

## UPDATED INFORMATIVE DIGEST

### **ADOPTION OF AMENDMENTS TO MALFUNCTION AND DIAGNOSTIC SYSTEM REQUIREMENTS AND ASSOCIATED ENFORCEMENT PROVISIONS FOR PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES AND ENGINES (OBD II) AND EMISSION WARRANTY REGULATIONS**

**Sections Affected:** Adoption of amendments to title 13, California Code of Regulations (CCR) sections 1968.2 and 1968.5, which establish OBD II requirements and enforcement provisions for 2004 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles and engines; and title 13, CCR sections 2035, 2037, and 2038, which establish emission control system warranty requirements for 1990 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles and engines.

**Background:** The Board originally adopted title 13, CCR section 1968.1 on September 12, 1989, requiring manufacturers to implement OBD II systems on new motor vehicles. The regulation, which was first implemented beginning with the 1994 model year, required that essentially all 1996 and later model year passenger cars, light-duty trucks, and medium-duty vehicles and engines be equipped with OBD II systems. The regulation specifically required monitoring of engine misfire, catalysts, oxygen sensors, evaporative systems, exhaust gas recirculation (EGR), secondary air systems, fuel systems, and all electronic powertrain components that can affect emissions when malfunctioning. The regulation also required OBD II systems to provide specific diagnostic information in a standardized format through a standardized serial data link on-board the vehicles. Pursuant to section 209(b) of the federal Clean Air Act (CAA), ARB obtained a waiver from the U.S. Environmental Protection Agency (U.S. EPA) in October 1996 to adopt and enforce the OBD II regulation.

Subsequently, ARB updated the OBD II requirements in 2002 with the adoption of section 1968.2, title 13, CCR, which established OBD II requirements and enforcement requirements for 2004 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles and engines. Section 1968.2 essentially updated the requirements of section 1968.1 by improving and clarifying the monitoring requirements where needed, adding new monitoring requirements, improving the availability of service information, addressing issues associated with the implementation of OBD II into I/M programs, and adding testing requirements to ensure compliance with the OBD II regulation. Concurrently, ARB also adopted section 1968.5, title 13, CCR, which established OBD II specific enforcement provisions for 2004 and subsequent model year vehicles, including provisions that defined specific criteria to identify vehicles with OBD II-related problems that would

be subject to remedial orders by ARB. A waiver request regarding the 2002 amendments is presently pending before U.S. EPA.

In 1979, pursuant to section 43205, Health and Safety Code, ARB adopted sections 2035-2041, title 13, CCR that contain the warranty requirements for passenger cars, light-duty trucks, and medium-duty vehicles. The regulations established requirements for manufacturers to warrant emission-related parts for both defects and performance for a period of three years and 50,000 miles. Additionally, under the regulation, a subset of "high-cost" emission-related parts was eligible to be warranted for seven years and 70,000 miles if they met specific inflation-adjusted cost numbers. ARB subsequently amended the regulation in 1990, and made minor changes regarding the timing of submittal of information required under these sections in 1999.

ARB adopted amendments to section 1968.2, 1968.5, 2035, 2037, and 2038, title 13 CCR. ARB's Initial Statement of Reasons for the rulemaking was released on August 11, 2006. On September 28, 2006, the amendments were approved by the Board with modifications. These modifications, in addition to other changes initiated due to comments received during the hearing and the 45-day period prior to it, were made available for public comment in the staff's Notice of Public Availability of Modified Text, released May 22, 2007. Additional modifications to the regulations were made available for public comment in the staff's Second Notice of Public Availability of Modified Text, released on July 23, 2007.

**Staff Proposal:** In 2002, the Board directed the staff to continue to follow manufacturers' progress towards meeting the OBD II requirements and to report back should modifications to the requirements be deemed appropriate. Since then, the staff identified areas in which modifications to section 1968.2 would provide for improved monitoring system performance. The majority of the modifications are related to the monitoring requirements for diesel vehicles. The staff updated the diesel monitoring requirements to be more consistent with the monitoring requirements of the HD OBD regulation (title 13, CCR section 1971.1) that was recently adopted in 2005. Specifically, to alleviate manufacturers' concerns about meeting the malfunction emission thresholds, the amendments phase-in the final, more stringent malfunction thresholds at which the manufacturers must illuminate the malfunction indicator light and do not require general compliance with final thresholds until the 2013 model year.

For 2007 through 2012 model year light-duty diesel vehicles certified to the higher interim malfunction emission thresholds, the amendments include an additional step to help protect against possible increased emissions from the higher thresholds and to help ensure that these vehicles are indeed performing as designed. Specifically, the amendments require manufacturers of these vehicles to perform emission testing on actual production vehicles to verify their compliance with the emission standard. Having the manufacturers perform this testing on all diesel vehicle models (which would be equivalent to the in-use tailpipe compliance testing done by ARB on a

limited number of vehicle models each year) provides some assurance that the vehicles, as a whole, do not have a design defect that causes them to fail to meet the base emission standards.

Other amendments to the OBD II regulation include:

- Adding requirements for the storage and erasure of permanent fault codes.
- Allowing manufacturers to use 0.100 as the minimum in-use performance ratio for determining acceptable OBD II monitoring frequency for the first three years that a vehicle model is certified instead of just the first two years.
- Allowing manufacturers to continue to use a malfunction threshold of “3.5 times the NOx standards” for gasoline catalysts for two additional years, through the 2008 model year.
- Requiring manufacturers to detect failures caused by an air-fuel ratio cylinder imbalance under the gasoline fuel system monitoring requirements.
- Revising the gasoline primary and secondary oxygen sensor monitoring requirements to clarify and detail the minimum acceptable amount of monitoring that the OBD II system must perform.
- Revising the comprehensive component monitoring requirements to provide more guidance to manufacturers related to monitoring components on hybrid vehicles.
- Adding additional parameters that manufacturers must include in the data stream for gasoline and diesel vehicles.
- Requiring manufacturers to provide additional engine run time tracking requirements for medium-duty diesel vehicles.
- Deleting the service information requirements.
- Extending the deadline under the production vehicle evaluation testing requirements for reporting of in-use monitoring performance data from six months to twelve months after start of normal production.

The staff also amended section 1968.5 to align the enforcement provisions, as necessary, with the changes to section 1968.2. Additionally, the staff deleted reference to the “procedures of the California I/M program” from the mandatory recall provisions related to I/M testing and instead listed the specific criteria of OBD II noncompliances related to conducting Smog Check inspections that would result in mandatory recall. The staff also set more appropriate in-use thresholds (i.e., thresholds at which a vehicle would be found to have a nonconforming OBD II system and would be subject to possible enforcement action) for OBD II emission testing of diesel vehicles certified to the higher interim malfunction thresholds required for the 2007 through 2012 model years.

Additionally, amendments to the ARB emission warranty regulations (specifically title 13, CCR, sections 2035, 2037 and 2038) were also adopted to update the references to emission-related parts used with current emission control technology and to simplify the requirements where possible. Specifically, the amendments eliminate the outdated (last updated in 1985) emission-related parts list used today to identify components eligible for the high-cost warranty and instead require high cost warranty

coverage for any component that is subject to warranty for 3 years and 50,000 miles and meets the inflation-adjusted cost limit.

## **COMPARABLE FEDERAL REGULATIONS**

In February 1993, U.S. EPA promulgated final on-board diagnostic requirements for federally certified vehicles. (40 CFR Part 86, sections 86.094-2, 86.094-17, 86.094-18(a), 86.094-21(h), 86.094-25(d), 86.094-30(f), 86.094-35(l), 86.095-30(f), 86.095-35(l); see 58 Fed.Reg. 9468-9488 (February 19, 1993).) The requirements were last modified with a final rule signed on November 29, 2005. A central part of the federal regulation is that, for purposes of federal certification of vehicles, U.S. EPA will deem California-certified OBD II systems to comply with the federal regulations. On October 3, 1996, the U.S. EPA formally granted California's request for a waiver regarding the OBD II regulation, as last amended in December 1994,<sup>1</sup> recognizing that the OBD II 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 federal OBD requirements are comparable in concept and purpose with California's OBD II regulation; however, differences exist with respect to the scope and stringency of the requirements of the two regulations. More specifically, California's current OBD II regulations are generally more stringent than the comparable federal requirements. Under OBD II requirements, manufacturers must implement monitoring strategies for essentially all emission control systems and emission-related components. Generally, the OBD II regulation requires that components be monitored to indicate malfunctions when component deterioration or failure causes emissions to exceed 1.5 times the applicable tailpipe emission standards of the certified vehicle. The regulation also requires that emission-related components be monitored for functional performance even if the failure of such components does not cause emissions to exceed the 1.5 times the standards threshold. The federal requirements are essentially the same for the catalyst, engine misfire, evaporative emission control system, and oxygen sensors. However, other emission control systems or components, such as exhaust gas recirculation and secondary air systems, need only be monitored if by malfunctioning, vehicle emissions exceed 1.5 times the applicable tailpipe standards. No functional monitoring is required if failures of these components cannot cause emissions to exceed the specified levels. This also applies to after-treatment devices on diesel applications, such as catalyst systems and particulate matter traps.

In Health and Safety Code sections 43013, 43018, and 43101, the Legislature has expressly directed ARB to adopt emission standards for new motor vehicles that are necessary and technologically feasible and to endeavor to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of the state standards at the earliest practicable

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<sup>1</sup> *California State Motor Vehicle Pollution Control Standards; Waiver of Federal Preemption; Decision*, dated October 3, 1996, 61 Fed.Reg. 53371-53372.

date. ARB initially adopted and amended the OBD II regulation to meet those legislative directives.

Regarding emission warranties, the federal emission warranty requirements (section 207 of the Federal CCA) are comparable in concept but with significant differences in actual warranty coverage. California's current emission warranty provisions, pursuant to section 43205, Health and Safety Code, provide coverage of all emission-related parts for three years and 50,000 miles while the federal emission warranty provides similar coverage only for two years and 24,000 miles. Additionally, California's emission warranty provisions cover specific "high-cost" emission parts for a longer warranty period of seven years and 70,000 miles with the "high-cost" determination based on exceeding an annually CPI-adjusted repair cost limit. Federal warranty provisions, on the other hand, mandate coverage only for the catalyst and the vehicle on-board computer for eight years and 80,000 miles, regardless of the repair cost for either of those items or any other emission related part. While the federal warranty provision does provide for longer coverage on the catalyst and the on-board computer, it does not provide the same level of consumer protection for other high-cost emission parts as the California provisions for seven years and 70,000 miles. Further, the three years and 50,000 miles California warranty provides additional coverage for all emission-related parts beyond the federal two years and 24,000 miles (or the typical vehicle manufacturer "bumper-to-bumper" warranty of three years and 36,000 miles). When taken in total, the California emission warranty provisions are more stringent than the federal requirements given they provide additional coverage for all parts and many high-cost parts.

The differing ARB warranty provisions have been adopted pursuant to the express dictates of Health and Safety Code section 43205. Both the costs amendments to the OBD and warranty regulation are justified by the benefit to human health, public health and safety, and environment.