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Descriptions of the proposed changes to the test procedures and the reasons for making them.

This discussion does not address non-substantive modifications to correct typographical or grammatical errors, changes in numbering or formatting, addition of or edits to internal regulatory cross-references, or similar revisions that improve clarity.

Proposed Modifications to the “California Test Procedures for 2026 and Subsequent Model Year Zero-Emission Vehicles and Plug-in Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes”

1. Subsection A.1. Staff is proposing modifications to this subsection to more clearly state the intended applicability of these test procedures to medium-duty zero-emission vehicles (ZEV). These modifications are necessary to remove potential ambiguity that medium-duty ZEVs had the option of using other test procedures when certifying pursuant to section 1962.4. Instead, the language now more clearly reflects that manufacturers may use their medium-duty ZEVs to comply with Advanced Clean Cars (ACC) II or Advanced Clean Trucks (ACT), and, when complying with ACC II, must follow the test procedures in this document.
2. Subsections A.2. and A.3. Staff is proposing to delete the reference to the “California 2015 through 2025 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” because those test procedures are not applicable to 2026 and subsequent model year vehicles. This change is necessary for accuracy and clarity.
3. Subsection A.4. Staff is proposing to delete the reference to the migration of 40 CFR Part 86 to 40 CFR Part 1066 because this migration will be completed before the effective start date of these test procedures (2026 model year). This change is necessary for accuracy and clarity.
4. Subsection B.1. Staff is proposing to add a definition for “auxiliary power unit”. This definition is necessary for clarity since the term “auxiliary power unit” is used in several places in the document, and the definition mirrors that in the current ZEV test procedures.

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5. Subsection B.1. Staff proposes to delete the definitions for “charge-depleting actual range, urban” and “charge-depleting actual range, highway” in B.1 since these definitions are more precisely defined in subsections E.11.6 and E.11.7. This change is necessary to promote clarity.
6. Subsection B.1. Staff proposes to delete the definitions for “Electric Range Fraction” from B.1 since it is more correctly defined in subsection E.11.9. This change is necessary to promote clarity.
7. Subsection B.1. Staff is proposing to delete the definition for “Highway All-Electric Range” from B.1 since it is more precisely defined in section E.2.5.1. This change is necessary to promote clarity.
8. Subsection B.1. Staff is proposing to delete the definition for “Urban All-Electric Range” from B.1 since it is more precisely defined in section E.2.4.1. This change is necessary to promote clarity.
9. Subsection C.5.3. Staff is proposing that manufacturers must submit a certification method proposal for plug-in fuel cell electric vehicles 90 days prior to certification. This timeframe is proposed in coordination with the 60-day deadline for the Executive Officer to respond to the proposal, as proposed in the 45-day notice. This timeframe length is necessary and reasonable to balance the California Air Resources Board’s (CARB) need for time to consider the proposed plan for certification of such a vehicle with the manufacturer’s need for reasonably timely review and approval of a proposed certification plan prior to the time of vehicle certification. The 60-day evaluation deadline is necessary and reasonable because such vehicles have never previously been certified, so a relatively long review period may be needed to determine which elements of the battery electric vehicle (BEV) and the fuel cell electric vehicle (FCEV) test procedures to combine to generate valid test results to quantify both the operation on such a unique vehicle that utilizes both electricity and hydrogen fuels. (CARB may always review a proposal more quickly than the deadline if the entire review period is not needed.) However, because the certification method that manufacturers must propose under this subsection is derived from a combination of the well-established procedures to test FCEVs and BEVs, manufacturers will already be familiar with the various elements of those procedures and readily equipped to carry out tests involving a combination of such elements at their laboratories within 30 days (by the certification deadline) upon confirmation of their proposal. Staff is also proposing to specify that the Executive Officer’s approval shall be provided in writing; this is necessary to ensure manufacturers will know how to expect any approval of their proposed certification method.
10. Subsection C.9. Staff is proposing to add a reference to the process CARB will follow to evaluate applications of good engineering judgment by manufacturers. The process is the same applied by the U.S. Environmental

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Protection Agency (U.S. EPA) under its regulations and is being adopted by CARB for consistency to minimize the administrative burden of compliance. The application of good engineering judgment and a process to evaluate it is necessary to provide clarity and maximize objectivity in CARB's evaluation of compliance with technical regulations that are applied to complex products.

11. Subsection E.Background. Staff is proposing to delete the entire section "E. Background" since the same provision is already included in section A.3 and it is not necessary to repeat it again in E.Background, as it is redundant. This proposed deletion removes redundancy and is necessary for brevity and clarity.
12. Subsection E.1.2. Staff proposes to remove the requirement for plug-in hybrid electric vehicles (PHEVs) to report direct current (DC) energy to fully charge the battery after a charge depleting or charge sustaining test. For purposes of these test procedures, this charging information is not necessary for evaluating vehicle emissions and performance. Thus, removing this provision is necessary to ease the burden of compliance for 2026 and subsequent model year vehicles without sacrificing any information needed for evaluating compliance.
13. Subsections E.1.3, E.2.1, E.5.1. Staff is proposing to delete the phrase "instead of demonstrating equivalent emissions" in order to align with another 15-day change in E.3.2.1. The proposed change in E.3.2.1 removes "emission" from "equivalent emission results", and so subsequent changes in these subsections are necessary to comport and to promote clarity.
14. Subsection E.2. Staff is proposing to add the following language as the intro paragraph: "For All-Electric Range testing in section E.2, vehicles shall be stabilized according to the requirements specified in section C.2." This change is necessary so that PHEVs will be held to the same testing requirements as ZEVs when performing all-electric range tests, which is necessary to provide clarity to the regulated industry as to how vehicles need to be conditioned prior to valid testing and is necessary to achieve the intended benefits of the regulation by ensuring consistent and accurate test results.
15. Subsections E.2.5, E.6.2.1, E.11.5.2, E.11.7, and E.11.8.2. All references to "Highway All-Electric Range Test" and "Highway Charge-Depleting Range Test" have been changed to "Highway Charge-Depleting All-Electric Range Test." This change is necessary because all these terms refer to the same test and having one consistent term provides more clarity that these references are all referring to the same test.
16. Subsection E.2.5.3. Staff is proposing to add that Executive Officer approval of additional alternative end-of-test criteria shall be done pursuant to the process and criteria in subsection E.3.2.2. This is necessary to provide increased clarity and ensure manufacturers will be aware of the process and expectations around requesting and evaluation of such request for alternative end-of-test criteria.

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17. Subsection E.2.6.3. Staff proposes to add an additional condition that allows the US06 all electric range test to end when a PHEV has completed six full US06 cycles without starting the auxiliary power unit (internal combustion engine). To receive ZEV credits, PHEVs are required to demonstrate an all-electric range of at least 40 miles on the US06 cycle. Completing six full US06 cycles provides sufficient distance to demonstrate whether a PHEV has an all-electric range of at least 40 miles on the US06 cycle. This proposed change is necessary to eliminate a testing burden on manufacturers that produce vehicles with range in excess of 40 miles that does not provide commensurate benefit and is not needed to verify compliance with the minimum range requirement.
18. Subsection E.3.1. Staff is proposing to add the phrase "Emission testing must" to more clearly specify that the provisions in this subsection only apply to emission testing. This change is necessary for clarity and to avoid possible ambiguity that could lead to unnecessary and inadvertent burden on vehicle manufacturers.
19. Subsection E.3.2.1. Staff is proposing to delete the word "emission" from the phrase "equivalent emission results" and instead use the term "equivalent results." This change is necessary because the use of the term "equivalent emission results" was not applicable in instances where emissions were not required to be measured. For example, all-electric range testing does not require emissions to be measured so it would not be possible for a manufacturer to demonstrate "equivalent emission results" using the alternative test procedure, but demonstrating "equivalent results" would be possible by demonstrating that the alternative test procedure results in equivalent all-electric range. This proposed change is necessary for clarity, to support compliance, and to avoid ambiguity or unintended results.
20. Subsection E.3.4.6. Staff is proposing to add section E.8 to the list of sections where manufacturers may determine worst case mode by using non-certification emission data or an engineering evaluation in lieu of emission certification testing. This change is necessary to promote clarity, support compliance, and to achieve the intended benefits of the regulation without undue burden because the provision in E.3.4.6 should apply to all emission tests where worst case mode testing is required, which includes section E.8.
21. Subsections E.3.4.6. Staff proposed to change "and/or" to "or" to more clearly specify that submitting non-certification data or an engineering evaluation would be sufficient. This change is necessary to promote clarity and support compliance.
22. Subsection E.4.2.2.1.1. Staff proposes to remove the following sentence regarding vehicle state of charge (SOC) settings: "If a vehicle has a driver-selectable, charge-increasing mode, SOC shall be set in accordance with section E.5.4.1 with the charge-increasing mode activated at the start of the

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- cold-start UDDS cycle.” The removal of this sentence is necessary because it would have incorrectly allowed setting the SOC during the soak period, which would have been in direct conflict with subsection E.4.2.1.8.2, which does not allow setting the SOC during the soak period. Setting the SOC is allowed in subsection E.5.4.1 for testing in charge-increasing mode because that section is for the alternative urban emission test which requires the test vehicle to start the engine within the first 45 seconds of the test. Therefore, in E.5.4.1 it is needed to set the SOC before the emission test to ensure that the engine starts within the first 45 seconds. However, the urban charge-sustaining emission test in subsection E.4.2 does not require the engine to start within the first 45 seconds, so setting the SOC is not allowed for testing in charge-increasing mode for the urban charge-sustaining emission test. Therefore, removing the quoted text is necessary to ensure PHEVs are emission tested as intended to yield results that demonstrate compliance with the requirements.
23. Subsection E.4.2.2.1.1. Staff also proposed to remove the sentence “If the vehicle is to be tested in charge-increasing operation (this does not apply to a driver-selectable charge-increasing mode), then the initial SOC for the Urban Charge-Sustaining Emission Test shall be set at the lowest normal SOC level allowed by the vehicle when driving on the UDDS cycle” because this repeats the same requirement already established in E.4.2.1.8.3. It is not necessary to have it repeated in E.4.2.2.1.1, and removal of the redundancy is necessary to promote clarity.
24. Subsection E.4.4.6. Staff is proposing to add the phrase “To determine compliance with the Partial Soak Emission Standards,” which is necessary to identify and clarify the reasons as to why the emission testing in subsections E.4.4.2 to E.4.4.5 may be repeated. Standard emission testing practice is to conduct multiple test runs to evaluate compliance with applicable emission standards, though the number of tests needed will vary from vehicle to vehicle. It is therefore necessary to allow partial soak emission testing to be repeated for compliance purposes, and to do so without having to independently precondition each time (as explained in Appendix F-6 to the Initial Statement of Reasons).
25. Subsection E.7.1.1.6. Subsection E.7.1.1.6 incorporates subparagraph (b)(3)(ii) of title 40, Code of Federal Regulations (CFR), section 1066.831 into these test procedures. Staff’s proposed changes to subsection E.7.1.1.6 are needed to remove language already contained in the incorporated CFR provision, which is necessary to remove redundancy and improve clarity.
26. Subsections E.8.1.1, E.8.1.2, and E.8.2.5. In subsections E.8.1.1 and E.8.1.2, the references to “section E.5” were removed and instead the reference to “section E.5” was added to subsection E.8.2.5. This change was necessary to improve accuracy and provide clarity that the primary procedures to follow for the 50°F and 20°F tests are in subsection E.4.1 to E.4.3 and that only vehicles that qualify

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for the alternative urban emission test are allowed to follow the procedure in section E.5 as stated in subsection E.8.2.5.

27. Section E.9. Staff proposes to replace “and/or” with “and,” which is necessary to provide additional clarity that the provisions apply to both confirmatory and in-use compliance testing.
28. Subsections E.11.2.1 and E.11.2.2. Staff is proposing to delete the phrase “This shall be calculated for both AC and DC energy” and instead to state only “Total AC energy” is required. This change is necessary for clarity and to align with the 15-day change in subsection E.1.2 removing the requirement to measure DC energy during charging.
29. Subsection 11.5.1. Staff is proposing to change the phrase “Urban Charge-Depleting Procedure” to “Urban Charge-Depleting Emission Test,” which is necessary for clarity to be consistent with the terminology used throughout this document.
30. Subsection E.11.7. Staff is proposing to revise the language in this subsection to more clearly define the start and end points used to determine charge depleting actual range, which is necessary for accuracy and clarity.
31. Subsection 11.8.1. Staff is proposing to change the phrase “Urban Charge-Depleting Test” to “Urban Charge-Depleting Emission Test,” which is necessary for clarity to be more consistent with the terminology used throughout this document.
32. Subsection E.11.9. Staff is proposing to revise the definition for electric range fraction to better reflect the equations used to calculate electric range fraction in subsections E.11.9.1 and E.11.9.2, which is necessary for clarity and accuracy.