065.275, 1065.280, 1065.284, 1065.295

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.267 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.269 It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

Part 1065. Subpart D

1065.303, 1065.305, 1065.307, 1065.310, 1065.315, 1065.350, 1065.355, 1065.360, 1065.362, 1065.365, 1065.370, 1065.376

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.308 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.309 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.341 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.369 It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

1065.375 It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

Part 1065. Subpart E

1065.405, 1065.410

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart F

1065.501, 1065.510, 1065.512, 1065.365, 1065.525, 1065.526, 1065.530, 1065.545

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.514 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.516 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.518 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.320 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.546 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR

section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.550 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.590 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change.

Part 1065. Subpart G

1065.601, 1065.602, 1065.610, 1065.640, 1065.642, 1065.645, 1065.650, 1065.655, 1065.659, 1065.665, 1065.690, 1065.695

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.630 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.644 It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

1065.660 The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change.

Part 1065. Subpart H

1065.701 The CFR sections incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection A

Subsection 3: Since there are no longer any California-specific changes to subparagraphs (d) through (f), it is necessary to group these subparagraphs together when indicating “no change” to avoid confusion.

Subsection 4: It is necessary to delete the current change to this subsection, because it is no longer needed.

Subsection B

Subsection 3

It is necessary to delete the paragraph number, because it is the only paragraph in this subsection B.

It is necessary to replace the reference to “paragraph §86.1313-98” to “40 CFR Part 1065, subpart H,” because “paragraph §86.1313-98” has been deleted from the CFR.

1065.703, 1065.705, 1065.710, 1065.715, 1065.720, 1065.750

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Subsection 2

Subparagraph (b)(1): It is necessary to revise the text to remove an unnecessary word and to reference the correct specifications in CFR §1065.710. It is also necessary to revise this text to allow vehicles to certify in California using Tier 3 certifications gasoline in CFR §1065.710(b) prior to the 2020 model year.

Subparagraph (b)(2): It is necessary to revise the text to allow vehicles to certify in California using Tier 3 certifications gasoline in CFR §1065.710(b) in the 2020 and subsequent model years.

1065.725 It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

Subsection A

It is necessary to add this text to incorporate CFR §1065.725 with no revisions.

Subsection B

Subsection 1: This text was originally part of the revisions to the Alcohol Fuel Specifications in CFR §86.1313-2007 subsection A.2. It is necessary to move this text from that part of the test procedures, because §86.1313-2007 has been removed from the CFR.

Subsection 1.1: It is necessary to update the specifications for the gasoline portion of certification M-100 and E-100 fuel to match LEV III certification gasoline.

Subsection 2: This text was originally part of the revisions to the Alcohol Fuel Specifications in CFR §86.1313-2007 subsection A.3. It is necessary to move this text from that part of the test procedures, because §86.1313-2007 has been removed from the CFR.

Subsection 2.1: It is necessary to revise the table to allow vehicles to certify in California using Tier 3 E-85 fuel in CFR §1065.725 as an alternative to California E-85 gasoline and to update the specifications for the gasoline portion of certification M-85 and E-85 fuel to match LEV III certification gasoline.

Part 1065. Subpart I

1065.805, 1065.845, 1065.850

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart K

1065.1001, 1065.1005, 1065.1010

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

List of Changes to Appendix H – "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles"

List of Documents to be Used in Conjunction with this Document

NOTE: It is necessary to correct the section in which these test procedures are referenced in the California Code of Regulation, which is section 1956.8 (b), not (d).

1, 4, and 5: It is necessary to remove the "last amended" dates for the test procedures in bullets 1, 4, and 5 to ensure that these bullets incorporate the applicable versions of these documents.

Footnote: It is necessary to remove the "last amended" dates for the test procedures in footnote 1 to ensure that this footnote references the applicable versions of these documents.

Part 86

§86.1

The federal Tier 3 regulation updated this section, and this change is necessary to allow harmonization with federal regulations.

It is necessary to delete the revisions to sections 1 and 2, because they no longer apply.

Subpart A

Section 1

Subsection A

Subsection 1

Subsection 1.4: The reference to CFR §86.092-14 has been replaced with a reference to CFR §86.098-14, which contains the currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Subsection 2

Subsection 2.5: The reference to CFR §86.092-14 has been replaced with a reference to CFR §86.098-14, which contains the

currently applicable version of this section. This change is needed to allow harmonization with federal regulations.

Subsection 3

The federal Tier 3 regulation modified and restructured CFR §86.016-1 by removing and the rearranging earlier version (September 15, 2011) of the text. It is necessary to incorporate the CFR section that contains the currently applicable (Tier 3) version of §86.016-1. This change is needed to allow harmonization with federal regulations.

It is necessary to remove certain modifications to the September 15, 2011 version of CFR §86.016-1 where the modified language no longer exists and to add clarifying language to CFR §86.016-1 where California's requirements differ from federal requirements.

Subsection B

Subsection 4: It is necessary to remove the applicable dates for the test procedures in this subsection to ensure that it incorporates the applicable version of this document.

Section 7: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 11

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 14

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 17: It is necessary to remove two sections of the CFR that are currently referenced because they no longer exist and to remove two unneeded semicolons.

Section 18: It is necessary to add parenthesis to make the format of this section consistent with other sections in these test procedures.

Section 20: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 21

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 2: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection B

Subsection 2

Subsection 2.3: The document "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" has been split into two documents. The title of the new document that is applicable to these test procedures is the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," which is incorporated by reference in section 1961.2, title 13, CCR. It is necessary to make this title change here and throughout these test procedures to correctly reference the applicable document.

Section 22: The reference to CFR §86.001-22 has been replaced with a reference to CFR §86.094-22, which contains the currently applicable version

of this section. This change is needed to allow harmonization with federal regulations.

Section 23

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 2: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 3: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 25

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 26: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 28

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 29: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 30

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 2: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 35

Subsection A

Subsection 2: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 37: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Section 38

Subsection A

Subsection 1: The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 1.3: It is necessary to amend this subparagraph to correct an error in the cited subparagraph.

Subsection 2: It is necessary to remove this subsection because the incorporated section of the CFR has been removed from the CFR.

Subsection 3: It is necessary to re-number subsection 3 to call it subsection 2, because subsection 2 has been removed from these test procedures. Also, the CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection 3.4: The federal Tier 3 regulation modified subparagraph (i) by adding “Through model year 2013” and “ultra” to the text, and the change was necessary to harmonize with the federal regulations.

Subpart N

Title

The federal Tier 3 regulation modified the title to this subpart and the change was necessary to harmonize with the federal regulations.

86.1305-2004

The reference to this section was deleted, because it no longer appears in the CFR.

86.1305-2010

The number of this section was changed to 86.1305, because it was changed in the CFR. The version of CFR §86.1305 incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.1306-96, 86.1306-2007, 86.1308-84, 86.1309-90, 86.1310-90, 86.1310-2007, 86.1311-94, 86.1312-88, 86.1312-2007, 86.1313-94, 86.1313-98, 86.1313-04, 86.1313-2007, 86.1314-94, 86.1316-94, 86.1318-84, 86.1319-90, 86.1320-90, 86.1321-94, 86.1322-84, 86.1323-84, 86.1323-2007, 86.1324-84, 86.1325-94, 86.1326-90, 86.1327-98, 86.1330-90, 86.1332-90, 86.1333-90,

The references to these sections were deleted, because they no longer appear in the CFR.

86.1333-2010

The number of this section was changed to 86.1333, because it was changed in the CFR. The version of CFR §86.1333 incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.1334-84, 86.1335-90, 86.1336-84, 86.1337-96, 86.1337-2007, 86.1338-84, 86.1338-2007, 86.1339-90, 86.1340-94, 86.1341-98, 86.1342-94, 1343-88, 86.1344-94

The references to these sections were deleted, because they no longer appear in the CFR.

86.1360-2007

The number of this section was changed to 86.1360, because it was changed in the CFR. The version of CFR §86.1360 incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection A

Subsection 3.1

86.1362-2007 was renamed to 86.1362 in the CFR, and this change is necessary to harmonize with the federal regulations

Subsection B

Subsection 1

The model year applicability of the section was corrected to match the applicability stated in subsection A.3.1, and the change is necessary to maintain consistency with these test procedures.

86.1362-2007

The number of this section was changed to 86.1362, because it was changed in the CFR. The version of CFR §86.1362 incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.1363-2007

The text in parenthesis is being added to explain that although this section was removed in the most current CFR version, it is maintained in these text procedures as a record to what was applicable to 2004 through 2009 model year engines. This change is necessary to maintain consistency in the test procedures.

86.1370-2007

The number of this section was changed to 86.1370, because it was changed in the CFR. The version of CFR §86.1370 incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection A

Subsection 1: The most current CFR section modified the text amended in this subsection, and the change is necessary to maintain harmonization with federal regulations.

Subsection 8: The modification added new subparagraph (h), which was included in the most current CFR version. This change is needed to allow harmonization with federal regulations.

86.1372-2007

The number of this section was changed to 86.1372, because it was changed in the CFR. The version of CFR §86.1372 incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

86.1375-2007, 86.1380.2004

The references to these sections were deleted, because they no longer appear in the CFR.

Part 1036. Subpart B

1036.115

The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Part 1065. Subpart A

1065.1, 1065.2, 1065.10, 1065.12, 1065.15, 1065.20, 1065.25

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart B

1065.130, 1065.140, 1065.145, 1065.170

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart C

1065.201, 1065.202, 1065.205, 1065.210, 1065.225, 1065.230, 1065.240, 1065.250, 1065.260

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.267

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.269

The federal Tier 3 regulation added this new section to the CFR. It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

1065.270, 1065.272, 1065.275, 1065.280, 1065.284, 1065.295

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart D

1065.303, 1065.305, 1065.307

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.308

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.309

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.310, 1065.315

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.341

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.350, 1065.355, 1065.360, 1065.362, 1065.365

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.369

The federal Tier 3 regulation added this new section to the CFR. It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

1065.370

The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.375

This section was inadvertently not included in these test procedures, and the change added this section. It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

1065.376

The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Part 1065. Subpart E

1065.405, 1065.410

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart F

1065.501, 1065.510, 1065.512

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.514

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.516

The federal Tier 3 regulation added this new section to the CFR. It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

1065.518

The federal Tier 3 regulation added this new section to the CFR. It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

1065.520, 1065.526, 1065.530

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.545

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.546

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.550

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.590

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change.

Part 1065. Subpart G

1065.601, 1065.602, 1065.610

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.630

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.640, 1065.642

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.644

This section was inadvertently not included in these test procedures, and the change added this section. It is necessary to add this CFR section to these test procedures to allow harmonization with federal regulations.

1065.645, 1065.650, 1065.655, 1065.659

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.660

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change.

1065.665, 1065.690, 1065.695

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart H

1065.701

The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Subsection A

Subsection 4: The most current CFR version amended and modified the location of the amendments to subparagraph (d). This change is needed to maintain consistency and to allow harmonization with federal regulations.

Subsection B

Subsection 3: It is necessary to replace the reference to "paragraph §86.1313-98" to "40 CFR Part 1065, subpart H," because "paragraph §86.1313-98" has been deleted from the CFR.

1065.703

The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.705

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

1065.710, 1065.715, 1065.720

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.725

The federal Tier 3 regulation added this new section to the CFR. It is necessary to add this new CFR section to these test procedures to allow harmonization with federal regulations.

Subsection A

It is necessary to add this text to incorporate CFR §1065.725 with no revisions.

Subsection B

Subsection 1: This text was originally part of the revisions to the Alcohol Fuel Specifications in CFR §86.1313-94 subsection 3. It is necessary to move this text from that part of the test procedures, because §86.1313-2007 has been removed from the CFR.

Subsection 1.1: It is necessary to update the specifications for the gasoline portion of certification M-100 and E-100 fuel to match LEV III certification gasoline.

Subsection 2: This text was originally part of the revisions to the Alcohol Fuel Specifications in §86.1313-94 subsection 4. It is necessary to move this text from that part of the test procedures, because §86.1313-2007 has been removed from the CFR.

Subsection 2.1: It is necessary to revise the table to allow vehicles to certify in California using Tier 3 E-85 fuel in CFR §1065.725 as an alternative to California E-85 gasoline and to update the specifications for the gasoline portion of certification M-85 and E-85 fuel to match LEV III certification gasoline.

1065.750

The CFR section incorporated by this subsection has been updated to the most current version. This change is needed to allow harmonization with federal regulations.

Part 1065. Subpart I

1065.805, 1065.845, 1065.850

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart J

1065.905, 1065.915, 1065.920

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

Part 1065. Subpart K

1065.1001, 1065.1005

The CFR sections incorporated by these subsections have been updated to the most current versions. These changes are needed to allow harmonization with federal regulations.

1065.1010

The title of the CFR section incorporated by this subsection has been changed in the CFR. It is necessary to modify the title of the referenced CFR section to reflect that name change. The CFR section incorporated by this subsection has also been updated to the most current version. This change is needed to allow harmonization with federal regulations.

List of Changes to Appendix I – "California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes"

List of Documents to be Used in Conjunction with this Document

The document "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" has been split into two documents. The title of the new document that is applicable to these test procedures is the "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," which is incorporated by reference in section 1961.2, title 13, CCR. It is necessary to make this title change here and throughout these test procedures to correctly reference the applicable document.

Throughout this document, it is necessary to change the text "UDDS" to "UDDS cycle" and "UDDSs" to "UDDS cycles" to more accurately state the name of the test cycles.

Throughout this document, it is necessary to change the text "HFEDS" to "HFEDS cycle" and "HFEDSs" to "HFEDS cycles" to more accurately state the name of the test cycles.

Throughout this document, it is necessary to change the text "State of Charge (SOC) Net Change Tolerance" to "State of Charge (SOC) Net Energy Tolerance to more accurately describe that energy is the change to which the tolerance is applied.

Part B

Section 1

"All-Electric Range" or "AER" means the total miles driven electrically (with the engine off) before the engine turns on for the first time, after the battery has been fully charged. <u>The AER is defined in terms of the Urban All-Electric Range (AER_u) and the Highway All-Electric Range (AER_h).</u>

It is necessary to change the All-Electric Range definition to clarify that All-Electric Range refers to both Urban All-Electric Range and Highway All-Electric Range.

"All-Electric Range ~~(AER)~~Test" or "AERT" means a test sequence used to determine the range of an electric vehicle or of a hybrid electric vehicle without the use of its auxiliary power unit. The Urban All-Electric Range Test ($AERT_u$) ~~cycle~~ determines the Urban All-Electric Range (AER_u) and ~~consists of~~ the Highway All-Electric Range ($AERT_h$) determines the Highway All-Electric Range (AER_h) ~~Fuel Economy Schedule and the Urban Dynamometer Driving Schedule~~ (see section ~~E~~G of these test procedures).

It is necessary to correct the acronym for All-Electric Range Test from AER to AERT. This change is necessary to distinguish the Urban All-Electric Range Test from the Highway All-Electric Range Test. This change is needed to correctly reference the applicable section of these test procedures.

It is necessary to correct "Alternate Continuous Urban Test Schedule" to "Alternative Continuous Urban Test Schedule."

It is necessary to correct "Alternate Continuous Highway Test Schedule" to "Alternative Continuous Highway Test Schedule."

It is necessary to clarify that references to "engine" means "Auxiliary power unit."

"Charge-depleting (CD) ~~mode~~ operation" means ~~an operating mode~~ a type of vehicle operation in which the energy storage state-of-charge (SOC) may fluctuate but, on average, decreases while the vehicle is driven. ~~Hybrid electric vehicles are required to be classified as either charge-sustaining or charge-depleting over each driving cycle (i.e. UDDS, HFEDS, US06, or SC03).~~

This change is needed to distinguish charge-depleting operation from driver-selectable mode. There is no need to classify hybrid electric vehicles as charge-sustaining or charge-depleting over each driving cycle.

"Charge depleting actual range, urban" or "R_{cdau}" means the distance traveled on the Urban Charge Depleting Test Procedure at which the state-of-charge is first equal to the average state-of-charge of the two consecutive UDDS cycle used to end the Urban Charge Depleting Test Procedure. This range must be reported to the nearest 0.1 miles. (See section ~~F~~G.11.9.)

This change is necessary to distinguish "charge depleting actual range, urban" from "charge depleting actual range, highway." A correction is necessary to properly reference the applicable section of these test procedures.

"Charge-increasing operation" means a type of vehicle operation that occurs when the energy storage SOC may fluctuate but, on average, increases while the vehicle is driven over two or more consecutive UDDS cycles. A driver-selectable mode that activates a charge-increasing operation is included in this definition. When testing the driver-selectable mode, the SOC shall be set at the lowest normal level allowed by the vehicle during UDDS driving as the initial SOC level for the test.

This change is necessary to define "charge-increasing operation" as distinct from "charge-depleting operation" and "charge-sustaining."

"Charge-sustaining (CS) ~~mode~~ operation" means ~~an operating mode~~ a type of vehicle operation in which the energy storage SOC may fluctuate but, on average, is maintained at a certain level while the vehicle is driven. ~~Hybrid electric vehicles are required to be classified as either charge-sustaining or charge-depleting over each driving cycle (i.e. UDDS, HFEDS, US06, or SC03).~~

This change is needed to distinguish "charge-sustaining operation" from driver-selectable mode. There is no need to classify hybrid electric vehicles as charge-sustaining or charge-depleting over each driving cycle.

"Cold start UDDS" is defined as the first UDDS cycle in which the engine turns on.

It is necessary to add this definition to clarify that "Cold start UDDS" is defined based on when the engine turns on not when the vehicle turns on.

"Default Mode" means the operating mode that the vehicle automatically selects when the vehicle is turned on if the driver does not manually select an alternative mode.

It is necessary to add this definition to define the mode in which "all-electric range" shall be determined.

"Driver-Selectable Mode" means an operating mode of the engine that the vehicle driver can manually engage by means of an instrument panel button, switch, screen menu, etc., anytime the vehicle is activated (e.g., when the key is in the on position).

This change is needed to distinguish a "driver-selectable mode" from a type of vehicle operation that involves charge-sustaining, charge-depleting, or charge-increasing.

"Energy storage device" means a storage device able to provide the minimum power and energy storage capability to enable engine stop/start capability, traction boost, regenerative braking, and (nominal) charge sustaining ~~mode driving capability~~ operation. In the case of TZEVs, a minimum range threshold relative to certified, new-vehicle range capability is not specified or required.

This change is needed to correct "charge sustaining mode driving capability" to "charge sustaining operation."

"Equivalent all-electric range" or "EAER" means the portion of the total charge depleting range attributable to the use of electricity from the battery over the charge depleting ~~range~~ emission test.

The name of the "charge depleting range test" has been changed to "charge depleting emission test." The change to this definition is necessary to reflect this name change.

"Full State-of-Charge (SOC)" means the energy storage device of an off-vehicle charge capable hybrid electric vehicle is at full energy capacity following a recharging event with an off-vehicle charger.

This change is necessary to define fully charging an energy storage device.

"SAE J1634" means the "Battery Electric Vehicle Energy Consumption and Range Test Procedure," as revised by SAE International in October, 2012.

The SAE J1634 procedure has been incorporated into these test procedures. This definition is needed to specify the version of the SAE J1634 that may be used to fulfill the requirements of these test procedures.

"State of Charge (SOC) Net Energy Change Tolerance" means the state-of-charge net change tolerance that is applied to the SOC Criterion for charge-sustaining hybrid electric vehicles when validating an emission test. See section ~~E~~F.9 and ~~F~~G.10 of these procedures for tolerance specifications.

The change is needed to correctly reference the applicable sections of these test procedures.

"UDDS" means urban dynamometer driving schedule as set forth in Appendix I of 40 CFR Part 86.

This change is needed to add a missing word.

Section 2: Terminology.

	Abbreviation	Units
~~Charge Depleting Actual Range (urban cycle)~~	~~R_{cda}~~	~~mi~~
~~Charge Depleting to Charge Sustaining Range~~	~~R_{cdcs}~~	~~mi~~
Charge Depleting Net Energy Consumption	E_{cd}	wh
Charge Depleting CO_2 Produced	M_{cd}	g/mi
Charge Sustaining CO_2 Produced	M_{cs}	g/mi
Highway All-Electric Range	AER_h	mi
Highway Charge Depleting Actual Range	R_{cdah}	mi
Highway Charge Depleting Cycle Range	R_{cdch}	mi
Highway Charge Depleting to Charge Sustaining Range	R_{cdcsh}	mi
Highway Electric Range Fraction	ERF_h	%
Highway Equivalent All-Electric Range	$EAER_h$	mi
Highway Equivalent All-Electric Range Energy Consumption	$EAEREC_h$	wh/mi
Urban All-Electric Range	AER_u	mi
Urban Charge Depleting Actual Range	R_{cdau}	mi
Urban Charge Depleting Cycle Range	R_{cdcu}	mi
Urban Charge Depleting to Charge Sustaining Range	R_{cdcsu}	mi
Urban Electric Range Fraction	ERF_u	%
Urban Equivalent All-Electric Range	$EAER_u$	mi
Urban Equivalent All-Electric Range scaled to 40 mi limit	$EAER_{u40}$	mi
Urban Equivalent All-Electric Range Energy Consumption	$EAEREC_u$	wh/mi

This change is needed to correct “Charge Depleting Actual Range (urban cycle)” and “Charge Depleting to Charge Sustaining Range” to “Urban Charge Depleting Actual Range” and “Urban Charge Depleting to Charge Sustaining Range,” respectively. In addition, this change is needed to identify the abbreviations for “Highway All-Electric Range,” “Highway Charge Depleting to Charge Sustaining Range,” and “Urban All-Electric Range.”

Part D

Section 2: It is necessary to add language to this subsection to improve the certification reporting requirements for off-vehicle charge capable hybrid electric vehicles.

Part F

The reference to the CFR has been replaced with a reference to the CFR section that contain the currently applicable version of this section §86.108-00. A new CFR section, 40 CFR Part 1066 Subpart C, has been added to maintain consistency between California's requirements for LEV III and federal Tier 3 vehicles. These changes are needed to allow harmonization with federal regulations.

Section 1: This change is needed to harmonize with 40 CFR Part 1066 Subpart C that does not require exclusive use of a 40-inch single roll electric dynamometer for vehicle testing.

Section 3: These test procedures apply starting with the 2018 model year. This section states that it applies starting with the 2012 model year. It was necessary to change the text to align the applicability of the section with the applicability of the test procedures. It was also necessary to add the word "model" to the text, which was inadvertently omitted from the current text, to more clearly state the applicability of this section.

Subsection 3.1

Subsection 3.1.1: It is necessary to add language to this subsection to allow vehicle manufacturers to determine all-electric range of battery electric vehicles using an alternative procedure than the one currently required for California.

Subsection 3.1.1(b): The reference to the CFR has been replaced with a reference to the CFR section that contains the currently applicable version of 40 CFR Part 86 Appendix I. This change is needed to allow harmonization with federal regulations.

Subsections 3.1.1(c) and (d)

The CFR has replaced §86.115-00 with §86.115-78. So, it is necessary to replace the reference to §86.115-00 with a reference to the currently applicable version of §86.115-78. A new CFR section, 40 CFR Part 1066 Subpart C, has been added to maintain consistency between California's requirements for LEV III and federal Tier 3 vehicles. These changes are needed to allow harmonization with federal regulations.

Subsection 3.1.2: It is necessary to change the subsection title to clarify that the urban all-electric range is a test.

Subsection 3.2

Subsection 3.2.1: It is necessary to change the subsection title to clarify that the highway all-electric range is a test.

Subsection 3.2.1(c) and (d)

The CFR has replaced §86.115-00 with §86.115-78. So, it is necessary to replace the reference to §86.115-00 with a reference to the currently applicable version of §86.115-78. A new CFR section, 40 CFR Part 1066 Subpart C, has been added to maintain consistency between California's requirements for LEV III and federal Tier 3 vehicles. These changes are needed to allow harmonization with federal regulations.

Subsection 3.2.2: It is necessary to change the subsection title to clarity that the highway all-electric range is a test.

Subsection 3.5: This change is needed to harmonization with 40 CFR §1066.501.

Section 6: It is necessary to add language to this subsection to clarify worst case testing.

Subsection 6.1

This new subsection is necessary to harmonize with 40 CFR §1066.801.

All of the changes in this subsection F.6.1 are needed to remove unnecessary requirements and streamline the vehicle preconditioning procedure. Also, it is necessary to modify the title to clarify that the application of the vehicle preconditioning procedures.

Subsection 6.2: It is necessary to delete language that references 40 CFR §86.135-00 and §86.110-94 that are no longer current.

Subsection 6.3: The reference to the CFR have been replaced with references to the CFR sections that contain the currently applicable version of this section §86.137-96. These changes are needed to allow harmonization with federal regulations.

Subsection 6.4: The reference to the CFR have been replaced with references to the CFR sections that contain the currently applicable version of this section §86.144-94. These changes are needed to allow harmonization with federal regulations.

Subsection 6.5: The references to the CFR have been replaced with references to the CFR sections that contain the currently applicable version of these sections §86.145-82 and §86.110-94. These changes are needed to allow harmonization with federal regulations.

Section 7: The reference to the CFR has been replaced with a reference to the CFR section that contain the currently applicable version of this section §600.111-08. This change is needed to allow harmonization with federal regulations.

Subsection 7.1: It is necessary to add language to harmonize with 40 CFR §1066.840.

Section 8

Old Subsection 8.1: It is necessary to delete this subsection, because it is no longer applicable.

New Subsection 8.1

It is necessary to re-number old subsection 8.2 as 8.1, because old subsection 8.1 has been deleted.

The reference to the CFR has been replaced with a reference to the CFR section (§86.1066-831) that contains the currently applicable version of this section §86.159-08. This change is needed to allow harmonization with federal regulations.

It is necessary to delete the California-specific provisions throughout subsection 8.1 that apply to §86.159-08 and replace them with California-specific provisions that apply to §86.1066-831.

Old Subsection 8.3: It is necessary to delete this subsection, because it is no longer applicable.

New Subsection 8.2

It is necessary to re-number old subsection 8.4 as 8.2, because old subsections 8.1 and 8.3 have been deleted.

The reference to the CFR has been replaced with a reference to the CFR section (§1066.835) that contains the currently applicable version of this section §86.160-00. This change is needed to allow harmonization with federal regulations.

It is necessary to delete the California-specific provisions throughout subsection 8.1 that apply to §86.159-08 and replace them with California-specific provisions that apply to §86.1066-831.

Section 9: It is necessary to add language to the title of this section for clarification.

Subsections 9.1 through 9.3: It is necessary to add language to these subsections for clarity.

Part G

A reference to a new CFR section, 40 CFR Part 1066 Subpart C, has been added to maintain consistency between California's requirements for LEV III and federal Tier 3 vehicles. These changes are needed to allow harmonization with federal regulations.

Section 1: This change is needed to harmonize with 40 CFR Part 1066 Subpart C that does not require exclusive use of a 40-inch single roll electric dynamometer for vehicle testing.

Section 3

Subsection 3.1

Subsection 3.1(d): It is necessary to add language to this subparagraph to allow an alternative measurement procedure.

Subsection 3.2: It is necessary to reference the speed and time tolerances for driving schedules in 40 CFR §1066.425, to harmonize with federal regulations.

Subsection 3.3: It is necessary to reference the measurement accuracy of test instruments in 40 CFR §1066.425, to harmonize with federal regulations.

Section 5

It is necessary to modify the title of this subsection to clarify that the test provisions apply to emissions.

It is necessary to modify the first paragraph to specify that the only criterion to use alternative procedures is to obtain advance approval by the Executive Officer.

It is necessary to add the second paragraph to specify that a vehicle must be tested in "default mode" for the purpose of determining Urban All-Electric Range and Urban Equivalent All-Electric Range.

It is necessary to modify the third paragraph to clarify that the requirement that a vehicle must be tested in an operating mode that demonstrates "worst case emissions" mean "worst case" for NMOG+NOx emissions.

It is necessary to modify the fourth paragraph to clarify the requirement for testing which represents the worst case NMOG+NOx emissions. An example was added to describe how to select the worst case mode based on testing each mode, to further clarify this requirement.

It is necessary to add the fifth paragraph to allow a manufacturer to demonstrate compliance with the exhaust emission standards in lieu of testing every mode to determine the worst case mode by using non-certification information. This option is necessary to provide additional flexibility to manufacturers.

It is necessary to add the sixth paragraph to indicate how to determine the worst case mode for a vehicle tested on the Alternative Urban Charge-Depleting Emission Test.

It is necessary to modify the seventh paragraph to indicate that in-use compliance testing may be performed on a vehicle in any mode of operation.

Subsection 5.1: It is necessary to add language to harmonize with 40 CFR §1066.801.

New Subsection 5.2

The title of the subsection is modified to clarify the applicability of the vehicle preconditioning requirements. Furthermore, all of the changes in this subsection G.5.2 are needed to remove unnecessary requirements and streamline the vehicle preconditioning procedure. Also, it is necessary to change the title from "urban charge depleting range test" to "urban charge depleting emission test" to reflect a change in the name of the test.

Old Subsection 5.2

It is necessary to delete subsection G.5.2 to harmonize with the federal requirements.

Subsection 5.3: It is necessary to modify the title of the section to specify that it applies to urban charge-sustaining emissions. Also, it is necessary to update the reference of §86.137-96 with a reference to the currently applicable section, 40 CFR §1066.815. These changes are needed to allow harmonization with federal regulations.

Subsection 5.4

Subsection 5.4.1: It is necessary to modify this subparagraph to (1) delete unnecessary text, (2) change the referenced "Urban Charge Depleting Range Test" to "Urban Charge Depleting Emission Test" reflect the name change of this test, (3) include new subsection G.5.4.2.1 in the references, and (4) specify the SOC of the battery at the start of the Urban Charge Depleting Emission Test.

Subsection 5.4.1.1: It is necessary to re-number this subsection to 5.4.1.1 from 5.6.3 to improve text organization.

Subsection 5.4.2

It is necessary to modify the title of this subparagraph to change the referenced "Urban Charge Depleting Range Test" to "Urban Charge Depleting Emission Test" reflect the name change of this test.

It is necessary to re-number the subparagraphs within this subsection for consistency with the rest of this test procedure.

Subsections (i) through (ii): It is necessary to delete these subsections, because they are no longer needed.

It is necessary to add a sentence to this subsection that explains that testing must be conducted pursuant to 40 CFR §1066.815.

Subsections 5.4.2.1 through 5.4.2.17: It is necessary to modify and add these subsections to incorporate California-specific provisions.

New Subsection 5.4.3: It is necessary to add this subsection to harmonize with federal requirements pursuant to 40 CFR §1066.501.

Subsections 5.4.3.1 through 5.4.3.4: It is necessary to modify and add these subsections to incorporate California-specific provisions.

Subsection 5.4.4

It is necessary to re-number this subsection, because the new subsection 5.4.3 has been added.

It is necessary to modify this subsection to revise the criterion for when a vehicle must be charged after testing and to correct the name of a referenced test.

Subsection 5.4.5: It is necessary to add this subsection to provide an alternative test procedure for certain off-vehicle charge capable hybrid electric vehicles.

Old Subsection 5.4.3: It is necessary to delete this subsection and its subparagraphs, because they are no longer needed.

Subsection 5.5

It is necessary to change the title of this subsection to make it more accurate.

It is necessary to change the section that indicates the section of 40 CFR that govern how the calculations are to be conducted to incorporate the version of the CFR that will be applicable during the same model years that these test procedures will apply.

It is necessary to delete the applicable changes to the previously referenced section of 40 CFR and incorporate the changes to the newly referenced section of 40 CFR for accuracy.

Subsection 5.6

It is necessary to change the section that indicates the section of 40 CFR that govern how the calculations are to be conducted to incorporate the version of the CFR that will be applicable during the same model years that these test procedures will apply.

It is necessary to delete the applicable changes to the previously referenced section of 40 CFR and incorporate the changes to the newly referenced section of 40 CFR for accuracy.

Old Subsection 5.6.3: It is necessary to move this subsection and make it subsection 5.4.1.1 to improve text organization.

Section 6

It is necessary to change the title of this subsection to reflect the name change of the test cycle.

It is necessary to add the first paragraph to harmonize with 40 CFR §1066.801.

It is necessary to add the second paragraph to specify that the only criterion to use alternative procedures is to obtain advance approval by the Executive Officer.

It is necessary to add the third paragraph to specify that a vehicle must be tested in "default mode" for the purpose of determining Highway All-Electric Range and Highway Equivalent All-Electric Range.

It is necessary to add the fourth paragraph to clarify that the requirement that a vehicle must be tested in an operating mode that demonstrates "worst case emissions" mean "worst case" for NMOG+NOx emissions.

It is necessary to modify the fifth paragraph to clarify the requirement for testing which represents the worst case NMOG+NOx emissions. An example was added to describe how to select the worst case mode based on testing each mode, to further clarify this requirement.

It is necessary to add the sixth paragraph to allow a manufacturer to demonstrate compliance with the exhaust emission standards in lieu of testing every mode to determine the worst case mode by using non-certification information. This option is necessary to provide additional flexibility to manufacturers.

It is necessary to modify the seventh paragraph to indicate that in-use compliance testing may be performed on a vehicle in any mode of operation.

Old Subsections 6.1 and 6.2: It is necessary to delete these subsections, because they no longer apply.

New Subsection 6.1

It is necessary to change the title of this subsection to reflect the addition of Highway Emissions."

It is necessary to re-number this subsection (from 6.3 to 6.1), because subsections 6.1 and 6.2 have been deleted.

It is necessary to re-number the subparagraphs within this subsection, because this subsection has been re-numbered.

Subsections 6.1.1 through 6.1.2: It is necessary to remove unnecessary requirements and streamline the highway charge depleting emission test.

Subsection 6.1.3: It is necessary to re-number this subsection to 6.1.3 from 6.3.4 to improve text organization.

Subsection 6.1.4: It is necessary to add a sentence to this subsection that explains that testing must be conducted pursuant to 40 CFR §1066.840.

Subsections 6.1.4.1 through 6.1.4.3: It is necessary to modify and add these subsections to incorporate California-specific provisions.

Subsection 6.1.5: It is necessary to add this subsection to harmonize with federal requirements pursuant to 40 CFR §1066.501.

Subsections 6.1.5.1 through 6.1.5.4: It is necessary to modify and add these subsections to incorporate California-specific provisions.

Subsections (i) through (ii): It is necessary to delete these subsections, because they are no longer needed.

Section 7

It is necessary to add the first paragraph to harmonize with 40 CFR §1066.801.

It is necessary to add the second paragraph to specify that the only criterion to use alternative procedures is to obtain advance approval by the Executive Officer.

It is necessary to modify the third paragraph to clarify the requirement for testing which represents the worst case NMOG+NOx emissions. An example was added to describe how to select the worst case mode based on testing each mode, to further clarify this requirement.

It is necessary to add the fourth paragraph to allow a manufacturer to demonstrate compliance with the exhaust emission standards in lieu of testing every mode to determine the worst case mode by using non-

certification information. This option is necessary to provide additional flexibility to manufacturers.

It is necessary to modify the fifth paragraph to indicate that in-use compliance testing may be performed on a vehicle in any mode of operation.

Old Subsection 7.1: It is necessary to delete subsection G.7.1, because it no longer applies.

New Subsection 7.1

It is necessary to re-number this subsection (from 7.2 to 7.1), because subsections 7.1 has been deleted.

It is necessary to update the reference of §86.159-08 with a reference to the currently applicable section, 40 CFR §1066.831. These changes are needed to allow harmonization with federal regulations.

Subsections 7.1.1 through 7.1.5: It is necessary to modify and add these subsections to incorporate California-specific provisions.

Old Subsections 7.2.1 through 7.3.2.2: It is necessary to delete subsections G.7.2.1 through 7.3.2.2 because they no longer apply.

New Subsection 7.2

It is necessary to re-number this subsection (from 7.4 to 7.2), because the old subsections 7.2 and 7.3 have been deleted.

It is necessary to update the reference of §86.160-00 with a reference to the currently applicable section, 40 CFR §1066.835. These changes are needed to allow harmonization with federal regulations.

Subsections 7.2.1 through 7.1.4: It is necessary to modify and add these subsections to incorporate California-specific provisions.

Old Subsections 7.4.1 through 7.4.5: It is necessary to delete subsections G.7.4.1 through 7.4.5 because they no longer apply.

New Subsection 7.3: It is necessary to re-number this subsection (from 7.5 to 7.3), because the old subsections 7.3 and 7.4 have been deleted.

Section 8

It is necessary to amend this subsection to correct the name of the applicable referenced test procedure.

It is necessary to modify the subparagraphs within this subsection to correct editorial errors.

Section 9

Subsections 9.2 and 9.3: It is necessary to delete these subsections, because they no longer apply.

It is necessary to re-number subsections 9.4 through 9.7, because subsections 9.2 and 9.3 have been deleted.

Subsection 9.4: It is necessary to modify this subsection to reflect a change in the name of the requirement.

Section 10

It is necessary to modify the title of this section to fix an editorial error.

It is necessary to modify the subsections within this section to make the text more accurate.

Section 11: It is necessary to modify the subsections within this section to correct editorial errors.

Section 12: It is necessary to modify the subsections within this section to correct editorial errors.

Part H

It is necessary to modify the diagram in this subpart to reflect the name change of a referenced test.

List of Changes to Appendix J – "California Environmental Performance Label Specifications for 2009 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles"

Section 2. Requirements

Subsection (b)

Subsection (b)(5): It is necessary to update this subsection to reflect the new section number for the Environmental Performance Label Format Requirements, which is referenced herein.

Section 3. Global Warming Score

Old Subsection (a): It is necessary to remove this subsection, because the Global Warming Scores are no longer being calculated using the methodology described in this section. Instead, they are determined based on the ratings described by the United States Environmental Protection Agency (U.S. EPA) Smartway Vehicle Thresholds that are released annually.

Old Subsection (b): It is necessary to remove this subsection, because it is no longer needed.

Subsection (c) is re-numbered (a). This change is needed, because previous subsections are being deleted.

Subsection (a)(3): It is necessary to modify the table in this subsection to update the Global Warming Scores based on the U.S EPA Smartway Vehicle Thresholds.

Section 4. Smog Score

Old Subsection (a): It is necessary to remove this subsection, because the Smog Scores are being updated and are no longer based on an Ultra-Low-Emission Vehicle being assigned a smog score of 5.

New Subsection (a)

It is necessary to re-letter Subsection (b) as Subsection (a), because Subsection (a) has been deleted.

It is necessary to modify the table in this subsection to update the Smog Scores to include the LEV III emissions standards and to base the ratings on

those described by the United States Environmental Protection Agency (U.S. EPA) Smartway Vehicle Thresholds.

New Section 6. Global Warming and Smog Score Updates

It is necessary to add this section to describe the process that ARB staff will use to provide annual updates to the Smog and Global Warming Scores.

Old Sections 6, 7, and 8: It is necessary to re-number these sections as Sections 7, 8, and 9, because a new Section 6 has been added to these test procedures.