

## UPDATED INFORMATIVE DIGEST

### **AMENDMENTS TO THE NEW PASSENGER MOTOR VEHICLE GREENHOUSE GAS EMISSION STANDARDS FOR MODEL YEARS 2017-2025 TO PERMIT COMPLIANCE BASED ON FEDERAL GREENHOUSE GAS EMISSIONS STANDARDS AND ADDITIONAL MINOR REVISIONS TO THE LEV III AND ZEV REGULATIONS**

**Sections Affected:** Proposed amendments to California Code of Regulations, title 13, section(s) 1900, 1956.8, 1960.1, 1961, 1961.2, 1961.3, 1962.1, 1962.2, and 1976; and to the following documents incorporated by reference therein: "California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," adopted March 22, 2012; "California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Model Passenger Cars, Light Duty Trucks, and Medium Duty Vehicles," as last amended March 22, 2012; "California Non-Methane Organic Gas Test Procedures," as last amended March 22, 2012; "California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles," as last amended March 22, 2012; "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines," as last amended March 22, 2012; "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as last amended March 22, 2012; "California Exhaust Emission Standards and Test Procedures for 2009 through 2017 Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," as last amended March 22, 2012; and "California Exhaust Emission Standards and Test Procedures for 2018 and Subsequent Model Zero-Emission Vehicles and Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes," adopted March 22, 2012.

#### **Background**

##### ***2009-2016 Model Year Greenhouse Gas Regulations***

Recognizing the increasing threat of climate change to the well-being of California's citizens and the environment, in 2002 the legislature adopted and the Governor signed AB 1493 (Chapter 200, Statutes 2002, Pavley). AB 1493 directed the Air Resources Board (ARB or the Board) to adopt the maximum feasible and cost-effective reductions in greenhouse gas emissions from light-duty vehicles. Vehicle greenhouse gas emissions included carbon dioxide (CO<sub>2</sub>), methane, and nitrous oxide that are emitted from the tailpipe, as well as emissions of HFC134a, the refrigerant currently used in most vehicle air conditioning systems.

In 2004, in response to AB 1493, ARB approved what is commonly referred to as the Pavley regulations, the first in the nation to require significant reductions of greenhouse gases from motor vehicles. These regulations, covering the 2009 through 2016 and later model years, will result in a 17 percent overall reduction in climate change emissions from the light-duty fleet by 2020 and a 25 percent overall reduction by 2030. They also formed the foundation for the national greenhouse gas program (National Program) for light-duty vehicles for 2012 through 2016 model years that was developed by the United States Environmental Protection Agency (U.S. EPA), in coordination with the National Highway Traffic Safety Administration (NHTSA), which administers Corporate Average Fuel Economy (CAFE) Standards.

This initial National Program embraced California's program for lower greenhouse gas emissions and technologies (e.g., for engines, transmission, and air-conditioning system content and operation) to achieve comparable 2016 new vehicle fleet greenhouse gas emission reductions nationally. As part of its commitment to the National Program, ARB modified its regulations to explicitly accept federal compliance with the U.S. EPA standards as sufficient to demonstrate compliance with California's standards for the 2012 through 2016 model years, creating a consistent requirement to reduce greenhouse gas emissions nationwide.

#### *2017 and Later Model Year Greenhouse Gas Regulations*

Subsequent to ARB's adoption of the Pavley regulations, the legislature adopted and the Governor signed AB 32, the California Global Warming Solutions Act (Chapter 488, Statutes 2006, Nuñez/Pavley). AB 32 charges ARB with the responsibility of monitoring and regulating greenhouse gas emissions in the State. AB 32 also directed ARB to prepare a Scoping Plan outlining the State's strategy to achieve the maximum feasible and cost-effective reductions in furtherance of reducing greenhouse gas emissions to 1990 levels by 2020. Measure T1 of the Scoping Plan anticipates an additional 3.8 million metric tons carbon dioxide equivalent (MMTCO<sub>2</sub>e) reduction by 2020 beyond the reductions from the 2009 through 2016 Pavley standards, with greater reductions realized in subsequent years. In addition, in 2005, in order to mitigate the long-term impacts of climate change, the Governor issued Executive Order S-3-05. Among other actions, the Executive Order called for reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050; this ambitious yet achievable reduction path and goal are considered necessary to stabilize the long-term climate. AB 32 and Executive Order S-3-05, combined with AB 1493, drove development of California's second generation passenger vehicle greenhouse gas regulations for model years 2017 and beyond.

In May of 2010, a Presidential Memorandum<sup>1</sup> directed U.S. EPA and NHTSA to build on their 2012 through 2016 National Program and work with California to jointly develop continuing national greenhouse gas standards for model years 2017 through 2025. The Memorandum requested that U.S. EPA and NHTSA work closely with ARB on a 2010 technical assessment that would assess technologies and costs to achieve varying

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<sup>1</sup> The Presidential Memorandum is found at: <http://www.whitehouse.gov/the-press-office/presidential-memorandum-regarding-fuel-efficiency-standards>

levels for greenhouse gas emission reduction through model year (MY) 2025. The result was a September 2010 *Interim Technical Assessment Report*, jointly authored by U.S. EPA, NHTSA, and ARB. Subsequent to that collaborative technical work ARB staff closely monitored the work of U.S. EPA and NHTSA, and the staffs continued to jointly hold meetings with various stakeholders (e.g., individual automakers), examine updated technical materials, and develop consistent technology assumptions.

In July 2011, automakers, California, and the federal government committed to a series of actions that would allow for the development of national greenhouse gas standards for model years 2017 through 2025 that would meet the needs of California as well as the nation as a whole. California's commitments (as conveyed by a letter<sup>2</sup> from Chairman Mary Nichols to U.S. EPA and the U.S. Department of Transportation) are:

- (1) California committed that if U.S. EPA proposed federal greenhouse gas standards and NHTSA proposed CAFE standards for model years 2017 and beyond substantially as described in the July 2011 Notice of Intent (published in the Federal Register on August 9, 2011), and the agencies adopted standards substantially as proposed, California would not contest such standards;
- (2) California committed to propose to revise its standards on greenhouse gas emissions from new motor vehicles for the 2017 through 2025 model years, such that compliance with the greenhouse gas emissions standards adopted by U.S. EPA for those model years that are substantially as described in the July 2011 Notice of Intent, even if amended after 2012, shall be deemed in compliance with the California greenhouse gas emissions standards, in a manner that is applicable to states that adopt and enforce California's greenhouse gas standards under Clean Air Act (CAA) Section 177; and
- (3) California committed to propose that its revised Zero-Emission Vehicle (ZEV) program for the 2018 through 2021 model years include a provision providing that over-compliance with the federal greenhouse gas standards in the prior model year may be used to reduce in part a manufacturer's ZEV obligation in the next model year.

The Notice of Proposed Rulemaking (NPRM) for the 2017 through 2025 model year national greenhouse gas program was issued on December 1, 2011. 76 Fed.Reg. 74854 (December 1, 2011). That NPRM also furthered U.S. EPA and the U.S. Department of Transportation commitments to re-evaluate the state of vehicle technology to determine whether any adjustments to the stringency of the 2022 through 2025 model year national greenhouse gas standards, adopted as a result of these commitments are appropriate. This re-evaluation of vehicle technology is referred to as a "Mid-term Review." Regarding the Mid-term Review, Chairman Nichols's commitment

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<sup>2</sup> California Air Resources Board, Letter from Mary D. Nichols, Chairman, to The Honorable Lisa Jackson, Administrator, United States Environmental Protection Agency and The Honorable Ray LaHood, Secretary, United States Department of Transportation, July 28, 2011, available at <http://www.epa.gov/otaq/climate/letters/carb-commitment-ltr.pdf>

stated “California will fully participate in the mid-term evaluation, however, California reserves all rights to contest final actions taken or not taken by EPA or NHTSA as part of or in response to the mid-term evaluation.” The Board confirmed California’s commitment to participating in the Mid-term Review by including the following language in Resolution 12-11<sup>3</sup>, “BE IT FURTHER RESOLVED that the Board directs the Executive Officer to participate in U.S. EPA’s mid-term review of the 2022 through 2025 model year passenger vehicle greenhouse gas standards being proposed under the 2017 through 2025 MY National Program.”

In January 2012, ARB approved its second generation greenhouse gas regulations as part of the Low-Emission Vehicle III (LEV III) element of the Advanced Clean Cars program. This program combines the control of smog-causing pollutants and greenhouse gas emissions into a single coordinated package of requirements for model years 2017 through 2025 and assures the development of environmentally superior cars that will continue to deliver the performance, utility, and safety vehicle owners have come to expect. A second element of the Advanced Clean Cars program, the ZEV regulations, includes regulatory changes that implement California’s third (3) commitment above.<sup>4</sup>

The second generation greenhouse gas regulations contained in the Advanced Clean Cars program require significant reductions in greenhouse gas emissions from passenger cars and light-duty trucks (i.e., vehicles less than 8,500 lbs. gross vehicle weight) and sport utility vehicles (i.e., medium-duty passenger vehicles). These requirements will reduce car CO<sub>2</sub> emissions by about 36 percent and truck CO<sub>2</sub> emissions by about 32 percent from model year 2016 through 2025. The ZEV element of the Advanced Clean Cars program also fulfills California’s third commitment towards the development of the 2017 through 2025 model year national greenhouse gas program, as discussed above.

At the January 2012 hearing, the Board also confirmed California’s commitment to make regulatory changes that implement California’s first (1) commitment above by including the following language in Resolution 12-11, “BE IT FURTHER RESOLVED that the Board directs the Executive Officer to either propose modifications to the approved regulatory amendments, or to return to the Board with a new regulatory proposal, to accept compliance with the 2017 through 2025 MY National Program as compliance with California’s greenhouse gas emission standards in the 2017 through 2025 model years, if the Executive Officer determines that U.S. EPA has adopted a final rule that at a minimum preserves the greenhouse reduction benefits set forth in U.S. EPA’s December 1, 2011 Notice of Proposed Rulemaking for 2017 through 2025 model year passenger vehicles;” The Board reiterated this commitment at the March 2012 “Public Hearing to Consider Approval of Responses to Public Comments on the Environmental Analysis for the Advanced Clean Cars Regulations and to Take Final

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<sup>3</sup> State of California, Air Resources Board, Resolution 12-11, January 26, 2012, Agenda Item No.: 12-1-2, ADVANCED CLEAN CARS REGULATION PACKAGE, <http://www.arb.ca.gov/regact/2012/cfo2012/res12-11.pdf>

<sup>4</sup> Another element of the Advanced Clean Cars program, the Clean Fuels Outlet regulations, designed to assure ultra-clean fuels such as hydrogen are available to meet vehicle demands brought on by these amendments to the ZEV program, are mentioned here for completeness. However, there are no proposed amendments to these regulations at this time and none are needed to meet the above-described commitments.

Action on These Regulations” by including the following language in Resolution 12-21<sup>5</sup>, “WHEREAS, in consideration of the proposed Final Regulation Orders, written comments, and public testimony it has received to date, the Board finds that: It is appropriate to accept compliance with the 2017 through 2025 model year National Program as compliance with California’s greenhouse gas emission standards in the 2017 through 2025 model years, once United States Environmental Protection Agency (U.S. EPA) issues their Final Rule on or after its current July 2012 planned release, provided that the greenhouse gas reductions set forth in U.S. EPA’s December 1, 2011 Notice of Proposed Rulemaking for 2017 through 2025 model year passenger vehicles are maintained, except that California shall maintain its own reporting requirements”. Accepting such National Program compliance for the 2017 through 2025 model years is the subject of this rulemaking proposal.

### **The Board’s Regulatory Action:**

At its November 15, 2012 public hearing, the Board approved the proposed amendments to the California LEV III regulations to accept manufacturer-demonstrated compliance with the final national passenger motor vehicle greenhouse gas regulations for the 2017 through 2025 model years, as an option to achieve compliance with California’s regulations for those model years. The Board also approved minor amendments to the LEV III criteria pollutant regulations and zero-emission vehicle regulations correcting errors, and updating procedures to reflect information received since adoption of the regulations in January 2012.

At the hearing, the staff also presented, and the Board approved modifications to the regulations originally proposed in the Staff Report released on September 14, 2012, in response to comments received after the Staff Report was published, with direction to the Executive Officer to make modifications available for comment. These modifications include revisions to the sections of the regulations and test procedures that reference the 2017 – 2025 model year National Greenhouse Gas Program to reference the date that this rule was published in the Federal Register. They also include a number of modifications to the original proposal, in response to comments received after the Staff Report was published, including: allowing 2015-2019 model year Low-Emission Vehicle II (LEV II) super-ultra-low-emission vehicles (SULEV) that receive a partial ZEV allowance and 2015 – 2016 model year vehicles that are allowed to certify to LEV II SULEV standards using “carryover” of emission test data to certify to combined non-methane organic gas plus oxides of nitrogen (NMOG+NOx) standards instead of separate NMOG and NOx standards; clarifying that LEV II vehicles that certify to combined NMOG+NOx standards must meet the combined standards at 150,000 miles; clarifying that determination of a manufacturer’s compliance with the 2018 and subsequent model year partial ZEV anti-backsliding requirement that is based on a three year average of the manufacturer’s partial ZEV production will start with the 2020 model year; clarification that fleet average emission credits provisions that apply to

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<sup>5</sup> State of California, Air Resources Board, Resolution 12-21, March 22, 2012, Agenda Item No.: 12-2-7, ADVANCED CLEAN CARS REGULATION PACKAGE, <http://www.arb.ca.gov/regact/2012/leviighg2012/res12-21.pdf>

LEV III will be applicable starting in the 2015 model year, which is when the LEV III program begins; and a number of non-substantive modifications.

Subsequent to the hearing, staff identified one additional conforming modification in response to public comments received during the 45-day comment period. This change, which provided clarification to the existing regulatory language, was made available for a 15-day comment period, along with the changes presented at the hearing, beginning on November 19, 2012.