

Notice of Public Availability of Modified Text and Availability of Additional Documents and/or Information

Proposed Revisions to the On-Board Diagnostic System Requirements and Associated Enforcement Provisions for Passenger Cars, Light-Duty Trucks, Medium-Duty Vehicles and Engines, and Heavy-Duty Engines

Public Hearing Date: July 22, 2021
Public Availability Date: February 15, 2022
Deadline for Public Comment: March 2, 2022

At its July 22, 2021, public hearing, the California Air Resources Board (CARB or Board) approved for adoption the Proposed Amendments to sections 1968.2,¹ 1968.5,² Title 13, California Code of Regulations (CCR) (OBD II) and sections 1971.1,³ and 1971.5,⁴ Title 13, CCR (HD OBD) (collectively, "Proposed Amendments"). The Proposed Amendments would require manufacturers to implement Unified Diagnostic Services (UDS) features for on-board diagnostics (OBD) communications on vehicles and engines, revise the monitoring requirements for cold start emission reduction strategies (CSERS), update the supporting data requirements for diesel catalyst and oxides of nitrogen (NOx) sensor monitors, and revise the malfunction criteria and in-use monitor performance ratio (IUMPR) requirements for the particulate matter (PM) filter monitor.

At the hearing, the Board directed the Executive Officer to determine if additional conforming modifications to the regulation were appropriate and to make any proposed modified regulatory language available for public comment, with any additional supporting documents and information, for a period of at least 15 days in accordance with Government

¹ Section 1968.2 is the "Malfunction and Diagnostic System Requirements – 2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium Duty Vehicle and Engines" requirements.

² Section 1968.5 is the "Enforcement of Malfunction and Diagnostic System Requirements for 2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines" requirements.

³ Section 1971.1 is the "On-Board Diagnostic System Requirements – 2010 and Subsequent Model-Year Heavy-Duty Engines" requirements.

⁴ Section 1971.5 is the "Enforcement of Malfunction and Diagnostic System Requirements for 2010 and Subsequent Model-Year Heavy-Duty Engines" requirements.

Code section 11346.8. The Board further directed the Executive Officer to consider written comments submitted during the public review period and make any further modifications that are appropriate available for public comment for at least 15 days, and present the regulation to the Board for further consideration if warranted, or take final action to adopt the regulation after addressing all appropriate modifications.

The resolution and all other regulatory documents for this rulemaking are available online at the following CARB website: <https://ww2.arb.ca.gov/rulemaking/2021/obd2021>.

The text of the modified regulatory language for the OBD II regulation and associated OBD II enforcement regulation, sections 1968.2 and 1968.5, respectively, is shown in Attachment A. The text of the modified regulatory language for the heavy-duty OBD (HD OBD) regulation and associated HD OBD enforcement regulation, sections 1971.1 and 1971.5, respectively, is shown in Attachment B. The originally proposed regulatory language is shown in ~~striketrough~~ to indicate deletions and underline to indicate additions. New deletions and additions to the proposed language that are made public with this notice are shown in ~~double striketrough~~ and double underline format, respectively.

In addition, Attachment C to this notice is being provided to show modifications to Appendix E, "Data Record Reporting Procedures for Over-the-Air Reprogrammed Vehicles and Engines Using SAE J1979-2," of the Initial Statement of Reasons (ISOR), while Attachment D to this notice is being provided as an addendum to the ISOR.

In the Final Statement of Reasons, staff will respond to all comments received on the record during the comment periods. The Administrative Procedure Act requires that staff respond to comments received regarding all noticed changes. Therefore, staff will only address comments received during this 15-day comment period that are responsive to this notice, documents added to the record, or the changes detailed in Attachments A through D.

Summary of Proposed Modifications

The following summary does not include all modifications to correct typographical or grammatical errors, changes in numbering or formatting, nor does it include all of the non-substantive revisions made to improve clarity.

Modifications are noted together (e.g., section 1968.2 and 1971.1 for the OBD II and HD OBD regulations, respectively) where applicable; all other modifications are noted separately for their specific sections.

Modifications to the OBD II Regulation Section 1968.2 and HD OBD Regulation Section 1971.1

1. In sections 1968.2(c) and 1971.1(c), the definition of "calculated load value" was modified to change the section number reference for SAE International (SAE) J1979-2 in order to reflect the proposed moving of section 1968.2(g)(1.4.2) to 1968.2(g)(1.14) and section 1971.1(h)(1.4.2) to 1971.1(h)(1.13), respectively. The rationale for the

proposed moves are described below in the discussions about sections 1968.2(g)(1.4.2) and 1971.1(h)(1.4.2).

2. In sections 1968.2(c) and 1971.1(c), the definition name "CSERS cold start criteria" was modified to "CSERS monitoring conditions," and the ambient temperature in condition (2) of the definition was changed from 19.4 degrees Fahrenheit (-7 degrees Celsius) to 20 degrees Fahrenheit (-6.7 degrees Celsius). Staff had proposed the name "CSERS cold start criteria" as part of the 45-day notice, with the intent that the newly proposed CSERS monitors in sections 1968.2(e)(11), 1968.2(f)(12), 1971.1(e)(11), and 1971.1(f)(4) would be required to run when the "CSERS cold start criteria" are met, among other conditions. However, staff now believes that confusion may result from this naming and is concerned that manufacturers will believe that "CSERS cold start criteria" define conditions under which CSERSs are required to be activated, which is not the case. Therefore, staff is proposing to change the name "CSERS cold start criteria" to avoid confusion. Accordingly, the same naming change was made to references to "CSERS cold start criteria" in sections 1968.2(d)(4.3.2)(N), 1968.2(e)(11.2.3), 1968.2(e)(11.2.4)(A), 1968.2(e)(15.2.2)(B)(iii)a., 1968.2(f)(12.2.2), 1968.2(f)(12.2.3)(A), 1968.2(g)(6.14.2), 1971.1(d)(4.3.2)(M), 1971.1(e)(11.2.2), 1971.1(e)(11.2.3)(A), 1971.1(f)(4.2.3), 1971.1(f)(4.2.4)(A), 1971.1(g)(3.2.2)(B)(i)c.1., and 1971.1(h)(5.9.2). Regarding the change to the ambient temperature condition, the temperature was modified to match the ambient temperature at which manufacturers may disable OBD monitors in sections 1968.2(e)(17.3), 1968.2(f)(17.3), and 1971.1(g)(5.3).
3. In sections 1968.2(c) and 1971.1(c), a definition for "engine stall" was added. The definition was moved from sections 1968.2(e)(15.2.2)(B)(iii) and 1971.1(g)(3.2.2)(B)(i)c., which describe the idle control system monitoring requirements for engine stalls that were proposed as part of the 45-day notice, since sections 1968.2(c) and 1971.1(c) are the more appropriate sections for this definition. Further, the proposed definition was modified to exclude periods where the engine is intentionally commanded to shut off on vehicles that employ engine shutoff strategies (e.g., hybrid vehicles that command the engine to shut off at idle), since these engine-off periods are not caused by malfunctions and therefore should not be detected as malfunctions by the idle control system monitor.
4. In sections 1968.2(c) and 1971.1(c), the definition of "field reprogrammable" was modified to indicate that the definition includes a control unit or device that is capable of being reprogrammed by over-the-air (OTA) reprogramming in order to address confusion about whether or not the definition of "field reprogrammable" applied to OTA reprogramming events. This change would make clear that such control units or devices that are capable of being reprogrammed by OTA reprogramming are field reprogrammable, and therefore are considered diagnostic or emission critical control units if they have primary control of a comprehensive component rationality fault diagnostic or functional check (and would therefore be required to support a calibration identification number and calibration verification number combination in accordance with the OBD regulations).
5. In sections 1968.2(d)(3.2.1) and 1971.1(d)(3.2.2)(B), sections 1968.2(d)(3.2.1)(E) and 1971.1(d)(3.2.2)(B)(ii) were added to require a minimum acceptable in-use monitor

performance ratio of 0.500 for the gasoline cold start emission reduction strategy cold start catalyst heating monitor. Staff had originally believed a minimum ratio of 0.260 should be applied to this monitor, since that is the minimum ratio currently required for CSERS monitors. However, since CARB staff has proposed new denominator incrementing criteria for this monitor (see sections 1968.2(d)(4.3.2)(O) and 1971.1(d)(4.3.2)(N) below) that would substantially decrease the amount of times the denominator for this monitor is incremented (and therefore result in higher in-use ratios), staff does not believe that a minimum required ratio of 0.260 is appropriate anymore. Since the new denominator incrementing criteria essentially match the conditions in which monitoring is required to occur in sections 1968.2(e)(11.2.3) and 1971.1(f)(4.2.3), which effectively will result in the numerator incrementing almost every time the denominator increments, staff believes a higher minimum required ratio is needed. As a result of the changes, the section numbers were renumbered throughout sections 1968.2(d)(3.2.1) and 1971.1(d)(3.2.2)(B).

6. In sections 1968.2(d)(4.3.2)(E) and 1971.1(d)(4.3.2)(D), the applicable CSERS monitors that are required to use the denominator incrementation criteria in these sections were changed from "sections (e)(11) and (f)(12)" to "sections (e)(11.2.1), (e)(11.2.2), and (f)(12.2.1)" in section 1968.2(d)(4.3.2)(E) and from "sections (e)(11) or (f)(4)" to "sections (e)(11.2.1) and (f)(4.2.2)" in section 1971.1(d)(4.3.2)(D). Sections 1968.2(e)(11.2.1), 1968.2(e)(11.2.2), 1968.2(f)(12.2.1), 1971.1(e)(11.2.1), and 1971.1(f)(4.2.2) contain the CSERS monitoring requirements that are currently in the regulations. When staff proposed new CSERS monitoring requirements in sections 1968.2(e)(11), 1968.2(f)(12), 1971.1(e)(11), and 1971.1(f)(4) as part of the 45-day notice, staff had also proposed new denominator incrementing criteria (specifically sections 1968.2(d)(4.3.2)(N) and 1971.1(d)(4.3.2)(M)) to apply to some of these newly proposed monitors. However, staff mistakenly did not modify sections 1968.2(d)(4.3.2)(E) and 1971.1(d)(4.3.2)(D) to exclude these new monitors from the current denominator incrementing criteria. Further, as part of the 15-day notice, staff is proposing new denominator incrementing criteria in sections 1968.2(d)(4.3.2)(O) and 1971.1(d)(4.3.2)(N) to apply to the proposed CSERS cold start catalyst heating monitors. Therefore, these new CSERS monitors should also be excluded from using the current denominator criteria, which staff is proposing now. The rationale for these new denominator incrementing criteria are described below.
7. Section 1968.2(d)(4.3.2)(N) and 1971.1(d)(4.3.2)(M) were modified to change "catalyst warm-up monitor" to "catalyst warm-up strategy monitor" to match the name of the monitor to that used in the respective CSERS monitoring sections. Further, the sections were modified to require the CSERS feature/component monitors (sections 1968.2(e)(11.2.4), 1968.2(f)(12.2.3), 1971.1(e)(11.2.3), and 1971.1(f)(4.2.4)) to increment the denominator based on the incrementing criteria in these sections (i.e., increment the denominator if, in addition to the requirements of sections 1968.2(d)(4.3.2)(B) or 1971.1(d)(4.3.2)(B), the CSERS monitoring conditions (as defined in section (c)) have been met. Staff originally intended these CSERS feature/component monitors to use the denominator incrementing criteria under sections 1968.2(d)(4.3.2)(E) and 1971.1(d)(4.3.2)(D), which require the CSERS to be commanded on for a cumulative time of at least 10 seconds. Staff believed this was appropriate since the new CSERS

feature/component monitors are not newly required monitors, but clarifications of currently required CSERS monitors. Manufacturers, however, have submitted 45-day comments indicating that the CSERS feature/component monitors, which are required to run when the CSERS monitoring conditions are met, should also be allowed to require the CSERS monitoring conditions to be met to increment the denominator. In order to align the new CSERS monitoring requirements and the new definition of CSERS monitoring conditions, staff now believes it is better to link the denominator incrementing criteria to the CSERS monitoring conditions.

8. Sections 1968.2(d)(4.3.2)(O) and 1971.1(d)(4.3.2)(N) were added to require the gasoline cold start catalyst heating monitor (sections 1968.2(e)(11.2.3) and 1971.1(f)(4.2.3)) to increment the denominator if the requirements of section (d)(4.3.2)(B) are met, the CSERS monitoring conditions (as defined in sections 1968.2(c) and 1971.1(c)) are met, and idle operation in park or neutral during the first 30 seconds after engine start is greater than or equal to 10 seconds. Staff originally intended this monitor to use the denominator incrementing criteria in sections 1968.2(d)(4.3.2)(E) and 1971.1(d)(4.3.2)(D), which require the CSERS to be commanded on for a cumulative time of at least 10 seconds, since this monitor is not a newly required monitor, but a clarification of a currently required CSERS monitor. Manufacturers, however, have submitted 45-day comments requesting that the denominator incrementing criteria should use the same conditions as the proposed monitoring conditions for this monitor, which require that the CSERS monitoring conditions are met and idle operation in park or neutral during the first 30 seconds after engine start is greater than or equal to 10 seconds. In general, the denominator incrementing criteria are not the same as the monitoring conditions since the resulting ratio (and thus the required minimum ratio) would most likely be close to 1.000. The enable conditions for this monitor are restrictively prescribed and staff do not have sufficient data at this time to support a less restrictive denominator. Therefore, staff have elected to accept the manufacturer's proposal and will revisit the issue in a future rulemaking update to determine if additional changes will be needed to the denominator incrementing criteria.
9. In sections 1968.2(d)(4.5.5) and 1971.1(d)(4.5.4), the denominators that use the incrementing criteria in sections 1968.2(d)(4.3.2)(N) and (O) and 1971.1(d)(4.3.2)(M) and (N) would be required to disable incrementing along with the corresponding numerator if a malfunction is detected for any component used to determine if the criteria in these sections are satisfied. Generally, when new denominator incrementing criteria are added to the regulation, the corresponding numerator and denominator disablement requirements in the regulation would also be modified to account for denominators using these new criteria, since the IUMPR data would be misleading if the numerator and denominators continued to increment with the malfunction. While the denominator incrementing criteria in sections 1968.2(d)(4.3.2)(N) and 1971.1(d)(4.3.2)(M) were proposed as part of the 45-day notice, staff mistakenly did not concurrently update the denominator disablement criteria in sections 1968.2(d)(4.5.5) and 1971.1(d)(4.5.4) to account for denominators that use these new criteria. Additionally, the denominators described in sections 1968.2(d)(4.3.2)(O) and 1971.1(d)(4.3.2)(N) are newly proposed as part of the 15-day notice. Therefore, staff is

proposing to update the denominator disablement requirements to account for these denominators.

10. Sections 1968.2(e)(11.1.3), 1968.2(f)(12.1.2), 1971.1(e)(11.1.2), and 1971.1(f)(4.1.2) were modified to add the word “feature” to the list including an “element, feature, or component” associated with the CSERS that would be required to meet the requirements of these sections. The term “feature” was added to match the term used in the CSERS monitor regulation language that was proposed as part of the 45-day notice, but inadvertently left out of these sections.
11. In sections 1968.2(e)(11.2.2), 1968.2(f)(12.2.1), 1971.1(e)(11.2.1), and 1971.1(f)(4.2.2), changes were made to the implementation dates for the current gasoline and diesel CSERS monitoring requirements to correct errors and to account for the newly proposed changes to the implementation schedules for the new CSERS monitors. Specifically, these sections were modified to delete mentions that the current CSERS monitoring requirements applied to vehicles/engines up through the 2025 model year, and to indicate the current CSERS monitoring requirements applied to vehicles/engines not included in the phase-in specified for the new CSERS system monitoring requirements. As part of the 45-day notice, staff proposed that the new diesel CSERS system monitoring requirements in sections 1968.2(f)(12.2.2) and 1971.1(e)(11.2.2) (which are intended to replace the current CSERS emission threshold monitoring requirements in sections 1968.2(f)(12.2.1)(B) and 1971.1(e)(11.2.1)(B), respectively) would be phased-in during the 2026 through 2028 model years. However, staff mistakenly proposed that the current diesel CSERS emission threshold monitoring requirements end with the 2025 model year, which inadvertently would cause some 2026 and 2027 model year vehicles/engines to not be subject to any CSERS system monitoring requirements. Therefore, staff is proposing changes to correct this. Further, as described below (for sections 1968.2(e)(11.2.3), 1968.2(e)(11.2.4)(A), 1968.2(f)(12.2.3)(A), 1971.1(e)(11.2.3)(A), 1971.1(f)(4.2.3), and 1971.1(f)(4.2.4)(A)), staff is proposing to change the implementation dates for the rest of the new gasoline and diesel CSERS monitoring requirements from a 2026 model year start date to a 2026 through 2028 model year phase-in schedule. Therefore, changes needed to be made to the implementation dates for the current CSERS monitoring requirements to account for this.
12. In sections 1968.2(e)(11.2.3), 1968.2(e)(11.2.4)(A), 1968.2(f)(12.2.3)(A), 1971.1(e)(11.2.3)(A), 1971.1(f)(4.2.3), and 1971.1(f)(4.2.4)(A), changes were made to the implementation start dates of the monitoring requirements for the gasoline CSERS cold start catalyst heating monitor and the gasoline and diesel CSERS component/feature monitors. Specifically, the 2026 model year start date that was proposed as part of the 45-day notice was changed to a phase-in schedule that would require the monitoring requirements to be met on 20 percent of 2026, 50 percent of 2027, and 100 percent of 2028 and subsequent model year vehicles/engines. The changes were made to align with the proposed phase-in schedule for the diesel CSERS catalyst warm-up strategy monitor in sections 1968.2(f)(12.2.2) and 1971.1(e)(11.2.2) so that the newly proposed CSERS monitoring requirements all have the same schedules to allow for implementation of all requirements within a single model year.

13. In sections 1968.2(e)(11.2.3) and 1971.1(f)(4.2.3), the phrases “in park or neutral” and “during idle” were added to make clear that the cold start catalyst heating monitor would be required to monitor the extra cold start exhaust heat energy directed to the catalyst during idle while the transmission gear selector is in park or neutral. While the 45-day language proposed for these sections indicated that monitoring would not be required if the idle operation during the first 30 seconds after engine start is less than 10 seconds, the language did not specifically state that the monitor was only required to run during idle operation while in park or neutral.
14. Sections 1968.2(e)(11.2.3)(A)(i) and 1971.1(f)(4.2.3)(A)(i) were modified to indicate that the additional element commanded by the CSERS would be determined by comparing the commanded values in a properly functioning warmed-up vehicle and a properly functioning vehicle during cold start instead of during a Federal Test Procedure (FTP) test cold start. These sections were modified to address 45-day comments sent by manufacturers indicating concerns about false failure detections if a constant malfunction threshold was used. The requirement proposed as part of the 45-day notice would have required manufacturers to use a single, fixed malfunction threshold determined by the FTP test cold start, which consists of ambient temperatures between 20 to 30 degrees Celsius. However, false failures may occur under higher ambient air temperatures (e.g., temperatures more than 30 degrees Celsius). Some manufacturers have calibrated their CSERS to provide quick catalyst heating based on the ambient air temperature at start, so a single and fixed CSERS malfunction threshold determined by a narrow ambient air temperature range (20 to 30 degrees Celsius) may cause false failures at higher ambient air temperatures. In order to address this issue, staff is proposing the changes mentioned above which would allow manufacturers to use variable malfunction thresholds determined by different ambient air temperatures.
15. Sections 1968.2(e)(11.2.3)(D) and 1971.1(f)(4.2.3)(D) were added to make clear the acceptable conditions for meeting the proposed cold start catalyst heating monitoring exemption criteria in sections 1968.2(e)(11.2.3)(C) and 1971.1(f)(4.2.3)(C), respectively. As part of the 45-day notice, staff proposed that to be exempt from the gasoline cold start catalyst heating monitoring requirements, manufacturers would need to show that disabling the CSERS would not cause emissions to exceed the full useful life emission standards on a cold start FTP test cycle with the CSERS fully disabled. In the ISOR, staff had indicated that vehicles that use both electrically-heated catalysts and accelerated catalyst heating based on engine operating conditions are expected to monitor the electrically-heated catalyst and keep the electrically-heated catalyst enabled during the monitoring exemption test. In order to provide correct and fair test-out results, staff believes that the manufacturer cannot increase the electric heating beyond normal vehicle operation levels during this monitoring exemption testing. Manufacturers have submitted 45-day comments requesting this information be included in the regulation language, which staff is now proposing.
16. In sections 1968.2(e)(11.2.4)(B)(iii) and 1971.1(f)(4.2.4)(B)(iii), the example in the definition of “properly respond” was changed from using “idle speed” to “fuel pressure.” Since staff is proposing specific requirements for the idle speed control in

other sections (see sections 1968.2(e)(11.2.4)(C) and 1971.1(f)(4.2.4)(C) below), staff believe using “idle speed” as an example is not appropriate anymore.

17. Sections 1968.2(e)(11.2.4)(C) and 1971.1(f)(4.2.4)(C) were added to require the OBD system to detect certain malfunctions of the idle speed control while the CSERS monitoring conditions (as defined in section (c)) are met. Specifically, the OBD system would be required to detect a malfunction when the idle speed control system cannot achieve the target idle speed within 300 revolutions-per-minute (rpm) below the target speed. Further, the OBD system would also be required to detect a malfunction when the idle speed does not meet conditions (i.e., the target idle speed within the smallest engine speed tolerance range) required to enable other monitors such as the CSERS Cold Start Catalyst Heating monitor. These sections were added to provide more specifications of how manufacturers would be required to design the idle speed control monitor mentioned in sections 1968.2(e)(11.2.4)(A) and 1971.1(f)(4.2.4)(A). While these monitors are already required for the idle speed control system in the comprehensive component monitoring requirements, staff believes these same monitoring requirements should be specified in the CSERS monitoring requirements to ensure that idle speed control malfunctions detected during cold start conditions are detected by different monitors (and therefore store different fault codes) than malfunctions detected during other vehicle operating conditions. This would help technicians more accurately pinpoint and repair such malfunctions. Further, staff believes the regulation language for the new CSERS monitoring requirements under sections 1968.2(e)(11.2.4) and 1971.1(f)(4.2.4) (proposed as part of the 45-day notice) are not specific and stringent enough to ensure the idle speed control system performs sufficiently for proper CSERS performance. Staff is concerned that with the 45-day language, manufacturers may design the idle speed control monitors to be less stringent than what staff believes is appropriate. In addition, there may be other malfunctions of the idle speed control system under cold start conditions that disable other monitors, reduce the monitoring frequency of such monitors, or cause changes in the engine and emission control operation under cold start conditions such that emissions increase and would not be detected by the OBD system under the proposed 45-day language. Therefore, staff is proposing revised idle control system monitoring requirements that would detect these malfunctions and would result in a more robust monitor. For the proposed monitoring requirement in sections 1968.2(e)(11.2.4)(C)(i) and 1971.1(f)(4.2.4)(C)(i), staff proposed a threshold of 300 rpm below the target speed (approximately 15 to 20 percent of the normal target idle speed at cold start), which staff believes would provide enough margin between failures and properly-working systems.
18. Sections 1968.2(e)(11.2.6) and 1971.1(f)(4.2.6) were added to allow manufacturers to use an alternate phase-in schedule for implementing the gasoline CSERS cold start catalyst heating monitor and the gasoline and diesel CSERS component/feature monitors with the exception that 100 percent of 2028 and subsequent model year vehicles/engines would be required to implement the monitors. These changes were made in conjunction with the modifications to the implementation dates for these monitors (as described above for sections 1968.2(e)(11.2.3), 1968.2(e)(11.2.4)(A), 1968.2(f)(12.2.3)(A), 1971.1(e)(11.2.3)(A), 1971.1(f)(4.2.3), and 1971.1(f)(4.2.4)(A)) and

would align with the implementation requirements of the diesel catalyst warm-up strategy monitor in section 1968.2(f)(12.2.2) and 1971.1(e)(11.2.2). Alignment of the implementation schedules for the newly proposed CSERS requirements would allow for implementation of all requirements within a single model year.

19. Sections 1968.2(e)(11.3.1) and 1971.1(f)(4.3.1) were added to allow manufacturers to disable the cold start catalyst heating monitor during conditions where robust detection of malfunctions is not possible, with the Executive Officer approving the disablement if the manufacturer submitted data and/or an engineering evaluation which demonstrate that a properly operating system cannot be distinguished from a malfunctioning system and the disablement is limited to only those conditions necessary when using the best available monitoring technology. There have been concerns regarding the technical feasibility of the monitor using the monitoring methods specified in sections 1968.2(e)(11.2.3)(B) and 1971.1(f)(4.2.3)(B) (e.g., increased intake airflow to engine, catalyst temperature) under certain conditions. For example, CARB staff has recently reviewed data showing the difficulty in robustly monitoring the increased intake airflow and catalyst temperature changes under low ambient air temperature conditions (e.g., -6.7 to 0 degrees Celsius). Therefore, staff is proposing regulation language that would allow manufacturers to disable the monitor under such conditions if the manufacturer submits data and/or an engineering evaluation demonstrating that robust monitoring under these conditions is technically infeasible.
20. In sections 1968.2(e)(15.2.2)(B)(iii) and 1971.1(g)(3.2.2)(B)(i)c., the definition of "engine stall" was deleted since it was moved to sections 1968.2(c) and 1971.1(c), respectively. Additionally, the reference to detecting engine stalls "when fuel level is 15 percent or more of the nominal capacity of the fuel tank" was deleted from these sections, and instead, sections 1968.2(e)(15.2.2)(B)(iii)c. and 1971.1(g)(3.2.2)(B)(i)c.3. were added to indicate that monitoring of engine stalls is not required when the fuel level is equal to or less than 15 percent of the nominal capacity of the fuel tank. Industry had submitted 45-day comments expressing concern that the original proposed language would have prohibited manufacturers from monitoring for stalls when the fuel level was low. The proposed new language would make it clear that monitoring for stalls when the fuel level is equal to or less than 15 percent of the nominal fuel tank capacity is allowed.
21. In sections 1968.2(f)(1.2.4)(B)(ii), 1968.2(f)(2.2.4)(B)(ii), 1968.2(f)(8.2.5)(B) (newly renumbered to 1968.2(f)(8.2.4)(B)(ii)), 1968.2(f)(5.2.2)(D)(i), 1971.1(e)(5.2.4)(B)(ii), 1971.1(e)(6.2.3)(B)(ii), 1971.1(e)(7.2.6)(B)(ii), and 1971.1(e)(9.2.2)(D)(i), the phrases "at a minimum" and "a minimum of" were deleted to avoid confusion about what provisions the manufacturers are required to meet, since the phrases imply that there are other required provisions that are not specifically stated. The deletions would clarify that the provisions stated are the only provisions manufacturer are required to meet.
22. In sections 1968.2(f)(1.2.4)(C), 1968.2(f)(2.2.4)(C), 1968.2(f)(8.2.6) (newly renumbered to 1968.2(f)(8.2.4)(C)), 1971.1(e)(5.2.4)(C), 1971.1(e)(6.2.3)(C), and 1971.1(e)(7.2.6)(C), staff is proposing to modify the condition under which the Executive Officer may waive the requirements for manufacturer submittal of the plan and data supporting the diesel

catalyst/adsorber monitor malfunction criteria. As part of the 45-day notice, staff proposed that the Executive Officer may waive the plan and data submittal if the plan and data have been submitted for a previous model year and the calibrations and hardware of the diesel catalyst/adsorber monitor, the engine, and the emission control system for the current model year have not changed from the previous model year. Manufacturers submitted 45-day comments arguing that these conditions are difficult to meet, since it is unlikely that all calibrations and hardware will remain unchanged from model year to model year. They have requested that CARB allow manufacturers to be exempt from the plan/data submittal requirement if the calibrations or hardware changes have no effect on the catalyst/adsorber aging in the field. CARB staff agree, and is proposing to modify the language to indicate that the Executive Officer may waive the plan/data submittal requirements if the aging method has not changed from the previous model year and the aforementioned calibrations and hardware have not changed such that the aging mechanisms are affected from the previous model year.

23. In sections 1968.2(f)(2.2.4)(B)(iii)a., 1968.2(f)(8.2.5)(C)(i) (newly renumbered to 1968.2(f)(8.2.4)(B)(iii)a.), 1971.1(e)(5.2.4)(B)(iii)a., 1971.1(e)(6.2.3)(B)(iii)a., and 1971.1(e)(7.2.6)(B)(iii)a., the section numbers related to the FTP emission results for the high mileage or field-retained parts have been changed to the correct section numbers. The language proposed as part of the 45-day notice incorrectly referred to the section number describing the "modal data," not the "emissions data."
24. In sections 1968.2(f)(5.2.2)(D)(i) and 1971.1(e)(9.2.2)(D)(i), language was added in sections 1968.2(f)(5.2.2)(D)(i)c. and 1971.1(e)(9.2.2)(D)(i)c. to indicate that the compliance criterion for the NO_x sensor monitor in these sections, which would require the dependent monitor to make a fail decision during testing for "each data point in the passing region of the sensor monitor," would exempt the data point at the sensor monitor malfunction threshold. While the data point was exempted from the compliance criteria in sections 1968.2(f)(5.2.2)(D)(i)a. and b. and 1971.1(e)(9.2.2)(D)(i)a. and b. as part of the 45-day notice, staff mistakenly left out this exemption in sections 1968.2(f)(5.2.2)(D)(i)c. and 1971.1(e)(9.2.2)(D)(i)c., which staff is now proposing to address. Additionally, a new compliance criterion was added (sections 1968.2(f)(5.2.2)(D)(i)d. and 1971.1(e)(9.2.2)(D)(i)d.) that would require either the dependent monitor or NO_x sensor monitor to make a fail decision during testing at the data point at the sensor monitor malfunction threshold. This new criterion, which staff mistakenly left out in the regulation language made available as part of the 45-day notice, is intended to avoid requiring manufacturers to detect double faults for the data point at the sensor monitor malfunction threshold. This additional criterion, along with the other criteria proposed as part the 45-day notice, would provide CARB and industry with a complete set of compliance criteria for the NO_x sensor monitor "gap" analysis that would assist CARB staff in determining that the "gap" does not exist for a manufacturers' NO_x sensor monitor. Lastly, sections 1968.2(f)(5.2.2)(D)(i)g. and 1971.1(e)(9.2.2)(D)(i)g. were modified to indicate that submittal of additional data points would be allowed if the original manufacturer data do not satisfy the new compliance criterion in sections 1968.2(f)(5.2.2)(D)(i)d. and 1971.1(e)(9.2.2)(D)(i)d.. Manufacturers have indicated that data submitted at the sensor monitor malfunction threshold may not show failing results on a fraction of test cases. Allowing the

manufacturer to submit additional data for the data point at the sensor monitor malfunction threshold would give the manufacturer the opportunity to show that its OBD system does not have a vulnerability for false passes at the sensor monitor malfunction threshold and that given additional time and monitoring opportunities, the system will eventually reach the correct monitoring decision and illuminate the malfunction indicator light (MIL). Accordingly, the reference to criterion d. when discussing results being in the 2 percent tail of normal distribution was deleted since the new language for criterion d. would already cover such results and would therefore be redundant.

25. In sections 1968.2(f)(12.2.4) and 1971.1(e)(11.2.4), changes were made to allow the diesel CSERS component/feature monitors to use an alternate phase-in schedule (with 100 percent implementation in the 2028 model year) in lieu of the required phase-in schedule. These sections originally allowed this only for the diesel CSERS catalyst warm-up strategy monitor. However, since the implementation schedule for the diesel CSERS component/feature monitors were changed to phase-in schedules (as described above for sections 1968.2(f)(12.2.3)(A) and 1971.1(e)(11.2.3)(A)), these monitors should also be able to use this allowance.
26. Sections 1968.2(g)(1.4.2) and 1971.1(h)(1.4.2), which incorporate by reference the SAE J1979-2 "E/E Diagnostic Test Modes: OBD on UDS" document, were moved to sections 1968.2(g)(1.14) and 1971.1(h)(1.13), respectively. As part of the 45-day notice, SAE J1979-2 was proposed in sections 1968.2(g)(1.4.2) and 1971.1(h)(1.4.2)), which in turn were subsections of the SAE J1979 "E/E Diagnostic Test Modes" document referenced in sections 1968.2(g)(1.4) and 1971.1(h)(1.4), respectively. Manufacturers have submitted a 45-day comment indicating that the proposed organization of the sections in the 45-day notice made it seem like SAE J1979-2 was a part of SAE J1979, which it is not. Therefore, staff is proposing changes to make clear SAE J1979 and SAE J1979-2 are separate standards.
27. In sections 1968.2(g)(3.4.2) and 1971.1(h)(3.1.3), language was added to expand the list of negative response codes (NRC) the OBD system is allowed to respond with to a scan tool. As part of the 45-day notice, staff proposed that certain NRCs would be allowed in response to requests for tracking data and the clearing of emissions-related diagnostic information in cases where the vehicle's/engine's computer module is unable to respond to a request from a generic scan tool within an allowable time. Manufacturers submitted 45-day comments requesting additional cases for the use of NRCs be allowed to cover more cases that may prevent a computer module from responding to functional and physical scan tool requests, such as when a scan tool request is not supported or is invalid. CARB agrees with these manufacturer comments, since the additional NRCs would better communicate to the generic scan tool the reason a particular request was not fulfilled. Further, additional NRCs received by the generic scan tool may initiate a temporary pause in requests from the scan tool to a particular vehicle/engine computer module that would allow the module more time to process a previous request. This would help alleviate unnecessary request message traffic from the generic scan tool and provide additional information to a technician about the reason the vehicle was unable to fulfill a generic scan tool request. Therefore, staff is proposing changes to allow the OBD systems to respond

with additional NRCs in response to specific functional and physical request messages from the scan tool. First, instead of having the language indicate the OBD system is prohibited from responding with NRCs except in certain cases, staff is proposing changes to these sections to indicate the OBD system may respond with NRCs in accordance with SAE J1979-2 except in certain cases. This would simplify the language since the list of prohibited NRCs would be shorter than the list of allowable NRCs. Second, staff is proposing to add language indicating that the NRC requirements documented in SAE J1979-2 have to be met with the following exceptions: NRC \$13 is not allowed in response to invalid request message format; NRC \$21 is not allowed in response to Service \$22; NRC \$72 is not allowed in response to Service \$14 unless the OBD system detects a fault and stores a fault code for an on-board computer malfunction; only one NRC \$78 is allowed in response to a Service \$14 or Service \$19 subfunction \$42/\$55 request message; and NRC \$78 is only allowed for Service \$22 when certain data are requested (specifically, the calibration identification number, the NOx emission tracking data, or the vehicle operation tracking data in sections 1968.2(g)(6.3) through (6.5) or 1971.1(h)(5.4) through (5.6)).

28. In sections 1968.2(g)(4.3.2)(B) and 1971.1(h)(4.3.2)(B), the proposed requirement to report cylinder-specific misfire counts in the freeze frame on vehicles/engines meeting SAE J1979-2 was removed with the deletions of references to sections 1968.2(g)(4.2.2)(F)(ii) and 1971(h)(4.2.4)(B). This parameter was deleted because the storage of cylinder-specific misfire counts for each engine cylinder in the freeze frame would require an excessive amount of memory storage, which staff believes is not reasonable considering similar data could be accessed in the data stream.
29. In sections 1968.2(g)(4.4.6)(D) and 1971.1(h)(4.4.1)(F)(iv), the language was modified to indicate the current permanent fault code erasure requirements applied to vehicles/engines using SAE J1979. Additionally, new language was added for vehicles/engines using SAE J1979-2 to allow permanent fault codes to be erased when the control module containing the fault code is reprogrammed if the readiness bits for all monitored components and systems in the module are set to "not complete" in conjunction with the reprogramming event. CARB staff is proposing these changes because CARB proposed (as part of the 45-day notice) that SAE J1979-2 vehicles/engines would be required to have the comprehensive component readiness group show "complete" when the monitors have completed instead of showing "complete" regardless of the monitor completion status. This new functionality for SAE J1979-2 vehicles/engines would eliminate a potential loophole where vehicle owners could falsely pass an inspection and maintenance (I/M) test by reprogramming a module to erase a permanent fault code before an I/M inspection.
30. In sections 1968.2(g)(4.8.2) and 1971.1(h)(4.8.3), the language was modified to apply the current vehicle identification number (VIN) (in both the OBD II and HD OBD regulations) and engine serial number (ESN) reprogramming requirements (in the HD OBD regulation) to vehicles/engines using "SAE J1979" or "SAE J1979 or SAE J1939," respectively. Additionally, new language was added for vehicles/engines using SAE J1979-2 to require all emission-related diagnostic information (defined in sections 1968.2(g)(4.10.1) and 1971.1(h)(10.1)) to be erased in a control module that is reprogrammed in conjunction with reprogramming the VIN or ESN. CARB staff is

proposing these changes because CARB proposed (as part of the 45-day notice) that SAE J1979-2 vehicles/engines would now have the comprehensive component readiness group show "complete" when the monitors have completed instead of showing "complete" regardless of the monitor completion status. This new functionality for SAE J1979-2 vehicles eliminates a potential loophole where vehicle owners could falsely pass an I/M test by reprogramming a module (i.e., reprogramming the VIN or ESN) to erase all emission-related diagnostic information before an I/M inspection.

31. In sections 1968.2(g)(6.12.3)(F) and 1971.1(h)(5.3.3)(F), the data requirements for the NOx emission tracking parameter in Bin 15 were rewritten to require storage of data when "none of the Not-To-Exceed (NTE) exclusion criteria are satisfied" instead of when "no exclusions apply." The original language could be misinterpreted to mean that data should be stored in Bin 15 regardless of the NTE exclusions instead of staff's intent that data should not be stored in Bin 15 when any NTE exclusion criteria are satisfied. The proposed amendment more clearly states the meaning of the requirement.
32. In sections 1968.2(g)(6.14.1) and 1971.1(h)(5.9.1), a few definitions for the diesel CSERS tracking requirements were modified to address manufacturers' concerns that were submitted as 45-day comments. First, the definition names "catalyst light-off temperature" in sections 1968.2(g)(6.14.1)(A) and 1971.1(h)(5.9.1)(A) were modified to "catalyst cold start tracking temperature threshold," and the definitions were modified such that the temperature threshold refers to when the selective catalytic reduction (SCR) catalyst temperature that is directly measured or estimated for purposes of enabling diesel exhaust fluid (DEF) dosing reaches 180 degrees Celsius. The original regulation language proposed as part of the 45-day notice defined the catalyst light-off temperature in more general terms of NOx conversion efficiency. Industry indicated through their 45-day comments that more specific language was needed in this definition. The purpose of applying diesel cold start emission reduction strategies is to quickly heat up key aftertreatment elements (e.g., SCR catalyst). For a diesel system, the urea dosing amount needs to be precisely delivered for effective NOx reduction in the SCR system. In current system designs, urea injection may begin at SCR catalyst temperatures as low as 180 degrees Celsius. This reference urea dosing enable temperature may be used as the target temperature to evaluate how quickly the SCR temperature rises after engine start up. Therefore, this newly defined temperature would appropriately accomplish the purpose of the diesel CSERS trackers and provide a clear and more specific target for diesel CSERS tracking parameters. As a result of the changes, the references to "catalyst light-off temperature" were changed to "catalyst cold start tracking temperature threshold" and the references to "SCR catalyst inlet temperature" were deleted in sections 1968.2(g)(6.14.1)(A), (B), and (D) and 1971.1(h)(5.9.1)(A), (B), and (D). These deletions were necessary to harmonize the reference temperature of the SCR catalyst used to enable DEF dosing with the threshold temperature of 180 degrees Celsius. Second, the definition name "FTP catalyst light-off time" was changed to "FTP catalyst cold start tracking time" in sections 1968.2(g)(6.14.1)(B) and 1971.1(h)(5.9.1)(B) due to the name changes in sections 1968.2(g)(6.14.1)(A) and 1971.1(h)(5.9.1)(A) described above. Third, in

sections 1968.2(g)(6.14.1)(E) and 1971.1(h)(5.9.1)(E), the definition name "post-diesel oxidation catalyst (DOC) heat energy" was changed to "pre-SCR heat energy," references to the heat energy flow being "through the diesel oxidation catalyst (DOC)" were changed to "prior to the SCR," and the equations for the "heat energy flow prior to the SCR" were changed to involve the temperature difference between the "SCR inlet and ambient" instead of the "DOC outlet and ambient." The change of "post-DOC" to "pre-SCR" would provide clarification and more accurate naming of the parameters.

33. In sections 1968.2(g)(6.14.2) and 1971.1(h)(5.9.2), as a result of the name changes in sections 1968.2(g)(6.14.1) and 1971.1(h)(5.9.1) described above, the term "post-DOC heat energy" was changed to "pre-SCR heat energy," the term "FTP catalyst light-off time" was changed to "FTP catalyst cold start tracking time," and the term "catalyst light-off temperature" was changed to "catalyst cold start tracking temperature threshold" throughout the sections. The term "on-road" was deleted from sections 1968.2(g)(6.14.2)(C), (E), and (H), and 1971.1(h)(5.9.2)(C), (E), and (H) to avoid confusion, since manufacturers had indicated that "on-road" was not used in the definition names in sections 1968.2(g)(6.14.1)(A) and 1971.1(h)(5.9.1)(A). Additionally, the parameter names "engine energy output timer" and "catalyst light-off timer" in sections 1968.2(g)(6.14.2)(I) and (J) and 1971.1(h)(5.9.2)(I) and (J) were changed to "timer #1 engine energy output accumulated time" and "timer #2 catalyst cold start tracking accumulated time," respectively. The name changes would mimic the inclusion of numbers in the names of other CSERS trackers (e.g., heat energy release tracker #1), more accurately reflect the parameter being tracked, and keep the names consistent for these CSERS trackers to facilitate implementation of these trackers in OBD software. Lastly, the terms "accumulate" and "increment" were changed to "track" to be consistent with the existing regulation language and to more clearly describe how the parameters should work.
34. In sections 1968.2(g)(8.1.1) and 1971.1(h)(6.1.1), the date of the "Data Record Reporting Procedures for Over-the-Air Reprogrammed Vehicles and Engines Using SAE J1979-2" was changed from June 1, 2021, to December 15, 2021, to reflect a newer version of the document. The changes to the document include: spelling out abbreviations used in the first instance, including "comma_separated values (CSV)", "Document Management System (DMS)" (including a summary explanation that DMS is the current electronic file system for uploading OBD applications), and "w" to "with" in the "Vehicle/Engine Run Time and Emissions Performance Fields" table on p. 3-4; amending the time to collect and submit date from 60 to 75 days; and adding the "Cold Start Emission Reduction Strategy (CSERS) Tracking Fields" table on p. 20-22. See "Other Modifications," below.
35. In sections 1968.2(i)(2.14) and 1971.1(j)(2.16), regarding the information that is required to be included in the cover letter for the certification documentation, an example of known issues applying to the current model year test group or engine was added, indicating that such examples include issues found during production vehicle or engine evaluation testing from the previous model year. Production vehicle/engine evaluation testing is a key component of the post-certification process that serves to identify issues early during vehicle or engine production and also helps reduce the

chance for significant problems going undetected. In order to ensure problems identified during this testing are corrected before they become larger problems in-use, CARB staff try to minimize further exposure of these identified issues into the field during the review and approval of future model year engines and vehicles. As a result, CARB staff is amending and providing clarification to the certification documentation cover letter requirement to account for these issues.

36. In sections 1968.2(j)(1.3), 1971.1(l)(1.3.1), 1971.1(l)(1.3.2), and 1971.1(l)(2.3.3), references to the SAE J1699-3 and SAE J1939/84 software being available at sourceforge.net were deleted. Industry had submitted 45-day comments informing CARB staff that new versions of the software will no longer be made available at the sourceforge.net website, and that the new SAE J1699-3 software will be made available on another website (currently, the software is available at the Auto Innovators website (<https://www.autosinnovate.org>)) at a cost, though it was noted that older versions of the SAE J1699-3 software will still be available at no cost. Further, industry indicated that the SAE J1939/84 software will be made available at no cost on another website (currently, the software is available at <https://github.com/Equipment-and-Tool-Institute/j1939-84/releases/latest>). Further, the language in sections 1968.2(j)(1.3), 1971.1(l)(1.3.1), and 1971.1(l)(1.3.2) were modified to indicate the SAE J1699-3 and SAE J1939/84 software of concern are those maintained specifically for SAE J1699-3 and SAE J1939/84 testing instead of for the SAE J1699-3 and SAE J1939/84 committees to make clearer the intent of the software being used.
37. Sections 1968.2(j)(1.5) and 1971.1(l)(1.5) were modified to change the report submission requirements for the production vehicle/engine evaluation verification of standardization requirements. Sections 1968.2(j)(1.5) and 1971.1(l)(1.5.1) were modified to require the report of the testing results to be one single file for each model year, to include the information listed in the subsections below, and to include testing results for all testing completed for vehicles/engines in that specific model year. The file must be updated by the manufacturer after each test completion, within the specified timelines. Sections 1968.2(j)(1.5.1) and 1971.1(l)(1.5.1)(B) were modified to require the manufacturer to submit the test log file in addition to the currently required written report if any of the requirements under section 1968.2(j)(1.4) or 1971.1(l)(1.4) are not met during testing. While the manufacturer is currently required to submit the test log file for any passing testing conducted under sections 1968.2(j)(1) and 1971.1(l)(1), the test log file contains important data that staff could review and use to better understand the issues with failed tests. In sections 1968.2(j)(1.5.1) and (1.5.2) and 1971.1(l)(1.5.1)(A) and (B), mentions of "report" were changed to "information" to avoid confusion about how many reports are required to be submitted (since the report requirements were already provided in sections 1968.2(j)(1.5) and 1971.1(l)(1.5.1)), and language was added to indicate that all information in sections 1968.2(j)(1.5.4) and 1971.1(l)(1.5.1)(C) is required to be included in the report. Sections 1968.2(j)(1.5.4) and 1971.1(l)(1.5.1)(C) were added to list the pertinent information that manufacturers are required to include in the report for each test. These changes to the report submission requirements, which would enhance the report currently required to be submitted for this testing, would ensure

that manufacturers are submitting all the required information and highlight issues identified from the testing. With over 1,000 post-production reports submitted on an annual basis and much of the specific critical information being difficult to find in the data files or reports, CARB staff is unable to quickly identify issues discovered during the testing. As a result of CARB staff being unable to precisely narrow their attention on the issues and most important information, OBD noncompliances are not always expeditiously addressed in a timely manner. As such, this summarized information would streamline staff's review of the production vehicle/engine evaluation tests results by allowing staff to focus on any OBD noncompliances discovered during the production vehicle/engine evaluation testing and ensure they are properly addressed by the manufacturer.

38. Sections 1968.2(j)(2.4) and 1971.1(l)(2.4) were modified to change the report submission requirements for the production vehicle/engine evaluation verification of monitoring requirements. Sections 1968.2(j)(2.4) (newly renumbered to 1968.2(j)(2.4.1)) and 1971.1(l)(2.4) (newly renumbered to 1971.1(l)(2.4.1)) were modified to require the report of the testing results to include the information listed in the newly added sections 1968.2(j)(2.4.2) and 1971.1(l)(2.4.2). Additionally, language indicating that a summary of any problems identified during testing was required to be reported was deleted from sections 1968.2(j)(2.4.1) and 1971.1(l)(2.4.1), since the information was moved to list of required information in sections 1968.2(j)(2.4.2) and 1971.1(l)(2.4.2) and as a result would be redundant if not deleted. Sections 1968.2(j)(2.4.2) and 1971.1(l)(2.4.2) would list the pertinent information that manufacturers would be required to include in the report for each test. These changes to the report submission requirements, which would enhance the report currently required to be submitted for this testing, would ensure that manufacturers are submitting all the required information and highlight problems identified from the testing. The current regulation does not contain a standardized format or standardized list of information required for the reporting requirements for this testing, so many of the critical details are difficult to find or missing. This prolongs CARB staff's review, and prevents CARB from focusing on those tests that require a remedy for OBD noncompliances or issues discovered. As such, the additional list of information required to be included in the report would streamline staff's review of the production vehicle/engine evaluation tests results by allowing staff to focus on any OBD noncompliances discovered during the production vehicle/engine evaluation testing to ensure they are properly addressed by the manufacturer.
39. In sections 1968.2(j)(3.2.1)(A), 1968.2(j)(3.2.2)(B) (newly renumbered to 1968.2(j)(3.2.2)(A)), 1971.1(l)(3.4.1)(A), and 1971.1(l)(3.4.2)(B) (newly renumbered to 1971.1(l)(3.4.2)(A)), additional information was added to the list of data manufacturers are required to submit for their production vehicle/engine evaluation test results for in-use monitoring performance. The additional information includes the OBD II group or OBD certification documentation group (if applicable), whether or not the vehicle is an alternate-fueled vehicle, and powertrain type (i.e., conventional, mild hybrid electric, strong hybrid electric, or plug-in hybrid electric vehicle). This additional information would assist CARB staff in reviewing the data and more accurately assessing in-use monitoring performance issues.

40. In sections 1968.2(j)(3.2.2)(A) and 1971.1(l)(3.4.2)(A), the minimum required general denominator value of 300 for the in-use monitor performance ratio data submitted under sections 1968.2(j)(3) and 1971.1(l)(3) was deleted. Manufacturers submitted 45-day comments expressing concern about the minimum 300 general denominator criterion, indicating that it would be very difficult to procure enough vehicles that meet this criterion, meet the minimum requirement of 15 vehicles procured, and meet the deadline required by the regulation (e.g., one year after the start of normal production). Staff agrees and therefore is proposing to delete this criterion. Further, the deletions of sections 1968.2(j)(3.2.2)(A) and 1971.1(l)(3.4.2)(A) result in the renumbering of the sections that follow.
41. Sections 1968.2(l) and 1971.1(n) were added to indicate that wherever the regulations require manufacturers to submit information to the Executive Officer, the manufacturer may send the information through the electronic documentation system at the website <https://ww2.arb.ca.gov/certification-document-management-system>. The sections were added to indicate a method by which manufacturers may submit required information, since the regulation did not previously specifically identify how to do so.

Additional Modifications to the OBD II Regulation Section 1968.2

42. In section 1968.2(c), the definition of "Emission Increasing Auxiliary Emission Control Device (EI-AECD)" was modified to include language indicating the date (January 25, 2018) applicable to the Code of Federal Regulations (CFR) sections mentioned and that the sections are incorporated by reference. These terms are not new to this regulation as they have been adopted previously in their respective sections of the CCR but it is necessary to incorporate them now to ensure the correct definitions are being applied to this regulation. Additionally, the definition was modified to apply a recently adopted condition of the definition to 2026 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles certified to a chassis dynamometer tailpipe emission standard. An EI-AECD is currently defined as an approved AECD that, among other conditions, meets condition (1) or (2): (1) the need for the AECD is justified in terms of protecting the vehicle against damage or accident, or (2) is related to adaptation or learning (e.g., selective catalytic reduction system adaptation). Condition (2) was adopted in 2019 when the OBD regulations were updated and currently only applies to 2024 and subsequent model year medium-duty vehicles certified to an engine dynamometer tailpipe emission standard in the OBD II regulation. The additional condition was added to include AECDs related to adaptation and learning, which staff had discovered are not needed for engine protection, but may result in an increase in emissions. Sections 1968.2(g)(6.1) and (g)(6.2) currently require diesel vehicles to track and report EI-AECD operation. Requiring strategies related to adaptation and learning to be tracked and reported would help staff better understand the extent to which emissions may be increasing during in-use operation due to these emission-increasing adaptation and learning strategies and would confirm the claimed in-use behavior of such strategies by manufacturers. Therefore, staff is proposing to modify the definition of an EI-AECD in

the OBD II regulation to include such strategies for passenger cars, light-duty trucks, and medium-duty vehicles certified to a chassis dynamometer tailpipe emission standard.

43. In section 1968.2(c), the definition of "FTP cycle" was modified to include language indicating the dates (July 8, 2019 and January 25, 2018) applicable to the CFR sections mentioned and that the sections are incorporated by reference. These terms are not new to this regulation as they have been adopted previously in their respective sections of the CCR but it is necessary to incorporate them now to ensure the correct definitions are being applied to this regulation.
44. In section 1968.2(d)(3.2.1)(A), the language was modified to indicate that the 0.260 minimum acceptable IUMPR does not apply to the diesel CSERS catalyst warm-up strategy monitor and the gasoline CSERS cold start catalyst heating monitor, and that the monitors that are required to meet the 0.260 ratio include those utilizing a denominator incremented in accordance with section 1968.2(d)(4.3.2)(N). Since section 1968.2(d)(3.2.1) states that the 0.260 ratio applied to "other cold start related monitors," staff was concerned that the language would be misread to include all CSERS monitors, even though different minimum ratios are being proposed for these two monitors mentioned above (in sections 1968.2(d)(3.2.1)(D) and (E)). Further, since 15-day changes are being proposed to require the CSERS feature/component monitors to increment the denominators in accordance with section 1968.2(d)(4.3.2)(N), and since staff intended these monitors to be subject to the 0.260 minimum ratio requirement, staff modified the language to include mention of section 1968.2(d)(4.3.2)(N).
45. In section 1968.2(f), Table 3, which describes the OBD monitor thresholds for the Low Emission Vehicle III diesel PM filter filtering performance monitor, was modified to correct errors in the applicable model years for the PM thresholds. As part of the 45-day notice, staff proposed language for passenger cars, light-duty trucks, and chassis-certified medium-duty passenger vehicles where Option 1 would require a PM threshold of 17.50 milligrams per mile (mg/mi) for the 2026-2029 model years and a PM threshold of 10.00 mg/mi for the 2029 and subsequent model years. As described in the ISOR, staff intended to propose the 10.00 mg/mi threshold to be applied starting with the 2029 model year. Since the proposed regulation language incorrectly included the 2029 model year for both PM thresholds, staff is proposing to correct the applicable model years for the 17.50 mg/mi threshold to "2026-2028MY." Further, for the PM thresholds for 2019 and subsequent model year chassis certified medium-duty vehicles with a gross vehicle weight rating between 8,500 and 10,000 pounds, the language "Pre-2029MY," which was proposed as part of the 45-day notice, was modified to "Up to and including the 2028MY" to match the language in the rest of Table 3.
46. Sections 1968.2(f)(8.2.4) through (f)(8.2.6) were renumbered so that all sections are contained under section 1968.2(f)(8.2.4), and a title "Adsorber System Aging and Monitoring" was added to section 1968.2(f)(8.2.4). The changes were made to align with how the analogous sections for the system aging and monitoring requirements were structured for the non-methane hydrocarbon (NMHC) catalyst and NO_x catalyst in sections 1968.2(f)(1.2.4) and 1968.2(f)(2.2.4).

47. In section 1968.2(f)(9.2.4)(B)(iii), the language was revised to indicate that for OBD II systems that have a catalyzed PM filter NMHC conversion efficiency monitor or are exempt from these monitoring requirements due to meeting the monitoring exemption criteria, the manufacturer is not required to meet the catalyzed PM filter feedgas generation performance monitoring requirements. The original language proposed as part of the 45-day notice indicated that manufacturers with OBD II systems that have a catalyzed PM filter NMHC conversion efficiency monitor may use that monitor to meet the catalyzed PM filter feedgas generation performance monitoring requirements. The language, however, did not address cases where the OBD system did not have a catalyzed PM filter NMHC conversion efficiency monitor due to meeting the monitoring exemption requirements of section 1968.2(f)(9.2.4)(B)(i)a., which exempts monitoring if the emissions impact is not significant for a NMHC conversion performance malfunction. A catalyzed PM filter with such a malfunction would also be expected to have a minor impact on emissions with a feedgas performance malfunction. Therefore, CARB believes OBD systems that meet this monitoring exemption should also be exempt from having a specific catalyzed PM filter feedgas generation performance monitor requirement.
48. In section 1968.2(g)(4.1.2)(B), the 45-day notice amendments requiring the gasoline and diesel air conditioning (A/C) system component readiness bits were removed. During discussions between CARB staff and the SAE J1979-2 committee when the regulation amendments were being developed, an agreement was made to not require readiness bits for the gasoline and diesel A/C system component monitors. However, staff incorrectly proposed to add these readiness bits as part of the 45-day notice. Therefore, staff is proposing to remove these readiness bits, which results in the renumbering of subsections under section 1968.2(g)(4.1.2)(B).
49. In section 1968.2(g)(4.3.2)(B), the section reference "(g)(4.3.3)" was changed to "(g)(4.3.2)(C)" to fix an error and refer to the correct section.
50. In section 1968.2(g)(4.8.2), the phrase "if the VIN is reprogrammable" was deleted since this was already stated in section 1968.2(g)(4.8.2), so it is redundant and potentially confusing to be repeated in this section.
51. In section 1968.2(g)(6.12.3)(F), the language was modified to indicate the requirement to set Bin 15 to zero for medium-duty vehicles certified to a chassis dynamometer tailpipe emission standard starts in the 2026 model year. When CARB staff proposed this as part of the 45-day notice, staff forgot to propose a model year start date for this new requirement. Therefore, staff is proposing to require manufacturers of these vehicles to meet this starting in the 2026 model year.
52. Section 1968.2(g)(6.6.3) was added to describe the numerical value specifications for parameters specified in section 1968.2(g)(6.14) (i.e. the CSERS tracking parameters). The proposed specifications would require the tracking parameters for historical data to reset to zero only when a non-volatile random access memory (NVRAM) reset occurs, and would prohibit them from resetting to zero under any other circumstances. The tracking parameters for the current driving cycle data would be required to reset to zero if a scan tool command to clear fault codes is received, an NVRAM reset occurs, or, if stored in keep alive memory (KAM), when keep alive memory is lost. The tracking parameters for the current driving cycle would be stored within 10 seconds

after all the parameters have stopped incrementing in the driving cycle, while parameters for the historical data would be stored within 600 seconds after the end of the driving cycle. The parameters would also be required to meet the standardized format specified in SAE J1979 or SAE J1979-2, whichever is applicable. While the ISOR described these proposed requirements and the HD OBD regulation (section 1971.1(h)(5.9.5)) included these requirements as part of the 45-day notice, staff mistakenly did not include these requirements in the OBD II regulation.

53. In section 1968.2(j)(1.4.2)(B), the section reference "section (g)(4.1.2)(E)" was changed to "section (g)(4.1.2)(F)" to fix an error and refer to the correct section.
54. Section 1968.2(j)(2.3.2), which currently requires manufacturers to test non-MIL illuminating diagnostics of components that enable other OBD diagnostics (e.g., fuel level sensor), was deleted since the requirement is now redundant. As part of the OBD rulemaking update in 2015, section 1968.2(j)(2.3.1)(A) was adopted to address testing of emissions neutral diagnostics. However, staff mistakenly did not delete section 1968.2(j)(2.3.2), which was the older language that addressed testing of monitors that are now categorized as emissions neutral diagnostics. Accordingly, the deletion of section 1968.2(j)(2.3.2) results in the renumbering of the sections that follow.
55. In section 1968.2(k)(3), language was added to clarify that the deficiency fines apply to vehicles "produced for sale in California" and to describe the specific timelines in which manufacturers are required to submit their deficiency fines payments. Regarding the proposed timeline for deficiency fines payments, the proposal would require the manufacturer to report the number of affected vehicles produced for sale in California during the quarter and submit the total payment for the vehicles produced for sale during that quarter not more than 30 calendar days after the close of the quarter. Staff would also allow the manufacturer to propose an alternate payment schedule for Executive Officer approval if the proposal results in paying the total fines in a timely manner and based on the projected sales volume of the entire manufacturer product line. The proposed language indicating vehicles "produced for sale in California" is intended to clear up confusion about what vehicles are subject to the fines. Considering payments would be made quarterly, vehicles will not have necessarily been sold when each quarterly payment is due, so it is easier to base the payment on the number of vehicles that were produced for the California market. The proposed language related to the payment schedule is needed to make clear to manufacturers the timeline on when they are required to pay the fines. The allowance for manufacturers to request an alternate payment schedule is needed to accommodate manufacturers that have very small volumes of vehicles across their product line, where an alternative payment schedule would be reasonable, such as a lump sum payment at the end of the year that covers all the affected vehicles.
56. In section 1968.2(k)(6.1), the deadline that the manufacturer may request a retroactive deficiency was extended to when the last affected vehicle is produced (no later than December 31 of the calendar year for which the model year is named) or 6 months after the commencement of normal production, whichever is later. As part of the 45-day notice, staff had extended the deadline from 6 months to 9 months after commencement of normal production for issues found during production vehicle evaluation testing under section (j)(2). This was extended due to manufacturers'

expressing difficulty in meeting the 6-month deadline considering the significant increase of monitors in the OBD II systems over the years. However, the HD OBD regulation currently allows for retroactive deficiencies to be granted for the entire production period of the affected engines. Therefore, staff is proposing to align the retroactive deficiency deadlines in the OBD II regulation with those already required in the HD OBD regulation.

Additional Modifications to the HD OBD Regulation Section 1971.1

57. In section 1971.1(d)(4.3.2)(B), the section number “(N)” was modified to “(O)” due to the renumbering that resulted from adding the newly proposed denominator incrementing criteria in section 1971.1(d)(4.3.2)(N).
58. In section 1971.1(d)(7.7), the section numbers (d)(7.2.1) and (d)(7.2.2) were changed to (d)(7.7.1) and (d)(7.7.2), respectively, to correct the numbering errors. Accordingly, the reference to “section (d)(7.2.2)” in section 1971.1(d)(7.7.1) was corrected to “section (d)(7.7.2).”
59. Section 1971.1(d)(8.4) was added to allow 2024 and 2025 model year engines certifying to the provisions of title 13, CCR section 1956.8(a)(2)(C)3 to use the HD OBD requirements applicable to the 2023 model year instead of the 2024 and 2025 model years. During the Heavy-Duty Omnibus rulemaking update (Board hearing date August 27, 2020), staff adopted regulation language that allowed 2024 and 2025 model year “legacy engines” to certify to higher emission standards than otherwise required if certain conditions were met, and allowed these engines to certify to the HD OBD requirements applicable to the 2023 model year. Therefore, staff is proposing language to acknowledge this allowance and align both regulations. Further, language was added to indicate that for legacy engines that meet the 2023 model year OBD requirements, such engines would be excluded from any required phase-in schedules that involve the 2024 and 2025 model years. Currently, this involves only the crankcase ventilation system monitoring requirements in section 1971.1(g)(2.2.3), where the required phase-in schedule spans from the 2025 through 2027 model years. In this case, 2025 model year legacy engines would not be included in the total number of 2025 model year engines when calculating the phase-in percentages and would not be included in the number of engines that meet or do not meet the requirements in section 1971.1(g)(2.2.3).
60. In sections 1971.1(e)(5.2.3)(B) and 1971.1(e)(8.2.4)(B), staff modified the feedgas generation monitoring requirements for the NMHC converting catalyst and the catalyzed PM filter to limit the current requirements to apply up through the 2024 model year, and to require manufacturers of 2025 and subsequent model year engines to detect a malfunction when the catalyst/catalyzed PM filter is unable to generate the necessary feedgas constituents to the point where emissions exceed the applicable NO_x standard by more than 0.2 grams per brake horsepower-hour (g/bhp-hr). Further, manufacturers would be allowed to be exempt from developing a separate feedgas generation performance monitor to meet the current and newly proposed feedgas generation monitoring requirements. Specifically, if the engine has an NMHC catalyst conversion efficiency monitor that meets section 1971.1(e)(5.2.2), the manufacturer is not required to develop a separate NMHC catalyst feedgas generation monitor. If the

engine has a catalyzed PM filter NMHC conversion monitor that meets section 1971.1(e)(8.2.4)(A) or is exempt from having such a monitor in accordance with section 1971.1(e)(8.2.4)(B)(i)a., the manufacturer is not required to develop a separate catalyzed PM filter feedgas generation monitor. Similar provisions were proposed in the OBD II regulation as part of the 45-day notice to address manufacturers' issues with the current requirements. Manufacturers have submitted 45-day comments requesting that the same provisions be proposed in the HD OBD regulation, which staff is now proposing.

61. In 1971.1(e)(5.2.4)(B)(iii)b., the phrase "and meet the FTP emission threshold requirements in section (e)(5.2.4)(B)(ii)b." was deleted to match the wording in the analogous sections for the NMHC catalyst and NOx catalyst monitors. Further, the language is redundant and therefore not needed since the same sentence already indicates "emissions are below the emission threshold."
62. In section 1971.1(e)(7.2.6), the title "Adsorber System Aging and Monitoring" was added. When the changes to section 1971.1(e)(7.2.6) were proposed in the 45-day notice, staff inadvertently deleted existing text, but did not include any additional text in this section. Therefore, staff is proposing to add a title to this section.
63. Sections 1971.1(h)(4.1.1)(I) and 1971.1(h)(4.1.2)(F) were added to allow manufacturers to request Executive Officer approval to set readiness status to "complete" if monitoring is disabled for multiple driving cycles due to the continued presence of extreme operating conditions (e.g., cold ambient temperatures, high altitudes). This allowance is currently provided in the OBD II regulation (section 1968.2(g)(4.1.6)) to avoid light- and medium-duty vehicles from failing Smog Check due to unset readiness bits solely because the vehicle was being operated in extreme conditions in which monitoring was routinely disabled. The HD OBD regulation did not have the same allowance because heavy-duty trucks currently are not subject to I/M inspections, so the allowance was not needed. However, given that a heavy-duty I/M program is being proposed in a separate rulemaking process, staff anticipates such a provision would be needed for heavy-duty vehicles as well, and is therefore proposing this allowance in the HD OBD regulation.
64. In section 1971.1(h)(5.9.5), the term "incrementing" was changed to "tracking" in section 1971.1(h)(5.9.5)(A)(ii) to be consistent with the existing regulation language and match the term used in section 1971.1(h)(5.9.2). Additionally, section 1971.1(h)(5.9.5)(C) was added to require the CSERS tracking parameters in section 1971.1(h)(5.9.2) to meet the standardized format specified in SAE J1939, SAE J1979, or SAE J1979-2, whichever is applicable. This section was added so that manufacturer would know the format the parameters are required to meet, since it was not clear in the 45-day notice regulation text.
65. In section 1971.1(l)(1.5.1), which indicates that the manufacturers shall submit to the Executive Officer the content described within the section, the phrase "based on the results of testing" was deleted since the newly proposed section 1971.1(l)(1.5.1)(C) requires manufacturers to submit the required data regardless of the test results.
66. In section 1971.1(l)(1.5.1)(A), a deadline of 3 months after the testing of the specific variant was added for passing production vehicle/engine tests of the standardization requirements. Staff mistakenly did not specify a deadline for submission of passing

test results in this section. Therefore, staff is proposing to require the same deadline as the deadline required for passing test results in the OBD II regulation (section 1968.2(j)(1.5.2)).

67. Section 1971.1(l)(3.4.3) was added to allow manufacturers to provide an alternate vehicle identifier instead of the VIN when submitting the in-use monitor performance ratio data under section 1971.1(l)(3). This allowance was proposed in the OBD II regulation as part of the 45-day notice to address manufacturers' concerns about the proprietary nature of the VIN, which they considered personally identifiable information. Staff believes this allowance should also apply to the HD OBD regulation, which staff is proposing now.

Modifications to the OBD II and HD OBD Enforcement Regulations Sections 1968.5 and 1971.5, respectively.

68. In section 1968.5(b)(6)(B), section numbers being referenced were modified to account for the proposed renumbering of other sections. In sections 1968.5(b)(6)(B)(i)a. and b., the section numbers stated for section 1968.2 were modified to account for the section number changes being proposed in section 1968.2(d)(3.2.1) as part of the 15-day notice. In section 1968.5(b)(6)(B)(ii), modifications were made to not only account for the proposed renumbering of sections in section 1968.2(d)(3.2.1), but to also simplify how to state which monitors would use the OBD II ratio nonconformance criteria in section 1968.5(b)(6)(B)(ii). As a result, the language in this section would not need to be changed if section 1968.2(d)(3.2.1) was modified in the future, since it is now made clear that the monitors that would be required to use these nonconformance criteria would be those monitors not already mentioned in section 1968.5(b)(6)(B)(i).
69. Sections 1968.5(b)(6)(B)(ii)e. and 1971.5(b)(6)(B)(v) were added to state that the gasoline CSERS cold start catalyst heating monitor would be considered nonconforming if the average in-use ratio of the test sample group is less than 0.441. This new nonconformance ratio for this monitor is needed because a new minimum in-use ratio of 0.500 is being proposed for this monitor as part of the 15-day notice (see sections 1968.2(d)(3.2.1) and 1971.1(d)(3.2.2)(B)).
70. In sections 1968.5(c)(3)(A)(i) and 1971.5(d)(3)(A)(i)a., the section numbers were modified to account for the newly added sections in sections 1968.2(d)(3.2.1) and 1971.5(b)(6)(B), respectively, that are being proposed as part of the 15-day notice.
71. In sections 1968.5(c)(6)(B)(iv), 1968.5(d)(6)(B), 1971.5(d)(6)(B)(iv), and 1971.5(e)(6)(B), the mailing address that the manufacturer would be required to submit the remedial action plan and the remedial action progress report to was changed to 4001 Iowa Avenue, Riverside, California 92507. The address that was proposed as part of the 45-day notice was a temporary address that is no longer in use for CARB and therefore not the correct address to use for these future mailings.
72. Sections 1968.5(d)(4)(D) and 1971.5(e)(4)(D) were added to allow manufacturers to be exempt from the recall labeling requirements of sections 1968.5(d)(4)(A) through (C) or 1971.1(e)(4)(A) through (C), respectively, if three conditions are met: (1) the OBD recall involve only software and/or software calibration repairs or changes and does not involve hardware repairs or changes, (2) the manufacturer keeps a record of the VINs

of all vehicles that were inspected and/or repaired, and (3) upon request from the Executive Officer, the manufacturer provides information about running changes, field fixes, service campaigns, and recalls for any given VIN from all vehicles affected by the nonconformity. Manufacturers often must conduct recalls involving software reflashes to correct nonconformities. Several manufacturers have informed CARB that they now have the ability to perform the software reflashes remotely through remote OTA technology. This would allow vehicles with internet connectivity to be reflashed remotely and eliminates the need for vehicle owners to take their vehicles to service centers to have the software reflashed. One of the existing requirements that manufacturers must follow when conducting a recall is that they must affix a recall repair label on vehicles once the recall has been completed. Since vehicle owners may no longer physically visit a dealership to have software reflashes performed and it is now easier to determine when a software reflash has been performed by the software calibration number or contacting the manufacturer, it is reasonable to no longer require recall repair labels for these types of recalls. Regarding the proposal to require manufacturers to keep a record of the VINs and to provide information such as running changes for a specific VIN, in many situations, CARB staff can independently verify whether or not a recall repair has been made on a vehicle by reading the software calibration number that is reported in a standardized message through the OBD system. For recalls where the repair is made to a control unit that does not support standardized reporting of the software calibration number and a recall repair label is no longer required, CARB staff would verify the repair has been made on a vehicle by requesting the VIN-based information from the manufacturer.

73. In section 1968.5(d)(6)(B)(x), regarding the manufacturer's report on the progress of an OBD-related remedial action campaign, the limitation of the complete VIN information to vehicles with personalized license plates has been deleted so that the complete VIN information is now required to be submitted for all vehicles subject to the recall regardless of the personalized license plate. This change would provide consistent reporting of VIN for all license plate types and will align with the reporting requirements for non-OBD recalls on OBD-equipped vehicles.
74. Section 1971.5(a)(1)(C) was added to allow 2024 and 2025 model year engines certifying to the provisions of title 13, CCR section 1956.8(a)(2)(C)3 to use the HD OBD enforcement provisions applicable to the 2023 model year instead of the 2024 and 2025 model years. During the Heavy-Duty Omnibus rulemaking update (Board hearing date August 27, 2020), staff adopted regulation language that allowed 2024 and 2025 model year "legacy engines" to certify to higher emission standards than previously required if certain conditions were met, and allowed these engines to certify to the HD OBD requirements applicable to the 2023 model year. Therefore, staff is proposing language to acknowledge this allowance in the HD OBD enforcement regulation.
75. Section 1971.5(c)(6)(A) was modified to change the report submission requirements for the manufacturer reporting of self-testing results to the Executive Officer. Section 1971.5(c)(6)(A)(iv)a. was modified to require manufacturers to include the adjusted emission values, if applicable, in addition to the weighted emission test results as part of the test results of all testing done under sections 1971.5(c)(3) and (c)(4) for each test engine. When determining the malfunction criteria for emission threshold monitors on

diesel engines, manufacturers are required to account for changes in regeneration emissions in the form of adjusted emissions values to the emission results in accordance with section 1971.1(d)(6). Therefore, the proposed language would help CARB staff determine compliance with the OBD emission thresholds for testing results conducted under sections 1971.5(c)(3) and (c)(4). Additionally, sections 1971.5(c)(6)(A)(v) through 1971.5(c)(6)(A)(xiii) were added to list the pertinent information that manufacturers are required to include in the manufacturer reporting of self-testing results. These changes to the report submission requirements would greatly improve the report currently required to be submitted for this testing, and would facilitate staff's review since the issues would be conveniently brought to the forefront and explained. As a result of CARB staff being able to precisely narrow their attention on the issues and most important information, OBD noncompliances would be expeditiously addressed in a timely manner. As such, this information would assist CARB staff in reviewing the data and more accurately assessing in-use monitoring performance issues.

Other Modifications

76. In Appendix E, "Data Record Reporting Procedures for Over-the-Air Reprogrammed Vehicles and Engines Using SAE J1979-2," of the Staff Report, information about the data fields for the CSERS tracking data were added. As part of the 45-day notice, staff proposed that vehicles/engines track and report CSERS tracking data under sections 1968.2(g)(6.14) and 1971.1(h)(5.9). However, although the OBD II and HD OBD regulations (specifically sections 1968.2(g)(8) and 1971.1(h)(6)) currently require manufacturers to collect lifetime data described in sections 1968.2(g)(6) and 1971.1(h)(5) prior to erasure of the data by an over-the-air reprogramming, staff mistakenly did not include information about the CSERS tracking data in Appendix E of the Staff Report, which details the data fields required to be collected and reported by the manufacturer for each over-the-air reprogramming. Therefore, staff is proposing that the average and standard deviation values of the "historical" or exponentially weighted moving average (EWMA) parameters be reported in accordance with sections 1968.2(g)(8) and 1971.1(h)(6). Additionally, the required deadline for manufacturers to collect and submit the data was corrected from within 60 days of the release of the software update over the air to 75 days in order to align with the deadline proposed as part of the 45-day notice in sections 1968.2(g)(8.1.1) and 1971.1(h)(6.1.1) of the OBD II and HD OBD regulations. Lastly, the description of where the manufacturer is required to submit the data was changed from "CARB's DMS system" to "CARB's electronic file system for uploading OBD applications (e.g., Document Management System (DMS))" since DMS may not be the name of this system in the future.

In addition to the modifications described above, additional modifications correcting grammar, punctuation and spelling have been made throughout the proposed changes. These changes are nonsubstantive.

Additional Document(s) or Incorporated Document(s) Added to the Record

In the interest of completeness and in accordance with Government Code section 11347.1, subdivision (a), staff has also added to the rulemaking record and invites comments on the following additional documents:

- Attachment C: "Data Record Reporting Procedures for Over-the-Air Reprogrammed Vehicles and Engines Using SAE J1979-2," December 15, 2021
- Attachment D: "Addendum to the Initial Statement of Reasons for the Public Hearing to Consider the Proposed Revisions to the On-Board Diagnostic System Requirements and Associated Enforcement Provisions for Passenger Cars, Light-Duty Trucks, Medium-Duty Vehicles and Engines, and Heavy-Duty Engines"

Additionally, as a result of the proposed changes to the regulations with regards to the CFR section references, staff is including these documents in the rulemaking record and invites comments on the following:

- 40 CFR 86.082-2, as it existed on January 25, 2018
- 40 CFR 86.094-2, as it existed on January 25, 2018
- 40 CFR 86, Appendix I, section (a), as it existed on July 8, 2019
- 40 CFR 86, Appendix I, section (f)(1), as it existed on January 25, 2018
- 40 CFR 86, Appendix I, section (f)(2), as it existed on January 25, 2018

These documents are available for inspection at the California Air Resources Board, 1001 I Street, Sacramento, California, 95814, between the hours of 9:00am to 4:00pm, Monday through Friday (excluding holidays). To inspect these documents please contact Chris Hopkins, Regulations Coordinator, at (279) 208-7347.

Agency Contacts

Inquiries concerning the substance of the proposed regulation may be directed to Jason Wong, Manager, On-Board Diagnostics Program Development Section, at (951) 542-3419 or (designated back-up contact) Adriane Chiu, Air Resources Engineer, On-Board Diagnostics Program Development Section, at (951) 542-3123.

Public Comments

Written comments will only be accepted on the modifications identified in this Notice. Comments may be submitted by postal mail or by electronic submittal no later than the due date to the following:

Postal mail: Clerks' Office, California Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: <https://www.arb.ca.gov/lispub/comm/bclist.php>

Please note that under the California Public Records Act (Gov. Code § 6250 et seq.), your written and verbal comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

In order to be considered by the Executive Officer, comments must be directed to CARB in one of the two forms described above and received by CARB no later than the deadline date for public comment listed at the beginning of this notice. Only comments relating to the above-described modifications to the text of the regulations shall be considered by the Executive Officer.

If you need this document in an alternate format or another language, please contact the Clerks' Office at (916) 322-5594 or by facsimile at (916) 322-3928 no later than five (5) business days from the release date of this notice. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Si necesita este documento en un formato alterno u otro idioma, por favor llame a la oficina del Secretario del Consejo de Recursos Atmosféricos al (916) 322-5594 o envíe un fax al (916) 322-3928 no menos de cinco (5) días laborales a partir de la fecha del lanzamiento de este aviso. Para el Servicio Telefónico de California para Personas con Problemas Auditivos, ó de teléfonos TDD pueden marcar al 711.

California Air Resources Board



Richard W. Corey
Executive Officer

Date: February 15, 2022

Attachments

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see [CARB's website](http://www.arb.ca.gov) (www.arb.ca.gov).