

## ATTACHMENT B

### PROPOSED SECOND 15-DAY MODIFIED REGULATION ORDER

This attachment shows the modifications to the originally proposed regulatory language. The originally proposed regulatory language that was made available by the 45-day notice on September 25, 2018 is shown in single underline to indicate additions and ~~single-strikeout~~ to indicate deletions. The proposed modifications to the regulatory language that were made available by the first 15-day notice on June 4, 2019 are shown in double underline to indicate additions and ~~double-strikeout~~ to indicate deletions. The additional proposed modifications made available by the second 15-day notice on July 19, 2019, are shown in **bold italic double underline** to indicate additions and ~~**bold italic double underline**~~ to indicate deletions. Various portions of the regulations that are not modified by the proposed amendments are omitted from the text shown and indicated by “ \* \* \* \* ”.

Amend sections 1968.2, title 13, California Code of Regulations, to read as follows:

#### **§1968.2. Malfunction and Diagnostic System Requirements--2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines**

\* \* \* \*

(d) *General Requirements.*

Section (d) sets forth the general requirements of the OBD II system. Specific performance requirements for components and systems that shall be monitored are set forth in sections (e) and (f) below.

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(6) *Malfunction Criteria Determination and Adjustment Factors for Diesel Vehicles.*

\* \* \* \*

(6.2) For 2007 and subsequent model year light-duty and medium-duty vehicles equipped with emission controls that experience infrequent regeneration events (e.g., active PM filter regeneration, NOx adsorber desulfation), a manufacturer shall adjust the emission test results that are used to determine the malfunction criterion for monitors that are required to indicate a malfunction before emissions exceed a certain emission threshold. Except as provided in section (d)(6.2.7), for each monitor on medium-duty vehicles using engines certified on an engine dynamometer, the manufacturer shall adjust the emission result using the procedure described in CFR title 40, part 86.004-28(i) (as it existed on January 25, 2018 **and incorporated by reference herein** on 2020 and earlier model year vehicles, or 1065.680 (as it existed on January 25, 2018 **and incorporated by reference herein** on 2021 and subsequent model year vehicles with the component for which the malfunction criteria is being established deteriorated to the malfunction threshold. For light-duty and medium-duty vehicles certified on a chassis

dynamometer, the manufacturer shall submit a plan for Executive Officer approval to adjust the emission results using an approach similar to the procedure described in CFR title 40, part 86.004-28(i). Executive Officer approval shall be based on the effectiveness of the proposed plan to quantify the emission impact and frequency of regeneration events. The adjusted emission value shall be used for purposes of determining whether or not the specified emission threshold is exceeded (e.g., a malfunction must be detected before the adjusted emission value exceeds 1.5 times any applicable standard).

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(6.4) For 2019 and subsequent model year vehicles equipped with emission controls that experience infrequent regeneration events, a manufacturer shall adjust the emission test results using the procedure described in CFR title 40, part 86.004-28(i), or 1065.680 as it ~~they~~ existed on August 5, 2015/January 25, 2018 **and incorporated by reference herein**. The manufacturer shall conduct testing to determine the adjustment factors using the same deteriorated component(s) used to determine if the test-out criteria in the following sections are met:

- (6.4.1) Section (f)(1.2.3)(B)
- (6.4.2) Section (f)(1.2.3)(D)
- (6.4.3) Section (f)(6.2.6)(C)
- (6.4.4) Section (f)(9.2.4)
- (6.4.5) Section (f)(15.1.2)
- (6.4.6) Section (f)(15.2.2)(F)(ii)

\* \* \* \*

(i) *Certification Documentation*

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(2) The following information shall be submitted as “Part 1” of the certification application. Except as provided below for demonstration data, the Executive Officer will not issue an Executive Order certifying the covered vehicles without the information having been provided. The information must include:

\* \* \* \*

(2.32) For 2022 and subsequent model year medium-duty ~~diesel~~ vehicles equipped with diesel engines (including MDPVs) certified to an engine dynamometer tailpipe emission standard, data showing the instantaneous NOx mass emission rate determined using the test facility’s instrumentation and the instantaneous NOx mass emission rate determined by the engine controller that is responsible for NOx tracking (as required in section (g)(6.12)) during ~~one hot start~~ an FTP emissions test using the FTP cycle as described below. The manufacturer shall use an engine with no malfunctions on the system (engine, engine emission controls, aftertreatment). Data from the engine controller must include both engine-out and system-out (i.e., tailpipe) NOx mass emission rates and engine output energy. Data from the test facility must include the engine speed, torque, net brake work, and system-out NOx mass emission rate. The test facility’s NOx mass emission rate data

must not include a humidity correction. The FTP test must be immediately preceded by a hot or cold-start FTP cycle (i.e., a preparatory FTP cycle) without cycling the ignition in between the two cycles to warm up the engine and ensure that all sensors are reporting NOx data throughout the entire FTP test. All data must be provided over the preparatory FTP cycle and the FTP test at a frequency of at least 1 Hertz in a CSV file and summed to show the total NOx mass and total engine output energy over the cycle. The FTP test data (not the preparatory FTP cycle data) must be summed to show the total values determined by the electronic control unit (engine-out NOx mass, system-out NOx mass, and engine output energy) and the total values determined by the test facility (system-out NOx mass and net brake work). The electronic control unit system-out NOx mass and test facility system-out NOx mass emission rate data must be plotted together in a graph versus time over the preparatory FTP cycle and the FTP test. ~~The FTP cycle must be preceded by a warm-up FTP cycle without cycling the ignition to ensure that all sensors are reporting NOx data throughout the entire FTP cycle.~~ A manufacturer may alternatively provide these data with vehicle-based testing using the EPA Urban Dynamometer Driving Schedule for Heavy-Duty Vehicles specified in 40 CFR Part 86, Appendix I **(d)** as it existed on July 1, 2012 **and incorporated by reference herein**. For this option, the requirements and procedures described above for the engine-dynamometer testing option apply (e.g., the UDDS cycle must be preceded by another UDDS cycle without cycling the ignition in between) with the exception that engine speed, torque, and net brake work data from the test facility may be omitted (the net brake work shall be calculated using OBD system parameters).

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