

## TITLE 13. CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC HEARING TO CONSIDER PROPOSED REVISIONS TO ON-BOARD DIAGNOSTIC SYSTEM REQUIREMENTS, INCLUDING THE INTRODUCTION OF REAL EMISSIONS ASSESSMENT LOGGING (REAL), FOR HEAVY-DUTY ENGINES, PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES AND ENGINES

The California Air Resources Board (CARB or Board) will conduct a public hearing at the time and place noted below to consider approving for adoption the proposed amendments to California's Heavy Duty Engine On-Board Diagnostic System Requirements (HD OBD) and On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD II).

DATE: November 15, 2018

TIME: 9:00 A.M.

LOCATION: California Environmental Protection Agency  
California Air Resources Board  
Byron Sher Auditorium  
1001 I Street  
Sacramento, California 95814

This item will be considered at a meeting of the Board, which will commence at 9:00 a.m., November 15, 2018, and may continue at 8:30 a.m., on November 16, 2018. Please consult the agenda for the hearing, which will be available at least ten days before November 15, 2018, to determine the day on which this item will be considered.

#### **WRITTEN COMMENT PERIOD AND SUBMITTAL OF COMMENTS**

Interested members of the public may present comments orally or in writing at the hearing and may provide comments by postal mail or by electronic submittal before the hearing. The public comment period for this regulatory action will begin on September 28, 2018. Written comments not physically submitted at the hearing must be submitted on or after September 28, 2018, and received **no later than 5:00 p.m. on November 13, 2018**. CARB requests that when possible, written and email statements be filed at least 10 days before the hearing to give CARB staff and Board members additional time to consider each comment. The Board also encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action. Comments submitted in advance of the hearing must be addressed to one of the following:

Postal mail: Clerk of the Board, California Air Resources Board  
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://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 oral 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.

Additionally, the Board requests but does not require that persons who submit written comments to the Board reference the title of the proposal in their comments to facilitate review.

### **AUTHORITY AND REFERENCE**

This regulatory action is proposed under that authority granted in Health and Safety Code, sections 38501, 38505, 38510, 39010, 39500, 39600, 39601, 39602.5, 40000, 43000.5, 43013, 43016, 43018, 43100, 43101, 43104, 43105, 43105.5, 43106, 43154, 43211, and 43212; and *Engine Manufacturers Association v. California Air Resources Board* (2014) 231 Cal.App.4th 1022. This action is proposed to implement, interpret and make specific sections 38501, 38505, 38510, 39002, 39003, 39010, 39018, 39021.5, 39024, 39024.5, 39027, 39027.3, 39028, 39029, 39031, 39032, 39032.5, 39033, 39035, 39037.05, 39037.5, 39038, 39039, 39040, 39042, 39042.5, 39046, 39047, 39053, 39054, 39058, 39059, 39060, 39515, 39600, 39601, 39602.5, 43000, 43000.5, 43004, 43006, 43013, 43016, 43018, 43100, 43101, 43102, 43104, 43105, 43105.5, 43106, 43150, 43151, 43152, 43153, 43154, 43155, 43156, 43204, 43211, and 43212 of the Health and Safety Code..

### **INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW (GOV. CODE, § 11346.5, subd. (a)(3))**

**Sections Affected:** Proposed amendments to California Code of Regulations (Cal. Code Regs.), title 13, sections 1968.2, 1971.1, and 1971.5.

### **Documents Incorporated by Reference (Cal. Code Regs., tit. 1, § 20, subd. (c)(3))**

The following documents and models would be incorporated in the regulation by reference as specified by section:

- EMFAC2014, section 1971.5(b)(3)(A)(iv)
- 40 Code of Federal Regulations (CFR) 86.004-28(i), August 21, 2018; section 1971.1(d)(6)
- 40 CFR 1065.680, August 21, 2018; section 1971.1(d)(6)
- International Organization for Standardization (ISO) 2575 “Road vehicles – Symbols for controls, indicators and tell-tales,” July, 2010; section 1971.1(h)(1.12)
- SAE International (SAE) J1699-3 – “Vehicle OBD II Compliance Test Cases,” July, 2017; section 1971.1(h)(1.9)

- SAE J1930 "Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms – Equivalent to ISO/TR 15031-2," March, 2017; section 1971.1(h)(1.1)
- SAE J1930-DA "Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms Web Tool Spreadsheet," March, 2017; section 1971.1(h)(1.1.1)
- SAE J1939 "Serial Control and Communications Heavy Duty Vehicle Network – Top Level Document," August, 2013; section 1971.1(h)(1.7.1)
- SAE J1939-DA "J1939 Digital Annex of Serial Control and Communication Heavy Duty Vehicle Network Data," February, 2018; section 1971.1(h)(1.7.1)(A)
- SAE J1939-1 "On-Highway Equipment Control and Communication Network," November, 2012; section 1971.1(h)(1.7.2)
- SAE J1939-11 "Physical Layer, 250 Kbps, Twisted Shielded Pair," December, 2016; section 1971.1(h)(1.7.3)
- SAE J1939-13 "Off-Board Diagnostic Connector," October, 2016; section 1971.1(h)(1.7.4)
- SAE J1939-15 "Physical Layer, 250 Kbps, Un-Shielded Twisted Pair (UTP)," August, 2015; section 1971.1(h)(1.7.5)
- SAE J1939-21 "Data Link Layer," March, 2016; section 1971.1(h)(1.7.6)
- SAE J1939-31 "Network Layer," April, 2014; section 1971.1(h)(1.7.7)
- SAE J1939-71 "Vehicle Application Layer," October, 2016; section 1971.1(h)(1.7.8)
- SAE J1939-73 "Application Layer – Diagnostics," May, 2017; section 1971.1(h)(1.7.9)
- SAE J1939-81 "Network Management," March, 2017; section 1971.1(h)(1.7.10)
- SAE J1939-84 "OBD Communications Compliance Test Cases for Heavy Duty Components and Vehicles," October, 2017; section 1971.1(h)(1.7.11)
- SAE J1962 "Diagnostic Connector," July, 2016; section 1971.1(h)(1.2)
- SAE J1979 "E/E Diagnostic Test Modes," February, 2017; section 1971.1(h)(1.4)

- SAE J1979-DA “Digital Annex of E/E Diagnostic Test Modes,” February, 2017; section 1971.1(h)(1.4.1)
- SAE J2012 “Diagnostic Trouble Code Definitions,” December, 2016; section 1971.1(h)(1.5)
- SAE J2012-DA “Digital Annex of Diagnostic Trouble Code Definitions and Failure Type Byte Definitions,” December, 2016; section 1971.1(h)(1.5.1)
- SAE J2403 “Medium/Heavy-Duty E/E Systems Diagnosis Nomenclature,” February, 2014; section 1971.1(h)(1.8)
- SAE J3162 “In-Use Monitor Performance Ratio (IUMPR) Data Collection Tool Process,” June, 2018; section 1971.1(h)(1.11)
- Data Record Reporting Procedures for Over-the-Air Reprogrammed Vehicles and Engines, August 16, 2018; sections 1971.1(h)(6) and 1968.2(g)(8)

**Background and Effect of the Proposed Regulatory Action:**

On-Board Diagnostic (OBD) systems serve an important role in helping to ensure that engines and vehicles maintain low emissions throughout their full lives. OBD systems monitor virtually all emission controls on engines and vehicles, including catalysts, particulate matter (PM) filters, exhaust gas recirculation systems, oxygen sensors, evaporative systems, fuel systems, and electronic powertrain components, and other components and systems that can affect emissions when malfunctioning. The systems also provide specific diagnostic information in a standardized format through a standardized serial data link on-board the vehicles. The use and operation of OBD systems ensure reductions of in-use motor vehicle and motor vehicle engine emissions through improvements in emission system durability and performance.

The Board originally adopted comprehensive OBD regulations in 1990, requiring all 1996 and newer model year passenger cars, light-duty trucks, and medium-duty vehicles and engines to have OBD II systems. The Board subsequently updated the OBD requirements in 2002 with the adoption of California Code of Regulations, title 13, sections 1968.2 and 1968.5, which established OBD II requirements (CCR, title 13, §1968.2) and enforcement requirements (Cal. Code Regs., title 13, §1968.5) for 2004 and subsequent model year vehicles. The Board has modified the OBD II regulation in several updates since initial adoption to address manufacturers’ implementation concerns and, where needed, to strengthen specific monitoring requirements. In 2005, CARB adopted Cal. Code Regs., title 13, section 1971.1, which established comprehensive OBD requirements for 2010 and subsequent model year heavy-duty engines and vehicles (i.e., vehicles with a gross vehicle weight rating greater than 14,000 pounds), referred to as HD OBD. The Board subsequently updated the HD OBD regulation in 2009 and adopted HD OBD-specific enforcement requirements (Cal. Code Regs., title 13, §1971.5). The Board last adopted updates to the OBD II



requirements in 2015 and to the HD OBD regulation in 2012 to address several concerns and issues regarding the regulations.

Since then, CARB staff has identified a number of proposed amendments to the HD OBD regulations that it believes are warranted. Some of the proposed amendments address manufacturers' implementation concerns and provide clarification on existing requirements. Staff is also proposing amendments that it believes are needed to ensure the integrity of the HD OBD systems and to provide valuable information for other CARB programs through the adoption of Real Emissions Assessment Logging (REAL). The proposed amendments to the HD OBD regulation include:

- Clarifying the requirements for intrusive diagnostics
- Revising the in-use monitor performance ratio (IUMPR) requirements, including increasing the minimum required ratio, adding monitors required to track and report the in-use monitor performance ratio data, and revising the requirements to address plug-in hybrid electric vehicles
- Revising the criteria manufacturers must meet to be exempt from monitoring the feedgas generation performance of the non-methane hydrocarbon (NMHC) catalyst and catalyzed particulate matter (PM) filter
- Revising the gasoline and diesel crankcase ventilation system monitoring requirements
- Specifying more detailed monitoring requirements for hybrid vehicles
- Updating the SAE International (SAE) and International Organization for Standardization (ISO) document references
- Revising the readiness status requirements for exhaust gas/oxygen sensors and sensor heaters
- Adding data collection requirements as part of over-the-air reprogramming events
- Adding data stream parameters required to be reported to assist with CARB programs (e.g., REAL)
- Revising the certification demonstration testing requirements to revise the test engine aging requirements, clarify the allowable test sequence procedure, and add more data to be collected during testing
- Adding items required to be submitted as part of the certification application
- Revising the fines applicable to deficiencies
- Revising the production engine/vehicle evaluation testing requirements to require permanent fault code erasure testing and to collect more data from in-use engines/vehicles

Staff is also proposing similar amendments to the OBD II regulation section 1968.2, where necessary, for medium-duty diesel engines and vehicles to harmonize the requirements of the two regulations. Additionally, while staff was not planning to do an update to the OBD II regulation this year that would affect light-duty vehicles, staff has determined based on comments from manufacturers that a few additional regulation changes are needed immediately in order to ensure manufacturers are able to certify

near future vehicles that comply with the OBD II regulation. Staff has also found an issue related to the definition of “active off-cycle credit technology” in the OBD II regulation and is proposing an amendment to address this.

Staff is also proposing amendments to the HD OBD enforcement regulation (section 1971.5) to align with some of the proposed changes to the HD OBD regulation, correct some oversights and errors, and address manufacturers’ workload issues. These include changes to the nonconforming criteria to account for the proposed revised in-use monitor performance ratios, relaxations to the mandatory recall interim thresholds for alternate-fueled engines, and relaxations to the manufacturer self-testing requirements.

CARB may also consider other changes to the sections affected, as listed on page 2 of this notice, during the course of this rulemaking process.

#### **Objectives and Benefits of the Proposed Regulatory Action:**

The proposed HD OBD and OBD II amendments will provide manufacturers with greater compliance flexibility, and strengthen and clarify the performance requirements they are expected to meet in designing and developing robust OBD systems. This will encourage manufacturers to design and build more durable engines and emission-related components, all of which will help ensure that forecasted emission reduction benefits from adopted light-, medium-, and heavy-duty vehicle and engine emission control programs are achieved in-use. The implementation of REAL through added nitrogen oxide and greenhouse gas emission tracking requirements will allow CARB to characterize emissions performance in-use, providing information that will allow for better modeling and technology performance evaluation to inform future program adjustments. Ultimately, the proposed action will further the goal of CARB which is to promote and protect public health, welfare and ecological resources through the effective and efficient reduction of air pollutants, and provide safe, clean air to Californians. No quantifiable benefit to worker safety is expected.

CARB developed the proposed regulatory actions through an extensive public process. The HD OBD regulatory update process began in 2016, when CARB staff started having meetings with stakeholders (mainly engine manufacturers) to discuss the development of proposed amendments for the HD OBD regulations. CARB held a public workshop in El Monte on November 2, 2017 to discuss the proposal and to seek comments. The workshop notice and workshop presentation were posted on the OBD Program website prior to the workshop, and interested stakeholders participated in the workshop in person or via webinar. Additionally, draft regulatory language was sent to members of the Truck and Engine Manufacturers Association (EMA), which represents the main stakeholders affected by the proposed rulemaking. CARB staff also presented and sought comments regarding elements of the upcoming proposed amendments to the HD OBD regulations during several SAE OBD symposiums, including symposiums held in March, 2016 (Stuttgart, Germany); September, 2016 (Indianapolis, Indiana); March, 2017 (Turin, Italy); September, 2017 (Anaheim, California); and March, 2018 (Barcelona, Spain). These symposiums were attended by vehicle and engine

manufacturers, scan tool manufacturers, and individuals involved in various other aspects of the automotive industry. Throughout the rulemaking process, CARB staff held 17 meetings, including 1 in-person meeting with EMA held in El Monte, California, as well as numerous meetings and correspondences (comprising of teleconferences, in-person meetings, and e-mail correspondences) with individual manufacturers. CARB staff also participated in numerous teleconferences with SAE committee members to help develop the specifications related to the proposed new data stream parameter and tracking requirements in the SAE standards. The proposal was developed in close collaboration with these stakeholders. As a result of the comments received throughout the regulatory process, staff made significant changes to the proposed amendments to the HD OBD regulations, which are reflected in the final proposal.

**Comparable Federal Regulations:**

CARB initially adopted the HD OBD regulation in 2005. A waiver for the regulation was granted by U.S. EPA in 2008.<sup>1</sup> CARB amended the regulation in 2010, and was granted another waiver action by U.S. EPA in 2012.<sup>2</sup> On November 7, 2016, the U.S. EPA formally granted California's request for a waiver regarding the HD OBD regulation, as last amended on June 26, 2013,<sup>3</sup> recognizing that the HD OBD regulation is at least as stringent in protecting public health and welfare as the federal regulation, and that unique circumstances exist in California necessitating the need for the State's own motor vehicle regulations program.

The U.S. EPA has also adopted OBD requirements for vehicles and engines above 14,000 pounds, which is the weight range for California's "heavy-duty" class. The federal regulation (40 CFR 86.010-18) was published on February 24, 2009, and subsequently amended on September 15, 2011 and June 17, 2013.

The federal regulation is consistent with CARB's California regulation in the most important aspects. However, the California HD OBD regulation in general still establishes more comprehensive and stringent requirements than the federal OBD regulation. For example, the HD OBD regulation generally requires California OBD systems on diesel engines to detect malfunctions before emissions exceed more stringent thresholds than those required by the federal HD OBD regulation. Further, the federal regulation does not require the OBD system to detect diesel oxidation catalyst malfunctions before a specific emission threshold is exceeded like the California OBD regulations—it is only required to detect a failure if the catalyst completely lacks NMHC conversion capability. As another example, under the federal HD OBD regulation, the

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<sup>1</sup> *California State Motor Vehicle Pollution Control Standards; Notice of Waiver of Clean Air Act Preemption; California's 2010 Model Year Heavy-Duty Vehicle and Engine On-Board Diagnostic Standards*, 73 Fed. Reg. 52042 (September 8, 2008).

<sup>2</sup> *California State Motor Vehicle Pollution Control Standards; Notice of Waiver of Clean Air Act Preemption; California's 2010 Model Year Heavy-Duty Vehicle and Engine On-Board Diagnostic Standards*, 77 Fed. Reg. 73459 (December 10, 2012).

<sup>3</sup> *California State Motor Vehicle Pollution Control Standards; Malfunction and Diagnostic System Requirements for 2010 and Subsequent Model Year Heavy-Duty Engines; Notice of Decision*, 81 Fed. Reg. 78149 (November 7, 2016).

malfunction thresholds for the emission threshold monitors are not required to be adjusted to account for emissions due to infrequent regeneration events.

The proposed 2018 amendments would continue California's efforts to require more comprehensive and robust monitoring of emission related systems and components than required by federal OBD regulations. The amendments also incorporate some new requirements (e.g., incorporation of REAL for new data parameters required to be tracked by the engine) that would assist other California mobile source emissions programs. Although differences would exist between the state and federal requirements, heavy-duty OBD systems can be designed to comply with both the federal and California programs. In fact, U.S. EPA's regulation directly allows acceptance of systems that have been certified to California's HD OBD regulation and to date, all heavy-duty engine manufacturers have chosen this path for certification.

Concerning the OBD II regulation, in 2014, the U.S. EPA adopted Tier 3 regulations that include provisions that generally align federal OBD requirements for 2017 and subsequent model year light duty vehicles, light-duty trucks, medium-duty passenger vehicles, and complete heavy-duty vehicles between 8,501 and 14,000 lbs. GVWR with CARB's California OBD II regulation, as last amended in 2013.

Although the federal OBD regulation (40 CFR 86.1806-5) is now generally harmonized with California's OBD II regulation, the federal requirements differ from corresponding California OBD requirements in several respects. California's OBD II regulation still establishes more comprehensive and stringent requirements than the amended federal regulation. The OBD II regulation requires California OBD systems to comply with monitoring requirements earlier than federal OBD systems must comply with the federal OBD regulation. For example, California's OBD II regulation requires OBD systems in medium-duty diesel vehicles and engines to detect PM filter performance faults before emissions exceed 0.03 grams per brake-horsepower hour (g/bhp-hr) beginning in the 2013 model year, and allows exclusions of specific failure modes until the 2015 model year. However, the federal OBD regulation requires federal OBD systems to detect PM filter performance faults at these same levels beginning in the 2019 model year. Therefore, California OBD systems must comply with this requirement (without excluding specific failure modes) at least three model years earlier than federal OBD systems. Additionally, the federal OBD requirements do not incorporate the anti-tampering provisions of the OBD II regulation (that prevent unauthorized modifications of the computer-coded engine operating parameters of the on-board computer) or the deficiency provisions of the OBD II regulation (that allow certification of vehicles with non-fully compliant OBD systems provided manufacturers demonstrate a good-faith effort to comply with OBD requirements as expeditiously as possible, pay fines, and provided the deficiency would not trigger an ordered recall for the OBD system). The federal OBD regulations, however, retain the provision that allows U.S. EPA to deem California-certified OBD II systems to comply with the federal OBD regulation.<sup>4</sup>

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<sup>4</sup> 40 CFR 86.1806-5 (j)

Historically, virtually every vehicle sold in the U.S. is designed and certified to California's OBD II requirements in lieu of the federal OBD requirements.

**An Evaluation of Inconsistency or Incompatibility with Existing State Regulations (Gov. Code, § 11346.5, subd. (a)(3)(D)):**

During the process of developing the proposed regulatory action, CARB conducted a search of any similar regulations on this topic and concluded these regulations are neither inconsistent nor incompatible with existing state regulations.

**DISCLOSURE REGARDING THE PROPOSED REGULATION**

**Fiscal Impact/Local Mandate Determination Regarding the Proposed Action (Gov. Code, § 11346.5, subds. (a)(5)&(6)):**

The determinations of the Board's Executive Officer concerning the costs or savings incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulatory action are presented below.

Under Government Code sections 11346.5, subdivision (a)(5) and 11346.5, subdivision (a)(6), the Executive Officer must determine whether the proposed regulatory action would create costs to any State agency or in federal funding to the State, costs or mandate to any local agency or school district, whether or not reimbursable by the State under Government Code, title 2, division 4, part 7 (commencing with section 17500), or other nondiscretionary cost or savings to State or local agencies. Accordingly, the Executive Officer's determination is as follows:

**Cost to any Local Agency or School District Requiring Reimbursement under section 17500 et seq.:**

The proposed amendments will not have any fiscal impacts on local agencies on the current year and the next two subsequent years because the earliest implementation date for the proposal is the 2022 model year. Beginning with the 2021/2022 fiscal year, however, local government agencies will pay a higher purchase price for new heavy- and medium-duty vehicles with engines covered by the proposed amendments if manufacturers pass on costs. CARB's EMFAC model indicates local government heavy- and medium-duty vehicles represent about 8.1 percent of the total State vehicle population. According to annual sales numbers provided by engine manufacturers to CARB, approximately 34,735 heavy- and medium-duty vehicles are sold annually in California. Assuming that local government fleets also purchase 8.1 percent of all new heavy- and medium-duty vehicles sold in California, a total of 2,814 of these vehicles are purchased annually ( $8.1\% \times 34,735$  annual CA vehicles sales) by local government fleets. This indicates that approximately 16,884 vehicles ( $2,814 \times 6$ ) would be impacted over the six-year life of the proposal and the regulatory cost to local government fleets is estimated to be approximately \$119,500 per year (i.e.,  $\$42.46 \times 2,814$ ) on average in the 2021/2022 fiscal year and thereafter. In addition, local agencies purchased 5,681 light-duty vehicles on average for the past five years, according to interagency analysis of new vehicle registration records. Since the proposed amendments would increase



the price of a new light-duty vehicle by \$0.34, local agencies will incur additional annual cost of about \$2,000 (i.e.,  $\$0.34 * 5,681$ ). Therefore, the total annual costs to local agencies will amount to \$121,500 (i.e.,  $\$119,500 + \$2,000$ ) beginning with the 2021/2022 fiscal year and thereafter.

Any cost to local government is not reimbursable by the State, pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500) because the additional costs associated with the proposed amendments apply generally to all entities that purchase affected engines and vehicles, private fleets and owners as well as state and local agencies. The proposed amendments do not mandate a new program or higher level of service on any local government.

*Cost or Savings for State Agencies:*

The proposed amendments will not have any cost impacts on State agencies in the current fiscal year and next two subsequent fiscal years because the earliest implementation date for the proposed amendments is the 2022 model year. Beginning with the 2021/2022 fiscal year, however, State agencies would be expected to pay a higher purchase price for new heavy- and medium-duty vehicles like any other purchasers of these vehicles. According to CARB's EMFAC model, the State government heavy-and medium-duty vehicle population is about 3.1 percent of the total State vehicle total. Assuming that State government fleets also purchase 3.1 percent of all new heavy- and medium-duty vehicles sold in California, a total of 1,077 of these vehicles are purchased annually by State government fleets (i.e.,  $3.1\% * 34,735$  annual HD vehicles sold in CA). Thus, the regulatory cost to State government fleets is estimated to be \$45,700 (i.e.,  $\$42.46 * 1,077$ ) per year on average in the 2021/2022 fiscal year and thereafter. In addition, State agencies purchased 797 light-duty vehicles on average for the past five years, according to interagency analysis of new vehicle registration records. Since the proposed amendments would increase the price of a new light-duty vehicle by \$0.34, State agencies will incur additional annual cost of about \$270 (i.e.,  $\$0.34 * 797$ ). Therefore, the total annual costs to State agencies will amount to about \$46,000 (i.e.,  $\$45,700 + \$270$ ) beginning with the 2021/2022 fiscal year and thereafter.

The amendments may require negligible additional time for CARB staff to review HD OBD and OBD II applications, but is not anticipated to require additional staff positions.

*Other Non-Discretionary Costs or Savings on Local Agencies:*

No other non-discretionary costs or savings to local agencies are expected.

*Cost or Savings in Federal Funding to the State:*

No costs or savings in federal funding is anticipated.



**Housing Costs (Gov. Code, § 11346.5, subd. (a)(12)):**

The Executive Officer has also made the initial determination that the proposed regulatory action will not have a significant effect on housing costs.

**Significant Statewide Adverse Economic Impact Directly Affecting Business, Including Ability to Compete (Gov. Code, §§ 11346.3, subd. (a), 11346.5, subd. (a)(7), 11346.5, subd. (a)(8)):**

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons. Support for this determination is set forth in the Initial Statement of Reasons (ISOR).

**Results of The Economic Impact Analysis/Assessment (Gov. Code, § 11346.5, subd. (a)(10)):**

**NON-MAJOR REGULATION: Statement of the Results of the Economic Impact Assessment (EIA):**

**Effect on Jobs/Businesses:**

The Executive Officer has determined that the proposed regulatory action would have a minor or no impact on the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the Economic Impacts Assessment in the ISOR.

**Benefits of the Proposed Regulation:**

The objective of the proposed amendments is to strengthen the HD OBD and OBD II requirements, provide manufacturers with greater compliance flexibility, and clarify the performance requirements they are expected to meet in designing and developing robust HD OBD and OBD II systems. This will encourage manufacturers to design and build more durable engines and emission-related components, all of which will help ensure that forecasted emission reduction benefits from adopted light-, medium-, and heavy-duty vehicle and engine emission control programs are achieved in-use.

A summary of these benefits is provided, please refer to “Objectives and Benefits”, under the Informative Digest of Proposed Action and Policy Statement Overview Pursuant to Government Code 11346.5(a)(3) discussion on page 6.

**Business Report (Gov. Code, §§ 11346.5, subd. (a)(11); 11346.3, subd. (d)):**

In accordance with Government Code sections 11346.5, subdivisions (a)(11) and 11346.3, subdivision (d), the Executive Officer finds the reporting requirements of the

proposed regulatory action which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

**Cost Impacts on Representative Private Persons or Businesses (Gov. Code, § 11346.5, subd. (a)(9)):**

In developing this regulatory proposal, CARB staff evaluated the potential economic impacts on representative private persons or businesses. For the proposed changes to the HD OBD regulation, the incremental cost to heavy- and medium-duty engine manufacturers is estimated to be \$35.14 per engine. Similarly, the proposed changes to the OBD II regulations is estimated to increase the cost to light-duty and medium-duty gasoline vehicle manufacturers by \$0.30 per vehicle. These costs will likely be passed on to the consumer in the form of increases to the retail price of an engine. The incremental cost to consumers is estimated to range from \$0.34 for purchasers of light- and medium-duty gasoline vehicles and \$42.46 for purchasers of heavy- and medium-duty engines, which is negligible compared to the typical price of a vehicle or engine.

**Effect on Small Business (Cal. Code Regs., tit. 1, § 4, subds. (a) and (b)):**

The Executive Officer has also determined under California Code of Regulations, title 1, section 4, that the proposed regulatory action would affect small businesses. Small businesses are estimated to include some heavy-duty engine manufacturers, heavy- and medium-duty engine repair shops, and the smaller heavy- and medium-duty vehicle fleets. The cost impact to the small businesses in these industries is expected to range from zero to \$582 assuming these businesses purchase zero to 20 engines per year. Since small engine manufacturers purchase engines from large engine manufacturers for modifications before reselling them, small engine manufacturers would be expected to pass the higher engine purchasing costs on to the purchaser of their engine in the form of an increased retail price for the modified engine as noted above in the cost impacts on private persons or businesses. In addition, small vehicle fleets are expected to incur an incremental annual cost ranging from zero to \$66.32 for a fleet purchasing zero to two vehicles. Engine repair shops may experience increased business.

**Alternatives Statement (Gov. Code, § 11346.5, subd. (a)(13)):**

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board, or that has otherwise been identified and brought to the attention of the Board, would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law. Alternatives to the proposed rulemaking that were considered are described in the ISOR.

**STATE IMPLEMENTATION PLAN REVISION**

If adopted by CARB, CARB plans to submit the proposed regulatory action to the United States Environmental Protection Agency (U.S. EPA) for approval as a revision to the California State Implementation Plan (SIP) required by the federal Clean Air Act (CAA). The adopted regulatory action would be submitted as a SIP revision because it

amends regulations intended to reduce emissions of air pollutants in order to attain and maintain the National Ambient Air Quality Standards promulgated by U.S. EPA pursuant to the CAA.

### **ENVIRONMENTAL ANALYSIS**

CARB, as the lead agency under the California Environmental Quality Act (CEQA), has reviewed the proposed regulatory amendments and concluded that the proposed action is exempt pursuant to CEQA Guidelines § 15308, because the action is an action taken by regulatory agencies for the protection of the environment. A brief explanation of the basis for reaching this conclusion is included in Chapter IV of the ISOR.

### **SPECIAL ACCOMMODATION REQUEST**

Consistent with California Government Code Section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language; and
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board hearing.

TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia;
- Documentos disponibles en un formato alterno u otro idioma; y
- Una acomodación razonable relacionados con una incapacidad.

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envíe un fax a (916) 322-3928 lo más pronto posible, pero no menos de 10 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

### **AGENCY CONTACT PERSONS**

Inquiries concerning the substance of the proposed regulatory action may be directed to the agency representative Leela Rao, Manager, On-Board Diagnostics Program Development Section, at (626) 350-6469 or (designated back-up contact) Adriane Chiu, Air Resources Engineer, On-Board Diagnostics Program Development Section, at (626) 350-6453.

### **AVAILABILITY OF DOCUMENTS**

CARB staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action, which includes a summary of the economic and environmental impacts of the proposal. The report is entitled: Public Hearing to Consider the Proposed Revisions to the Malfunction and Diagnostic System Requirements for Heavy-Duty Engines (HD OBD) and Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD II).

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikeout format to allow for comparison with the existing regulations, may be accessed on CARB's website listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, on September 25, 2018.

Further, the agency representative to whom nonsubstantive inquiries concerning the proposed administrative action may be directed is Chris Hopkins, Regulations Coordinator, (916) 445-9564. The Board staff has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

### **HEARING PROCEDURES**

The public hearing will be conducted in accordance with the California Administrative Procedure Act, Government Code, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340).

Following the public hearing, the Board may take action to approve for adoption the regulatory language as originally proposed, or with non-substantial or grammatical modifications. The Board may also approve for adoption the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice and that the regulatory language as modified could result from the proposed regulatory action. If this occurs, the full regulatory text, with the modifications clearly indicated, will be made available to the public, for written comment, at least 15-days before final adoption.

The public may request a copy of the modified regulatory text from CARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814.

### **FINAL STATEMENT OF REASONS AVAILABILITY**

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on CARB's website listed below.

**INTERNET ACCESS**

This notice, the ISOR and all subsequent regulatory documents, including the FSOR, when completed, are available on CARB's website for this rulemaking at

<http://www.arb.ca.gov/regact/2018/hdobd18/hdobd18.htm>

CALIFORNIA AIR RESOURCES BOARD



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Richard W. Corey  
Executive Officer

Date: September 11, 2018

*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 our website at [www.arb.ca.gov](http://www.arb.ca.gov).*