

ENCLOSURE B

Summary of 15-Day Changes to Proposed Regulation Order and Incorporated Test Procedures

Modifications to the Proposed Regulation Order.

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

Subsection (a)

Subsection (a)(4): It is necessary to revise this subsection to clarify that LEV III 50°F exhaust emission standards for CO and NO_x are 4,000 mile standards.

Subsection (a)(6): It is necessary to modify this subsection to improve clarity.

Subsection (a)(8)

Subsection (a)(8)(C)

Subsection (a)(8)(C)2: This subsection has been revised to allow interim in-use SFTP PM emission standards for all light-duty and medium-duty passenger vehicles certifying to these standards through the 2023 model year. The purpose of this change is to provide interim relief during the phase-in of the SFTP PM certification standards.

Subsection (b)

Subsection (b)(3)

Subsection (b)(3)(A): The footnote in the table for the 45-day notice language stated that the LEV II standards apply through the 2021 model year. However, this statement conflicts with CCR §1961, which sunsets the LEV II standards after the 2019 model year. It is, therefore, necessary to correct the footnote to align with CCR §1961.

Subsection (c)

Subsection (c)(2): It is necessary to amend this subsection to clarify that if a manufacturer of medium-duty vehicles complies with the LEV III requirements using a percent phase-in each year, credits and debits should be calculated based on meeting the percent phase-in.

Alternatively, if a manufacturer of medium-duty vehicles complies with the LEV III requirements using a fleet average phase-in each year, credits and debits should be calculated based on meeting the fleet average phase-in. A manufacturer is not required to calculate both.

Subsection (c)(2)(B)

Subsection (c)(2)(B)2: It is necessary to add text to this subsection to allow NMOG+NOx credits or debits earned for MDVs 8,501-10,000 lbs. GVWR excluding MDPVs, and for MDVs 10,001-14,000 lbs. GVWR shall be summed together to determine the total g/mi NMOG+NOx credits or debits accrued by the manufacturer for the model year.

Modifications to §1976. Standards and Test Procedures for Motor Vehicle Fuel Evaporative Emissions.

Subsection (b)

Subsection (b)(1)(G)2: This change is needed to clarify the phase-in requirement to the LEV III evaporative emission standards.

**Summary of 15-Day Changes to “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”**

Part I. Subpart B

Subsection 1

Subsection 1.1: 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: It is necessary to modify this definition to improve clarity.

Part I. Subpart D

Subsection 1

Subsection 1.10: It is necessary to modify this subsection to improve clarity.

Subsection 2

Subsection 2.3: It is necessary to modify this subsection to indicate that SFTP standards do not apply at high altitude conditions.

Part I. Subpart E

Subsection 1

Subsection 1.4

Subsection 1.4.1: It is necessary to revise this subsection to clarify that LEV II 50°F exhaust emission standards for CO and NOx are 4,000 mile standards.

Subsection 1.4.2: It is necessary to revise this subsection to clarify that LEV III 50°F exhaust emission standards for CO and NOx are 4,000 mile standards.

Subsection 1.6: It is necessary to modify this subsection to improve clarity.

Subsection 2

Subsection 2.3

Subsection 2.3.1: The footnote in the table for the 45-day notice language stated that the LEV II standards apply through the 2021 model year. However, this statement conflicts with CCR §1961, which sunsets the LEV II standards after the 2019 model year. It is, therefore, necessary to correct the footnote to align with CCR §1961.

Subsection 3

Subsection 3.1

Subsection 3.1.2: It is necessary to amend this subsection to clarify that if a manufacturer of medium-duty vehicles complies with the LEV III requirements using a percent phase-in each year, credits and debits should be calculated based on meeting the percent phase-in. Alternatively, if a manufacturer of medium-duty vehicles complies with the LEV III requirements using a fleet average phase-in each year, credits and debits should be calculated based on meeting the fleet average phase-in. A manufacturer is not required to calculate both.

Subsection 3.1.2.2

Subsection 3.1.2.2.2: It is necessary to add text to this subsection to clarify that NMOG+NO_x credits or debits earned for MDVs 8,501-10,000 lbs. GVWR excluding MDPVs, and for MDVs 10,001-14,000 lbs. GVWR shall be summed together to determine the total g/mi NMOG+NO_x credits or debits accrued by the manufacturer for the model year.

Subsection 4: It is necessary to modify this subsection to show that there is an exception to the requirements in this introductory paragraph.

Subsection 4.3

Subsection 4.3.2: This subsection has been revised to allow interim in-use SFTP PM emission standards for all light-duty and medium-duty passenger vehicles certifying to these standards through the 2023 model year. The purpose of this change is to provide interim relief during the phase-in of the SFTP PM certification standards.

Part I. Subpart G

Subsection 2

Subsection 2.3

Subsection 2.3.1: It is necessary to add language to this subsection to specify the criterion for selecting the emission data vehicle for PM testing.

Subsection 2.3.2: It is necessary to modify this subsection to correct an inconsistency between this subsection and subsection G.3.6.

Subsection 3

Subsection 3.2

Subsection 3.2.2: It is necessary to modify this subsection to add language back into the test procedures that was accidentally deleted.

Subsection 3.4: It is necessary to modify this subsection to improve clarity.

Part I. Subpart H

Subsection 1

Subsection 1.4: It is necessary to modify this subsection to clarify the intent of this subsection.

Part I. Subpart I

Subsection 1

Subsection 1.1

Subsection 1.1.3: It is necessary to modify this subsection to change the criteria for high mileage emission testing.

Part I. Subpart J

Subsection 1: It is necessary to modify this subsection to correct an error in the referenced incorporated sections of the CFR.

Part II. Subpart A

Subsection 100.3

Subsection 100.3.1

Subsection 100.3.1.1: It is necessary to modify this subsection to state that whatever fuel is used by a manufacturer for certification will also be used by ARB for testing to confirm compliance with exhaust emission standards.

Subsection 100.3.1.2

It is necessary to modify the introductory paragraph of this subsection to improve clarity.

It is necessary to modify the table to expand the allowable ethanol limit for California certification gasoline for LEV III vehicles.

Subsection 100.3.4

Subsection 100.3.4.1: It is necessary to modify this subsection to state that whatever fuel is used by a manufacturer for certification will also be used by ARB for testing to confirm compliance with exhaust emission standards.

Summary of 15-Day Changes to “California Non-Methane Organic Gas Test Procedures”

Cover Page: ARB Division Responsible for Test Procedures

The cover page has been updated to reflect the recent ARB reorganization. This change was necessary for clarity.

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

Section 5

Subsection 5.2

Subsection 5.2.5: The atomic masses of carbon and hydrogen have been changed to correct previous errors. These changes are necessary for accuracy.

Part D, Determination of C₂ to C₅ Hydrocarbons in Automotive Source Samples by Gas Chromatography, Method No. 1002

Section 3

Subsection 3.2: This section has been added to clarify that all sample containers, regardless of composition, should not cause sample loss or contamination. This is necessary for clarity and for analytical accuracy.

Subsection 3.3: This section has been renumbered. It is necessary to renumber the section following the addition of Subsection 3.2.

Subsection 3.3.1: This section has been added to clarify that the sample stability times specified in Subsection 3.3 refer only to certain types of sample collection bag materials and that, if other materials or types of sample containers are used, sample stability must be investigated. This change is necessary for clarity.

Section 4

Subsection 4.1: The spellings of two types of sample bag material have been corrected. These changes are necessary to correct prior typographical errors.

Section 4.2: The word “Tedlar” has been replaced with “sample” to clarify that Tedlar® is not the only type of sample collection bag material permitted. This change is necessary for clarity.

Section 8

Subsection 8.5: A formula has been corrected to replace a divisor line that had inadvertently been deleted in a prior revision. This change is necessary for accuracy and clarity.

Part E, Determination of C₆ to C₁₂ Hydrocarbons in Automotive Source Samples by Gas Chromatography, Method No. 1003.

Section 3

Subsection 3.2: This section has been added to clarify that all sample containers, regardless of composition, should not cause sample loss or contamination. This is necessary for clarity and for analytical accuracy.

Subsection 3.3

This subsection has been renumbered. It is necessary to renumber the section following the addition of new Subsection 3.2.

“Kynar®” and “Solef®” were added as sample bag materials to clarify that the sample stability discussed applied to them as well. This change is necessary for clarity.

Subsection 3.3.1: This subsection has been added to clarify that the sample stability times specified in Subsection 3.3 refer only to certain types of sample collection bag materials and that, if other materials or types of sample containers are used, sample stability must be investigated. This change is necessary for clarity.

Section 4

Subsection 4.1: The spellings of two types of sample bag material have been corrected. These changes are necessary to correct prior typographical errors.

Subsection 4.2: The word “Tedlar” has been replaced with “sample” to clarify that Tedlar® is not the only type of sample collection bag material permitted. This change is necessary for clarity.

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

Section 3

Subsection 3.3

Subsection 3.3.2: This section was added as a 45-day change to clarify the meaning of section 3.3. The formula is currently being corrected to include "x 100" to match the unit of percentage. This change is necessary for accuracy and clarity.

Part G, Determination of NMOG Mass Emissions

Section 3

Subsection 3.2: The atomic masses of carbon and hydrogen have been changed to correct previous errors. These changes are necessary for accuracy.

Section 4

Subsection 4.1: A statement has been added to clarify that other sample bag material or sample collection containers may be used, provided they are made of non-reactive material and do not cause sample loss or contamination. This addition is necessary for clarity.

Subsection 4.4

Subsection 4.4.1: The atomic masses of carbon and hydrogen have been changed to correct a previous error. The resultant molecular weight and density of benzene, calculated based on the atomic masses of carbon and hydrogen, have been changed as well. These changes are necessary for accuracy.

Section 5

Section 5.4

Subsection 5.4.1: The atomic masses of carbon and hydrogen have been changed to correct a previous error. The resultant molecular weight and density of ethanol, calculated based on the atomic masses of carbon, hydrogen, and oxygen, have been changed as well. These changes are necessary for accuracy.

Section 6

Section 6.4

Section 6.4.1: The atomic masses of carbon and hydrogen have been changed to correct a previous error. The resultant molecular weight, density, and sample concentration of formaldehyde, calculated based on the atomic masses of carbon, hydrogen, and oxygen, have been changed as well. These changes are necessary for accuracy.

Summary of 15-Day Changes to new “California Non-Methane Organic Gas Test Procedures for 2017 and Subsequent Model Motor Vehicles”

Cover Page: ARB Division Responsible for Test Procedures

The cover page has been updated to reflect the recent ARB reorganization. This change was necessary for clarity.

Part A, General Applicability and Requirements

Section 2

List Item G: The word “Mass” has been removed from the title of Section G, as the mass calculations are no longer included in this document. This change is necessary for clarity.

Section 3

The table has been modified to indicate that carbonyl analysis is required for CNG and LPG fuels. These requirements were removed in error in the 45-day notice. These changes are required to be consistent with “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,” Section D.1.10.

The reference for alternatives to direct measurement of carbonyls and/or alcohols has been changed from 40 CFR 1066, Section 1066.635, “NMOG determination,” Sections (c) through (f) to “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,” Section D.1.10.

A caveat has been added to clarify that the method, NMHC by GC, is included for research purposes only. This change is necessary for accuracy and clarity.

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

Section 5

Subsection 5.5

Subsection 5.5.1: The air purity has been changed to reduce the amount of hydrocarbon contamination allowed. This change is necessary to harmonize with U.S. EPA requirements.

Part D, Determination of C₂ to C₅ Hydrocarbons in Automotive Source Samples by Gas Chromatography, Method No. 1002

Section 1

Subsection 1.2: This section has been added to specify that this method is for research purposes and its use is not required. This addition is necessary for accuracy and clarity.

Subsection 1.3

This section was added due to the insertion of the new Subsection 1.2. It is necessary to renumber the sections because of the addition of Subsection 1.2.

The words “shall be” and “shall” have been changed to “are typically” and “should,” respectively, as this is no longer a required method. This change is necessary for accuracy and clarity.

Subsection 1.4

This subsection has been renumbered due the addition of Subsection 1.2. It is necessary to renumber the sections because of the addition of Subsection 1.2.

Language about the use of alternate methods was changed to reflect that this is now a research method, not a required method. This change was necessary for accuracy and clarity.

Subsection 1.5: This subsection was renumbered due the addition of Subsection 1.2. It is necessary to renumber the subsections because of the addition of Subsection 1.2.

Section 3

Subsection 3.2: This subsection has been added to clarify that all sample containers, regardless of composition, should not cause sample loss or contamination. This is necessary for clarity and for analytical accuracy.

Subsection 3.3: This subsection was renumbered. It is necessary to renumber the section following the addition of Subsection 3.2.

Subsection 3.3.1: This section was added to clarify that the sample stability times specified in Subsection 3.3 refer only to certain types of sample collection bag materials and that, if other materials or types of sample containers are used, sample stability must be investigated. This change is necessary for clarity.

Section 4

Subsection 4.1: The spellings of two types of sample bag material were corrected. These changes were necessary to correct prior typographical errors.

Subsection 4.2: The word “Tedlar” was replaced with “sample” to clarify that Tedlar is not the only type of sample collection bag material permitted. This change is necessary for clarity.

Section 5

Subsection 5.3: The air purity has been changed to reduce the amount of hydrocarbon contamination allowed. This change is necessary to harmonize with US EPA requirements.

Section 8

Subsection 8.5: A formula was corrected to replace a divisor line that had inadvertently been deleted in a prior revision. This change is necessary for accuracy and clarity.

Part E, Determination of C₆ to C₁₂ Hydrocarbons in Automotive Source Samples by Gas Chromatography, Method No. 1003

Section 1

Subsection 1.2: This subsection has been added to specify that this method is for research purposes and its use is not required. This addition is necessary for accuracy and clarity.

Subsection 1.3

The words “shall be” and “shall” have been changed to “are typically” and “should,” respectively, as this is no longer a required method. This change is necessary for accuracy and clarity.

Subsection 1.4

This subsection has been renumbered due the addition of Subsection 1.2. It is necessary to renumber the sections because of the addition of Subsection 1.2.

Language about the use of alternate methods was changed to reflect that this is now a research method, not a required method. This change was necessary for accuracy and clarity.

Subsection 1.5: This subsection has been renumbered due the addition of Subsection 1.2. It is necessary to renumber the subsections because of the addition of Subsection 1.2.

Section 3

Subsection 3.2: This section has been added to clarify that all sample containers, regardless of composition, should not cause sample loss or contamination. This is necessary for clarity and for analytical accuracy.

Subsection 3.3

This subsection has been renumbered. It is necessary to renumber the subsection following the addition of Subsection 3.2.

“Kynar[®]” and “Solef[®]” were added as sample bag materials to clarify that the sample stability discussed applied to them as well. This change is necessary for clarity.

Subsection 3.3.1: This subsection has been added to clarify that the sample stability times specified in Subsection 3.3 refer only to certain types of sample collection bag materials and that, if other materials or types of sample containers are used, sample stability must be investigated. This change is necessary for clarity.

Section 4

Subsection 4.1: The spellings of two types of sample bag material have been corrected. These changes are necessary to correct prior typographical errors.

Subsection 4.2: The word “Tedlar” has been replaced with “sample” to clarify that Tedlar[®] is not the only type of sample collection bag material permitted. This change is necessary for clarity.

Section 5

Subsection 5.3: The air purity has been changed to reduce the amount of hydrocarbon contamination allowed. This change is necessary to harmonize with U.S. EPA requirements.

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

Section 3

Subsection 3.3

Subsection 3.3.2: This subsection was added to clarify the meaning of subsection 3.3. The formula has been corrected to include "x 100" to match the unit of percentage. This change is necessary for accuracy and clarity.

Part G, Determination of NMOG Emissions

Section 1

Subsection 1.3: The reference to 40 CFR Part 1066, Section 1066.935 was changed to Section 1066.635 to correct a typographical error. This change is necessary for accuracy.

Section 2

Subsection 2.1: Language was added to specify that this method is for research purposes and its use is not required. This addition is necessary for accuracy and clarity.

Section 3

Subsection 3.1: A statement was added to clarify that other sample bag material or sample collection containers may be used, provided they are made of non-reactive material and do not cause sample loss or contamination. This addition is necessary for clarity.

Subsection 3.2

Subsection 3.2.1

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 the NMOG Test Procedures. The “DF” was subsequently written out as “dilution factor, DF.” This change was necessary for clarity.

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. Subsequently, the spelling of “individual” was corrected. This change is necessary to correct a typographical error.

Subsection 3.3

Subsection 3.3.1: The atomic masses of carbon and hydrogen have been changed to correct a previous error. The resultant molecular weight and density of benzene, calculated based on the atomic masses of carbon and hydrogen, have been changed as well. These changes are necessary for accuracy.

Section 4

Subsection 4.3

Subsection 4.3.1: The atomic masses of carbon and hydrogen have been changed to correct a previous error. The resultant molecular weight and density of ethanol, calculated based on the atomic masses of carbon, hydrogen, and oxygen, have been changed as well. These changes are necessary for accuracy.

Section 5

Subsection 5.3

Section 5.3.1: The atomic masses of carbon and hydrogen have been changed to correct a previous error. The resultant molecular weight, density, and sample concentration of formaldehyde, calculated based on the atomic masses of carbon, hydrogen, and oxygen, have been changed as well. These changes are necessary for accuracy.

Summary of 15-Day Changes to “California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles”

Part I. Subpart A

Section 1

Subsection 1.7: This change is needed to clarify the reference to 40 CFR §1066, which better harmonizes California procedures with federal procedures.

Part I. Subpart E

Section 1

Subsection 1.(e)(ii): This change is needed to clarify the phase-in requirement to the LEV III evaporative emission standards.

Summary of 15-Day Changes to “California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles”

Subpart S

Section I

Subsection I.A

Subsection I.A.2: It is necessary to modify this subsection to incorporate references to the new exhaust test procedures.

Subsection I.A.9: This change is needed to clarify the reference to 40 CFR §1066, which better harmonizes California procedures with federal procedures.

Subsection I.B

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

Subpart B

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

Section II

Subsection II.B

Subsections II.B.4.1, II.B.4.3, II.B.4.3.2, II.B.4.4.1, II.B.4.4.3: It is necessary to modify these subsections to incorporate references to the new exhaust test procedures.

Summary of 15-Day Changes to “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines”

Part I. Subpart A

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.

Part II. Subpart H

1065.710

Section 2

Subparagraph (b)(1): It is necessary to modify this subparagraph to allow the use of federal E10 certification gasoline as an alternative to California certification gasoline for 2004 through 2019 model year engines.

Subparagraph (b)(2): It is necessary to modify this subsection to state that whatever fuel is used by a manufacturer for certification will also be used by ARB for testing to confirm compliance with exhaust emission standards.

1065.725

Section B

Subsection 2

Subsection 2.1: It is necessary to modify this subsection to state that whatever fuel is used by a manufacturer for certification will also be used by ARB for testing to confirm compliance with exhaust emission standards.

Part II. Subpart N

86.1305: 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.

Summary of 15-Day Changes to “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles”

Part I. Subpart A

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.

Part II. Subpart H

1065.701

Section B

Subsection 1

Subsection 1.1: It is necessary to modify this subsection to change the referenced section in the CFR to incorporate the currently applicable of the CFR. This change is needed to allow harmonization with federal regulations.

Subsection 2

Subsection 2.1: It is necessary to modify this subsection to change the referenced section in the CFR to incorporate the currently applicable of the CFR. This change is needed to allow harmonization with federal regulations.

Subsection 2.2: It is necessary to modify this subsection to correct an error in the referenced section in the CFR.

1065.725

Section B

Subsection 2

Subsection 2.1: It is necessary to modify this subsection to state that whatever fuel is used by a manufacturer for certification will also be used by ARB for testing to confirm compliance with exhaust emission standards.

Part II. Subpart N

86.1305: 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.

Summary of 15-Day Changes to “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”

Section B

Subsection B.1

“All-Electric Range Test”: It is necessary to clarify the mode in which an electric vehicle or a hybrid electric vehicle should be operated in when performing the All-Electric Range Test.

“Charge-increasing operation”: It is necessary to clarify how to test a PHEV in charge-increasing operation. In addition, it is necessary to distinguish a charge-increase driver-selectable mode from charge-increasing operation since the testing requirements for these two types of charge-increasing behaviors are different.

“Default Mode”: It is necessary to add this definition for clarity on how to properly perform the All-Electric Range Test for electric vehicles and hybrid electric vehicles.

“Driver-Selectable Mode”: It is necessary to delete “of the engine” from the term driver-selectable mode because the engine is not always affected by a driver-selectable mode.

“Normal Mode”: It is necessary to add this definition for clarity on how to properly perform the All-Electric Range Test for electric vehicles and hybrid electric vehicles.

Section D

Subsection D.2

Subsection D.2.15

Subsection D.2.15(d): It is necessary to add language to require a manufacturer to report the “end-of-test option(s) selected for the Urban Charge-Sustaining Emission Test.”

Subsection D.2.15(f): It is necessary to delete “charge-sustaining” from the word “Highway Charge-Sustaining Emission Test” since it is not necessary to describe a highway emission test as charge-sustaining.

Subsection D.2.15(g): It is necessary to correct the letter sequence from (f) to (g) to avoid redundant lettering.

Subsection D.2.15(h): It is necessary to correct the letter sequence from (g) to (h) to avoid redundant lettering.

Section F

Introductory Paragraph 2: It is necessary to add “in accordance with the roll-out provisions in Part II, Subpart A of the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles” after “unless otherwise noted” to ensure that the roll-out provisions in Part II, Subpart A are maintained.

Subsection F.6

Introductory Paragraph 1: Language was accidentally deleted from this paragraph as part of the proposed 45-day changes. It is necessary to add the qualifying language back into this paragraph to ensure that any alternative test procedure that is requested yields equivalent emission results as the procedure set forth in this subsection.

Introductory Paragraph 2:

It is necessary to delete “the Urban Emission Test, Highway Emission Test, US06 Emission Test, and the SC03 Emission Test” since this subsection describes urban emission testing and therefore, it is not necessary to restate “Urban Emission Test,” and the other three emission tests should not be included in this subsection.

It is necessary to make grammatical corrections by deleting the phrase “the vehicle must be tested” and replace with “emission testing must be done.”

It is necessary to add the descriptive phrase of “one driver-selectable” to the word mode to clarify that this mode is manually activated by the driver of the vehicle as opposed to the vehicle automatically engaging the mode.

It is necessary to specify that worst case emission testing is required to demonstrate compliance with applicable emission standards.

Introductory Paragraph 3: It is necessary to delete “of the engine” from the term driver-selectable mode because the engine is not always affected by a driver-selectable mode.

Subsection F.6.1

Subsection F.6.1.3

It is necessary to make the grammatical correction of the word “make” to “makes” for proper subject-verb agreement.

It is necessary to add the word “key-off” to describe the type of soak.

It is necessary to clarify that the UDDS cycle can be considered a cycle with two phases.

It is necessary to delete the restriction of only using one sample for the entire UDDS cycle since the cycle can be considered a two phase cycle where a sample can be taken for each phase.

Subsection F.6.2

Subsection F.6.2.3: It is necessary to clarify what driving cycle is to be used to properly precondition a test vehicle.

Subsection F.6.2.4: It is necessary to be more succinct regarding the setting of the battery state-of-charge by changing a sentence into a descriptive phrase.

Subsection F.6.2.5: It is necessary to reference the fuel drain and fill requirements in the “California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles.”

Subsection F.6.2.6: It is necessary to clarify that following the fuel drain and fill, a 12 to 36 hour soak is required, and that during the soak the canister can be preconditioned and the battery state-of-charge can be adjusted.

Subsection F.6.3

Subsection F.6.3.1: It is necessary to correct the word “test” by replacing it with “UDDS cycle.”

Subsection F.6.3.2: It is necessary to correct the inadvertent omissions of the “(b)(5)” reference and the procedures involving flow weighting of PM filters.

Subsection F.6.3.3

It is necessary to reword the sentence by removing the personal pronouns, correct the spelling of “stabilized” and to replace the word “portion” with “phase” for improved clarity.

It is necessary to correct the word “test” by replacing it with “UDDS cycle” and the word “bag” with “filters” to improve clarity.

Subsection F.6.3.5: It is necessary to remove the reference “(b)(5)” from this list of subparagraphs to be deleted.

Subsection F.6.3.6: It is necessary to correct the inadvertent omission of the “(b)(5)” reference.

Subsection F.6.3.10: It is necessary to correct the word “test” by replacing it with “UDDS cycle” and add the clarification that the cycle is to be driven in the driver-selectable mode.

Subsection F.6.3.11: It is necessary to correct the reference of “(d)” to “(d)(1)(ii)” and make grammatical corrections.

Subsection F.6.3.14: It is necessary to correct the word “test” by replacing it with “UDDS cycle” and ensure that the same driver-selectable mode is continued for the test.

Subsection F.6.3.18 through F.6.3.18.4: It is necessary to add language regarding an additional end-of-test criterion to provide improved flexibility for validating a test.

Subsection F.6.4

Subsection F.6.4.2

It is necessary to replace the word “bag” with “phase” to improve accuracy.

It is necessary to correct the word “transition” by replacing it with “transient.”

It is necessary to add the words “cold” and “hot” to clarify to which transient or stabilized phase is being referred.

It is necessary to correct the phase number references in the descriptions for m_h and D_h .

Subsection F.6.5

Subsection F.6.5.2

Subsection F.6.5.2(1)

It is necessary to correct the term “UDDS test interval” to “UDDS cycle” in the descriptions for $m_{PM-CUDDS}$ and $m_{PM-hUDDS}$.

It is necessary to replace the word “bag” with “phase” to improve accuracy.

It is necessary to delete the description of the $m_{PM-hUDDS}$ as a composite of phase 2 and phase 3, which is not applicable for PHEV testing.

It is necessary to correct the phase number references in the description for D_h .

Subsection F.6.5.3: It is necessary to add this subparagraph that was inadvertently missing.

Subsection F.6.5.4: It is necessary to add this subparagraph that was inadvertently missing.

Subsection F.7

It is necessary to add an introductory paragraph to specify that worst case emission testing is required to demonstrate compliance with applicable emission standards.

Subsection F.7.1

Subsection F.7.1.1

It is necessary to clarify that driver-selectable modes are what is required to be determined as being available.

It is necessary to add “UDDS” to clarify which preconditioning drive is being described.

It is necessary to delete the words “in unusual circumstances” from the last sentence, because the phrase is not defined, and to add clarifying language to this sentence.

Subsection F.7.1.2: It is necessary to add language to clarify how driver-selectable modes are to be tested.

Subsection F.7.1.4 through F.7.1.4.4: It is necessary to add language regarding an additional end-of-test criterion to provide improved flexibility for validating a test.

Subsection F.8

Introductory Paragraphs

It is necessary to add an introductory paragraph to specify that worst case emission testing is required to demonstrate compliance with applicable emission standards.

It is necessary to add “except as noted” that was inadvertently not previously added to complete the instruction.

Subsection F.8.1

Subsection F.8.1.1: It is necessary to correct the reference from subparagraph (b)(iii)(2) to subparagraph (b)(1).

Subsection F.8.1.2: It is necessary to delete the reference to subparagraph (b)(3) and replace with subparagraph (b)(1)(i) to clarify which test cycles subparagraph (b)(1)(i) would refer to for aggressive-driving tests.

Subsection F.8.1.3: It is necessary to delete the references to subparagraphs (b)(3)(i) through (e)(2)(iii) and replace with subparagraph (b)(1)(ii) to clarify to which test cycles subparagraph (b)(1)(ii) would refer to following 72 hours of no testing.

Subsection F.8.1.4: It is necessary to delete the references to subparagraph (e)(3) and replace with replace with subparagraph (b)(1)(iii) to clarify which test cycles subparagraph (b)(1)(iii) would refer to regarding ambient temperature conditions for testing.

Subsection F.8.1.5: It is necessary to correct the reference from subparagraph (e)(4) to subparagraphs (b)(2) to (b)(3)(i).

Subsection F.8.1.6: It is necessary to add language to clarify how driver-selectable modes are to be tested.

Subsection F.8.1.7: It is necessary to add language to clarify how subparagraphs (b)(3)(ii)(A) through (b)(3)(ii)(B) are to be addressed.

Subsection F.8.1.8: It is necessary to add language that amends subparagraph (b)(3)(ii)(C) to refer to the appropriate test cycle.

Subsection F.8.1.9: It is necessary to add language to clarify how subparagraphs (b)(3)(ii)(D) through (e)(2)(iii) are to be addressed.

Subsection F.8.1.10: It is necessary to add language to amend subparagraph (e)(3) to clarify how a test can be validated and to delete unnecessary language.

Subsection F.8.1.11: It is necessary to add language to clarify how subparagraph (e)(4) is to be addressed.

Subsection F.8.1.12 through F.8.1.12.4: It is necessary to add language regarding an additional end-of-test criterion to provide improved flexibility for validating a test.

Subsection F.8.2

Subsection F.8.2.2

It is necessary to replace the word “bag” with “phase” to improve accuracy.

It is necessary to clarify which test cycles subparagraph (b)(1)(i) would refer to for aggressive-driving tests and when to activate driver-selectable modes.

It is necessary to clarify that the UDDS cycle can be used to perform a preconditioning drive in place of another cycle if more than two hours have passed since the last exhaust emission test.

Subsection F.8.2.5: It is necessary to add language to clarify how subparagraphs (d)(3) through (f)(3)(iv) are to be addressed.

Subsections F.8.2.6 through F.8.2.6.4: It is necessary to add language regarding an additional end-of-test criterion to provide improved flexibility for validating a test.

Subsection F.10: It is necessary to add language to provide procedures for 50°F and 20°F testing.

Section G

Introductory Paragraph 2: It is necessary to add “in accordance with the roll-out provisions in Part II, Subpart A of the “California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles” after “unless otherwise noted” to ensure that the roll-out provisions in Part II, Subpart A are maintained.

Subsection G.5

Introductory Paragraph 1: Language was accidentally deleted from this paragraph as part of the proposed 45-day changes. It is necessary to add the qualifying language back into this paragraph to ensure that any alternative test procedure that is requested yields equivalent emission results as the procedure set forth in this subsection.

Introductory Paragraph 2: It is necessary to clarify that, for the purpose of determining Urban All-Electric Range and Urban Equivalent All-Electric Range, the vehicle shall be tested on a range test as opposed to an emission test and in normal mode if default mode is not available.

Introductory Paragraph 3: It is necessary to clarify that the vehicle shall be tested on an emission test as opposed to a range test.

Introductory Paragraph 4

It is necessary to clarify that the vehicle shall be tested on an emission test as opposed to a range test.

It is necessary to clarify that in the example given, driver-selectable modes are tested when the vehicle is in distinct operations.

It is necessary to add language clarifying that if a vehicle qualifies for the Alternative Urban Charge-Depleting Emission Test, then the vehicle would be exempt from testing on the other vehicle tests. Furthermore, the vehicle would only be required to be tested on the one driver-selectable mode that represents the worst case urban NMOG + NO_x emissions.

It is necessary to clarify that certain driver-selectable modes and vehicle operations are not compatible for testing purposes.

Introductory Paragraph 5: It is necessary to delete “of operation” to clarify that driver-selectable modes are considered modes not vehicle operations.

Introductory Paragraph 6

It is necessary to clarify that vehicles must qualify for the Alternative Urban Charge-Depleting Emission Test prior to being tested on the Alternative Urban Charge-Depleting Emissions Test to determine the urban worst case NMOG + NO_x emissions.

It is necessary to correct a typographical error by replacing the word “require” to “required.”

It is necessary to clarify that vehicles are not evaluated but emission tested. It is necessary to clarify that driver-selectable modes are what is required to be determined as being available.

Introductory Paragraph 7

It is necessary to delete “of the engine” from the term driver-selectable mode because the engine is not always affected by a driver-selectable mode.

It is necessary to clarify that vehicles that are certified to the Alternative Urban Charge-Depleting Emission Test may be subjected to confirmatory and in-use compliance testing in any driver-selectable mode but only using the Alternative Urban Charge-Depleting Emission Test.

Subsection G.5.1

Subsection G.5.1.3

It is necessary to correct a typographical error by replacing the word “make” with “makes.”

It is necessary to clarify that the UDDS cycle can be considered a cycle with two phases.

Subsection G.5.2

Subsection G.5.2.1

It is necessary to clarify how a vehicle with driver-selectable modes is to be preconditioned for a test.

It is necessary to clarify how to set the initial state-of-charge for a vehicle to be tested in charge-increasing operation.

Subsection G.5.2.2: It is necessary to correct an inadvertent deletion to the reference "III.D.1.4" where the ".4" has been reinstated.

Subsection G.5.2.5

It is necessary to correct a typographical error by removing an unnecessary comma.

It is necessary to clarify the point in the test sequence where vehicle preconditioning is to be done.

It is necessary to clarify that the initial state-of-charge may be set by driving additional vehicle preconditioning UDDS cycles.

Subsection G.5.2.8

It is necessary to delete the requirement to charge the vehicle to full state-of-charge each time the Alternative Charge-Depleting Emission Test is performed.

It is necessary to clarify that the initial state-of-charge may be set by discharging or charging the vehicle during the vehicle soak period.

It is necessary to clarify that for the Alternative Charge-Depleting Emission Test, only the first time performing this test would require that the vehicle to be fully charged.

Subsection G.5.3

Subsection G.5.3.1: It is necessary to correct the word "test" by replacing it with "UDDS cycle" and clarify that driver-selectable modes are to be tested on the Urban Charge-Sustaining Emission Test.

Subsection G.5.3.2: It is necessary to correct the inadvertent omissions of the "(b)(5)" reference and the procedures involving flow weighting of PM filters.

Subsection G.5.3.3

It is necessary to reword the sentence by removing the personal pronouns, correct the spelling of “stabilized” and to replace the word “portion” with “phase” for improved clarity.

It is necessary to correct the word “test” by replacing it with “UDDS cycle” and the word “bag” with “filters” to improve clarity.

Subsection G.5.3.5: It is necessary to remove the reference “(b)(5)” from this list of subparagraphs to be deleted.

Subsection G.5.3.6: It is necessary to correct the inadvertent omission of the “(b)(5)” reference.

Subsection G.5.3.10: It is necessary to improve clarity by replacing “charge-sustaining cold start test” with the more specific “cold start Urban Charge-Sustaining Emission Test.”

Subsection G.5.3.11: It is necessary to improve the grammar by replacing “through” with “and” since there are only two subparagraphs that are referenced.

Subsection G.5.3.14: It is necessary to correct the word “test” by replacing it with “UDDS cycle.”

Subsection G.5.3.17

It is necessary to include charge-increasing driver-selectable mode in the option to validate a test where the state-of-charge at the end of the test is higher than at the beginning of the test.

It is necessary to correct the word “test” by replacing it with “UDDS cycle.”

Subsection G.5.3.18 through G.5.3.18.4: It is necessary to add language regarding an additional end-of-test criterion to provide improved flexibility for validating a test.

Subsection G.5.4

Subsection G.5.4.1

It is necessary to clarify that the vehicle shall be fully charged for the Urban Charge-Depleting Emission Test.

It is necessary to clarify that the all-electric range measured when using driver-selectable modes other than default or normal cannot be considered for urban all-electric range certification.

Subsection G.5.4.2

Subsection G.5.4.2.1

It is necessary to correct the word “test” by replacing it with “UDDS cycle” and clarify that driver-selectable modes are to be appropriately tested with charge-depleting operation since some driver-selectable modes such as a charge-increasing mode cannot function while the vehicle is in charge-depleting operation.

It is necessary to add language to provide a method to address end-of-cycle engine cold starts that result in semi-cold starts in the subsequent hot-start UDDS cycle.

Subsection G.5.4.2.2: It is necessary to correct the inadvertent omissions of the “(b)(5)” reference and the procedures involving flow weighting of PM filters.

Subsection G.5.4.2.3

It is necessary to reword the sentence by removing the personal pronouns, correct the spelling of “stabilized” and to replace the word “portion” with “phase” for improved clarity.

It is necessary to correct the word “test” by replacing it with “UDDS cycle” and the word “bag” with “filters” to improve accuracy.

Subsection G.5.4.2.5: It is necessary to remove the reference “(b)(5)” from this list of subparagraphs to be deleted.

Subsection G.5.4.2.6: It is necessary to correct the inadvertent omission of the “(b)(5)” reference.

Subsection G.5.4.2.10: It is necessary to correct “charge-sustaining cold start test” with the correct test name of “cold start Urban Charge-Depleting Emission Test.”

Subsection G.5.4.2.11: It is necessary to improve the grammar by replacing “through” with “and” since there are only two subparagraphs that are referenced.

Subsection G.5.4.2.14: It is necessary to correct the word “test” by replacing it with “UDDS cycle.”

Subsection G.5.4.2.17: It is necessary to correct the inconsistency of having an option to validate a charge-increasing operation on a charge-depleting test by deleting this error.

Subsection G.5.4.3: It is necessary to correct the word “test” by replacing it with “UDDS cycle” and the word “criterion” with “criteria” since there are two options to validate urban charge-depleting testing. It is necessary to clarify that this subsection is for validating testing.

Subsection G.5.4.3.2: It is necessary to correct this subsection by deleting the end-of-test criterion meant for charge-sustaining testing since this subsection is within a section that details charge-depleting test requirements.

Subsection G.5.4.3.3: It is necessary to delete this subsection since Appendix C of SAE J1711 only applies to charge-sustaining tests and this subsection is within a section that details charge-depleting test requirements.

Subsection G.5.4.3.4: It is necessary to renumber this subsection since subsection G.5.4.3.3 was deleted. It is necessary to correct the reference from (a)(2)(iv) to (a)(2)(iii).

Subsection G.5.4.5

Introductory Paragraph 1

It is necessary to clarify that the all-electric range that qualifies vehicles for the Alternative Urban Charge-Depleting Emission Test is the Urban All-Electric Range.

It is necessary to add section G.5.3 since the Alternative Urban Charge-Depleting Emission Test can be done in lieu of the Urban Charge-Sustaining Test.

It is necessary to add language to establish criteria for calculating the AER/EAER ratio.

Introductory Paragraph 2: It is necessary to delete the word “subparagraphs” and replace it with “subsections” since the reference is to subsections and not subparagraphs.

Subsection G.5.4.5(ii)

It is necessary to clarify that the vehicle shall be in default mode or normal mode when being tested for urban all-electric range.

It is necessary to make a correction to continue the test after the engine starts until charge-sustaining operation is achieved.

It is necessary to clarify how a full Urban Charge-Depleting Emission Test may be performed as an option following the Urban All-Electric Range Test.

It is necessary to require vehicle preconditioning in accordance with section G.5.2 to perform the full Urban Charge-Depleting Emission Test option

It is necessary to add language to specify that the Urban All Electric Range as measured in accordance with this subsection G.5.4.5(ii) and the full Urban Charge-Depleting Emission Test option shall be used to determine the TZEV Allowance in section C.3.3(a).

Subsection G.5.4.5(iv)

It is necessary to clarify that “section (ii)” refers to “section G.5.4.5(ii).”

It is necessary to clarify that a valid test requires the engine to start at or before 45 seconds of the cold-start UDDS cycle.

It is necessary to clarify that when testing a charge-increasing driver-selectable mode, the vehicle must be in charge-sustaining operation at the start of the cold-start UDDS cycle.

Subsection G.5.4.5(v): It is necessary to reword this subsection to clarify that additional information for performing the Alternative Charge-Depleting Emission Test can be obtained from the Urban Charge-Sustaining Emission Test.

Subsection G.5.4.5(vii)

It is necessary to allow the vehicle charging requirement to be an option instead of a requirement to reduce test burden and improve flexibility.

It is necessary to clarify that charging must begin within three hours of completing the Urban All-Electric Range Test in subsection G.5.4.5(ii).

Subsection G.5.5

Subsection G.5.5.1

Subsection G.5.5.1.2

It is necessary to correct the term “UDDS test interval” with “UDDS cycle.”

It is necessary to replace the word “bag” with “phase” to improve accuracy.

It is necessary to correct the word “transition” by replacing it with “transient.”

It is necessary to add the words “cold” and “hot” to clarify to which transient or stabilized phase is being referred.

It is necessary to replace “the” with “a” when referring to hot-start UDDS cycle since more than one hot-start UDDS cycle is possible.

It is necessary to correct the phase number references in the descriptions for m_h and D_h .

It is necessary to delete “n=hot-start UDDS cycle” since the variable “n” is not required.

Subsection G.5.5.2

Subsection G.5.5.2.2

It is necessary to replace the word “bag” with “phase” to improve accuracy.

It is necessary to correct the word “transition” by replacing it with “transient.”

It is necessary to add the words “cold” and “hot” to clarify to which transient or stabilized phase is being referred.

It is necessary to correct the phase number references in the descriptions for m_h and D_h .

Subsection G.5.5.2.3: It is necessary to correct a typographical error by replacing “Subparagraphs” with Subparagraph” since it is referring to a single reference.

Subsection G.5.6

Subsection G.5.6.1: It is necessary to correct a typographical error by replacing the period “.” with a colon “:”.

Subsection G.5.6.1.2

It is necessary to replace the word “bag” with “phase” to improve accuracy.

It is necessary to correct the descriptions of the variables $m_{PM-CUDDS}$ and $\Sigma m_{PM-HUDDS}$ to be consistent with 40 CFR §1066.820 [April 28, 2014].

It is necessary to replace “the” with “a” when referring to a hot-start UDDS cycle since more than one hot-start UDDS cycle is possible.

It is necessary to correct the phase number references in the descriptions for m_h and D_h .

It is necessary to delete “n=hot-start UDDS cycle” since the variable “n” is not required.

Subsection G.5.6.1.3 and Subsection G.5.6.1.4: It is necessary to add these two subsections with language from 40 CFR §1066.820 [April 28, 2014] that was inadvertently not included during harmonization.

Subsections G.5.6.2: It is necessary to add the 40 CFR §1066.820 [April 28, 2014] that was inadvertently not included.

Subsection G.5.6.2.1: It is necessary to clarify that subparagraphs (a) to (b) are not applicable.

Subsection G.5.6.2.2

It is necessary to renumber this subsection, and to correct the term “UDDS test interval” with “UDDS cycle.”

It is necessary to replace the word “bag” with “phase” to improve accuracy.

It is necessary to correct the phase number references in the description for D_h .

Subsections G.5.6.2.3 and G.5.6.2.4: It is necessary to add these two subsections with language from 40 CFR §1066.820 [April 28, 2014] that was inadvertently not included during harmonization.

Subsection G.6

Introductory Paragraph 3: It is necessary to clarify that, for the purpose of determining Highway All-Electric Range and Highway Equivalent All-Electric Range, the vehicle shall be tested on a range test as opposed to an emission test and in normal mode if default mode is not available.

Introductory Paragraph 4

It is necessary to clarify that the vehicle is being emissions tested as opposed to range tested.

It is necessary to delete charge-depleting since a highway emission test is either charge-sustaining or charge-increasing.

It is necessary to correct a typographical error by removing an unnecessary comma.

Introductory Paragraph 5

It is necessary to delete “charge-depleting” since a highway emission test is either charge-sustaining or charge-increasing.

It is necessary to correct a typographical error by removing an unnecessary comma.

It is necessary to clarify that charge-increasing operation may not be available.

It is necessary to clarify that the test is an emissions test as opposed to a range test.

It is necessary to correct which type of NMOG + NO_x emissions would be worst case by replacing “urban” with “highway.”

It is necessary to clarify that in the example given, driver-selectable modes are tested when the vehicle is in distinct operations.

It is necessary to correct the term “Highway Charge-Sustaining Emission Test” by replacing with “Highway Emission Test” since highway emission tests can be either charge-sustaining or charge-increasing.

Introductory Paragraph 6

It is necessary to correct which type of NMOG + NOx emissions would be worst case by replacing “urban” with “highway.”

It is necessary to delete charge-depleting since a highway emission test is either charge-sustaining or charge-increasing.

It is necessary to correct a typographical error by removing an unnecessary comma.

It is necessary to clarify that charge-increasing operation may not be available.

It is necessary to delete “of operation” to clarify that driver-selectable modes are considered modes not vehicle operations.

Introductory Paragraph 7

It is necessary to delete “of the engine” from the term driver-selectable mode because the engine is not always affected by a driver-selectable mode.

It is necessary to delete “charge-depleting” since a highway emission test is either charge-sustaining or charge-increasing.

It is necessary to correct a typographical error by removing an unnecessary comma.

Subsection G.6.1

Subsection G.6.1.4: It is necessary to correct the term “Highway Charge-Sustaining Emission Test” by replacing with “Highway Emission Test” since highway emission tests can be either charge-sustaining or charge-increasing.

Subsection G.6.1.4.1

It is necessary to correct the term “Highway Charge-Sustaining Emission Test” by replacing with “Highway Emission Test” since highway emission tests can be either charge-sustaining or charge-increasing.

It is necessary to clarify that driver-selectable modes are what is required to be determined as being available.

It is necessary to add “UDDS” to clarify which preconditioning drive is being described.

It is necessary to delete the words “in unusual circumstances” from the last sentence, because the phrase is not defined, and to add clarifying language to this sentence.

Subsection G.6.1.4.2

It is necessary to clarify that the vehicle shall be in charge-sustaining operation for the preconditioning drive.

It is necessary to clarify how vehicles with driver-selectable modes and charge-increasing operation are to be preconditioned and emission tested.

It is necessary to correct a typographical error by replacing “F.9” and replacing with “G.10.”

Subsection G.6.1.5: It is necessary to clarify that the SOC Net Energy Change Tolerance specifically applies to the HFEDS cycle with emission sampling. It is necessary to correct the reference from subsection G.6.4.1.2 to subsection G.6.1.4.2, and to clarify that the End-of-Test criterion are “alternative” criterion.

Subsection G.6.1.5.2: It is necessary to delete references to Section 3.9 of SAE J1711 (June 2010) since these criteria are for charge-depleting tests while the Highway Emission Test is a charge-sustaining test. It is necessary to clarify that Appendix C in SAE J1711 (June 2010) provides a wider $\pm 5\%$ SOC Net Energy Change Tolerance than the $\pm 1\%$ SOC Net Energy Change Tolerance in section in G.10.

Subsection G.6.1.5.3: It is necessary to correct a typographical error by removing an unnecessary comma.

Subsection G.7.

Introductory Paragraph 3: It is necessary to add a new introductory paragraph to specify that for the purpose of determining US06 all electric range capability as required in section C.3.3(a)(1), a vehicle must be range tested in default mode or in normal mode if the vehicle does not have a default mode.

Introductory Paragraph 4: It is necessary to add language to clarify that a vehicle must be emission tested in either charge-sustaining or charge-increasing operation to determine the worst case SFTP NMOG + NOx emissions.

Introductory Paragraph 5

It is necessary to delete “charge-depleting” since SFTP testing is either a charge-sustaining or a charge-increasing test.

It is necessary to clarify that charge-increasing operation may not be available.

It is necessary to clarify that the vehicle is being emissions tested as opposed to range tested.

It is necessary to correct which type of NMOG + NOx emissions would be worst case by replacing “urban” with “SFTP.”

It is necessary to clarify that in the example given, driver-selectable modes are tested when the vehicle is in distinct operations.

Introductory Paragraph 6

It is necessary to correct which type of NMOG + NOx emissions would be worst case by replacing “urban” with “SFTP.”

It is necessary to delete “charge-depleting” since SFTP testing is either a charge-sustaining or a charge-increasing test.

It is necessary to clarify that charge-increasing operation may not be available.

It is necessary to delete “of operation” to clarify that driver-selectable modes are considered modes and not vehicle operations.

Introductory Paragraph 7

It is necessary to delete “of the engine” from the term driver-selectable mode because the engine is not always affected by a driver-selectable mode.

It is necessary to delete “charge-depleting” since SFTP testing is either a charge-sustaining or a charge-increasing test.

It is necessary to correct a typographical error by removing an unnecessary comma.

Subsection G.7.1

Introductory Paragraph 1: It is necessary to delete references to this section G.7.1 since this language is not necessary and reduces clarity.

Subsection G.7.1.1: It is necessary to correct the reference to (b)(iii)(2) by replacing it with (b)(1).

Subsection G.7.1.2: It is necessary to delete the reference to subparagraph (b)(3) and replace with subparagraph (b)(1)(i) to clarify which test cycles subparagraph (b)(1)(i) would refer to for aggressive-driving tests.

Subsection G.7.1.3: It is necessary to delete the references to subparagraphs (b)(3)(i) through (e)(2)(iii) and replace with subparagraph (b)(1)(ii) to clarify to which test cycles subparagraph (b)(1)(ii) would refer to following 72 hours of no testing.

Subsection G.7.1.4: It is necessary to delete the references to subparagraph (e)(3) and replace with replace with subparagraph (b)(1)(iii) to which test cycles subparagraph (b)(1)(iii) would refer to regarding ambient temperature conditions for testing.

Subsection G.7.1.5: It is necessary to correct the reference from subparagraph (e)(4) to subparagraphs (b)(2) to (b)(3)(i).

Subsection G.7.1.6: It is necessary to add language to clarify how driver-selectable modes are to be tested.

Subsection G.7.1.7: It is necessary to add language to clarify how subparagraphs (b)(3)(ii)(A) through (b)(3)(ii)(B) are to be addressed.

Subsection G.7.1.8: It is necessary to add language that amends subparagraph (b)(3)(ii)(C) to refer to the appropriate test cycle.

Subsection G.7.1.9: It is necessary to add language to clarify how subparagraphs (b)(3)(ii)(D) through (e) are to be addressed.

Subsection G.7.1.10: It is necessary to add language to clarify how driver-selectable modes are to be tested.

Subsection G.7.1.11: It is necessary to add language to clarify how subparagraphs (e)(2) through (e)(2)(iii) are to be addressed.

Subsection G.7.1.12: It is necessary to add language to amend subparagraph (e)(3) to clarify how a test can be validated.

Subsection G.7.1.13: It is necessary to add language to clarify how subparagraph (e)(4) is to be addressed.

Subsections G.7.1.14 through G.7.1.14.4: It is necessary to add language regarding an additional end-of-test criterion to provide improved flexibility for validating a test.

Subsection G.7.2

Introductory Paragraph 1: It is necessary to delete references to this section G.7.2 and other language since this language is not necessary, reduces clarity, and incorrectly instructs how to precondition vehicles with driver-selected modes.

Subsection G.7.2.2

It is necessary to replace the word “bag” with “phase” to improve accuracy.

It is necessary to clarify how vehicles with driver-selectable modes or vehicles in charge-increasing modes are to be preconditioned.

It is necessary to clarify how to precondition vehicles on the UDDS cycle instead of other preconditioning cycles if more than two hours have elapsed since the last exhaust emission test.

Subsection G.7.2.3: It is necessary to correct the subparagraph reference from (d)(1) to (d).

Subsection G.7.2.4: It is necessary to clarify how vehicles with driver-selectable modes are to be tested.

Subsection G.7.2.5: It is necessary to correct the subsection number from G.7.2.4 to G.7.2.5. It is necessary to add the word “of” to the sentence in this subsection to be properly understood.

Subsection G.7.2.6: It is necessary to add language to clarify how subparagraphs (d)(3) through (f)(3)(iv) are to be addressed.

Subsections G.7.2.7 through G.7.2.7.4: It is necessary to add language regarding an additional end-of-test criterion to provide improved flexibility for validating a test.

Subsection G.7.3: It is necessary to add language to the title of this subsection clarify that the range test is an all-electric range test.

Subsection G.7.3.2: It is necessary to clarify that the vehicle shall be in default mode or normal mode when being tested for US06 all-electric range.

Subsection G.8

Subsection G.8.1

It is necessary to clarify that the vehicle is to be emission tested as opposed to range tested.

It is necessary to clarify that the same vehicle operation and driver-selectable mode that represented the worst case urban NMOG + NO_x emissions determined in subsection G.5 must be tested at 50°F.

It is necessary to clarify that the vehicle operation and driver-selectable mode that represents the worst case urban CO emissions must follow the procedures described in section G.5.

It is necessary to add language to improve the clarity of “SOC net tolerances” by adding “energy change.”

It is necessary to add language to clarify that vehicles qualifying for the Urban Alternative Charge-Depleting Emission Test must perform the 50°F and 20°F emissions test using the Urban Alternative Charge-Depleting Emission Test.

Subsection G.8.2

Subsection G.8.2(ii): It is necessary to modify this subsection to correct a the reference from G.5.5.1 to G.5.5.

Subsection G.10

Subsection G.10.1: It is necessary to delete “for charge-sustaining emission tests” because charge-depleting and charge-increasing emission tests are also required to satisfy state-of-charge net energy change tolerances in this subsection.

Subsection G.10.2: It is necessary to delete “for charge-sustaining emission tests” because charge-depleting and charge-increasing emission tests are also required to satisfy state-of-charge net energy change tolerances in this subsection.

Subsection G.10.3: It is necessary to delete “for charge-sustaining emission tests” because charge-depleting and charge-increasing emission tests are also required to satisfy state-of-charge net energy change tolerances in this subsection.