

Updated Informative Digest

Proposed Amendments to the Heavy-Duty Engine and Vehicle Omnibus Regulation

Sections Affected:

Proposed amendment to California Code of Regulations (CCR), title 13, sections 1956.8, 1971.1, and 1971.5.

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

The following document would be incorporated in the regulation by reference as specified by section:

- "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as amended on December 28, 2023, incorporated by reference in 13 CCR 1956.8.
- "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles," as amended on December 28, 2023, incorporated by reference in 13 CCR 1956.8.
- Title 40 Code of Federal Regulations, Part 86 "§ 86.010-18 - On-board Diagnostics for engines used in applications greater than 14,000 pounds GVWR," as amended on January 23, 2023, incorporated by reference in 13 CCR 1971.1.

Background and Effect of the Proposed Regulatory Action:

On-road heavy-duty (HD) vehicles¹ operate throughout California and are an essential part of the state's economy; they include long-haul trucks, drayage trucks, transit buses, refuse trucks, and other commercial work vehicles. According to California's emissions inventory model, almost a million HD vehicles operate on California roads each year. These vehicles are significant sources of oxides of nitrogen (NOx), particulate matter (PM), and greenhouse gas (GHG) emissions. In fact, HD vehicles comprise the largest NOx emission source category in the state. Although California has made significant progress in improving air quality over the last decade, further NOx reductions are needed from HD vehicles to achieve California's air quality goals. The Heavy-Duty Engine and Vehicle Omnibus (Omnibus) regulation is a major regulation that reduces NOx emissions and is vital for achieving our State Implementation Plan (SIP) commitments in 2031 and 2037.

¹ Under California regulations, HD vehicles are those vehicles with a gross vehicle weight rating (GVWR) greater than 8,500 pounds, while medium-duty vehicles are a subcategory of HD vehicles with a GVWR between 8,501 and 14,000 pounds. Light HD vehicles are HD vehicles with 14,001 to 19,500 pounds GVWR, medium HD vehicles have 19,501 to 33,000 pounds GVWR, and heavy HD vehicles have greater than 33,000 pounds GVWR.

New HD engines have been subject to a nationwide NO_x standard of 0.20 grams per brake horsepower hour (g/bhp-hr) and a PM emission standard of 0.01 g/bhp-hr since 2010. In 2013, California established optional low-NO_x standards² for new HD engines, with the most aggressive standard being 0.02 g/bhp-hr, which is 90% below the 2010 HD standard. The optional low-NO_x standards were developed to pave the way for more stringent mandatory standards by encouraging manufacturers to develop and certify low-NO_x engines, and incentivizing potential customers to purchase these low-NO_x engines. Since 2015, a number of engine families, some using natural gas and others using liquefied petroleum gas, have been certified to the optional NO_x standards.³

On September 9, 2021, California adopted the Omnibus regulation which primarily established more stringent NO_x and PM standards applicable to new 2024 and subsequent MY medium- and HD diesel and Otto-cycle engines.⁴ For HD diesel engines (HDDE), the regulation established more stringent standards on existing certification cycles such as the HD Transient Federal Test Procedure, the Supplemental Emission Test Ramped Modal Cycle, and the CARB Idle Test Procedure, and new exhaust emission standards on a new certification cycle (low load cycle).

The Omnibus regulation currently contains a provision that allows manufacturers to elect to produce and sell a fraction of their 2024 and 2025 MY HDDEs rated below 525 brake horsepower to the current 0.20 g/bhp-hr NO_x and 0.01 g/bhp-hr PM emission standards (hereinafter referred to as legacy engines), provided they offset any resulting legacy engine NO_x and/or PM emission deficits with credits obtained from the HD zero-emission averaging set. If sufficient credits from the zero-emission averaging set are not available, or such credits are not available below a specified cost threshold, then upon approval by CARB's Executive Officer (EO), the manufacturer may offset the deficits using combustion engine credits from the same HDDE averaging set. If credits from the same HDDE averaging set are not available, the manufacturer may carry over the NO_x and/or PM deficit balance generated by legacy engines until the end of the 2026 MY, provided the manufacturer offsets the remaining legacy engine generated deficit balance times 1.25 with credits from the HD zero-emission averaging set or the same HDDE averaging set. If at the end of the 2026 MY, a sufficient quantity of HD zero-emission or HDDE credits are not available for the manufacturer to offset the remaining legacy engine generated deficit balance times 1.25, the manufacturer, upon approval by CARB's EO, may offset the legacy engine emission deficits times 1.25 by performing projects in disadvantaged communities. To utilize this option, a manufacturer must certify at least one engine family to the Omnibus requirements.

As 2024 model year certification approached, CARB staff became aware through manufacturer product plans for 2024 to 2026 that while the technology for diesel-fueled Omnibus compliant engines was available, manufacturers did not intend to produce such engines for some categories of trucks in California. Given the impacts to fleets, additional flexibility was desired to enable a smoother transition to the Omnibus standards. CARB staff proposed amending the legacy engine provisions in the Omnibus regulation to provide additional compliance flexibility to allow manufacturers to produce and certify greater numbers of 2024 through 2026 MY legacy engines, while also ensuring the proposed amendments will not reduce the emissions

² [Optional Reduced NO_x Standards for Heavy-duty Vehicles | California Air Resources Board](#)

³ [List of Optional Low NO_x Certified Heavy-Duty Engines \(ca.gov\)](#)

⁴ [Heavy-Duty Omnibus Regulation | California Air Resources Board](#)

benefits of the Omnibus regulation. For legacy engine sales caps, CARB staff has proposed two options from which manufacturers may choose:⁵

Option 1 would keep the existing legacy engine sales limits of 45% in 2024 MY and 25% in 2025 MY and extend the applicability to 2026 MY with a 10% California legacy engine sales limit. If a manufacturer exceeds the legacy engine sales limits, deficits from the additional 1% sales volume above the limit would have to be remediated at four times the deficit balance. Any legacy engine sales above the production and sales limits including the additional 1% volume would be considered as non-compliant engine sales.

Option 2 would be available to manufacturers that produce and sell medium HD diesel (MHDD) engines and another class of HDDEs. Under this option, MHDD legacy engine sales would be limited to 60% in each of MYs 2024 and 2025. The sales limits for combined light HD diesel (LHDD) and heavy HD diesel (HHDD) engines would be 15% in 2024 MY and 8% in 2025 MY. If a manufacturer exceeds the legacy engine sales limits, deficits from the additional 5% sales volume above the limit for MHDDs, and additional 1% sales volume above the limit for LHDDs and HHDDs would have to be remediated at four times the deficit balance. Any legacy engine sales above the distribution limits including the additional allowed exceedances would be considered as non-compliant engine sales.

The pathways for offsetting legacy engine emission deficits would remain the same as in the existing Omnibus regulation i.e., through the use of HD zero-emission powertrain credits, HD combustion credits, or performing projects in disadvantaged communities. In addition, the proposed amendments include other flexibilities including the ability to certify a legacy engine family before certification of the Omnibus compliant engine family and the ability to start working on projects in disadvantaged communities as early as 2024 MY.

Changes to the legacy engine provisions of the Omnibus regulation are needed to enable a smoother transition to the Omnibus standards, and to provide additional clarification to some requirements.

Objectives and Benefits of the Proposed Regulatory Action:

The objective of the amendments to the Omnibus regulation is to provide additional flexibility during the 2024 to 2026 MY transition years while maintaining the originally projected emissions reductions.

On February 9, 2023, CARB staff was informed that some HD engine manufacturers have changed their product plans and although the technology to produce an Omnibus compliant HD diesel engine is available, some HD engine manufacturers do not intend to use that technology for 2024 to 2026 MYs. Recognizing the need for additional flexibility for 2024 through 2026 MY timeframe, CARB staff has proposed changes specifically on the legacy engine provisions of the Omnibus regulation.

As discussed above, similar to the existing legacy engine provisions, manufacturers would be required to offset any excess NOx or PM emissions deficits generated from legacy engine sales by using the same pathways currently existing in the Omnibus regulation. All emissions

⁵ [Heavy-Duty Engine and Vehicle Omnibus Regulation Amendments | California Air Resources Board](#)

deficits must be offset with credits or performing projects in disadvantaged communities. As a result, the proposed amendments are emissions-neutral; that is, they are not projected to provide any additional emission reductions, nor are they expected to result in any emissions increases. Emissions and health benefits expected from the Omnibus regulation as initially adopted would remain the same.

Description of Regulatory Action

On March 23, 2023, Resolution 23-15,⁶ delegated to the EO the authority to adopt, amend, and revoke emission standards and test procedures, compliance test procedures, and compliance flexibilities for new on-road motor vehicles with the delegation of power terminating on December 31, 2023.

On August 1, 2023, CARB released the Notice of Public Hearing (45-Day Notice) and Staff Report: Initial Statement of Reasons for Rulemaking (Staff Report), titled “Public Hearing to Consider Proposed Amendments to the Heavy-Duty Engine and Vehicle Omnibus Regulation,” for public review. CARB received a total of 47 written comments during the 45-Day Notice comment period with 27 commenters requested an EO hearing. The hearing notice was published on September 15, 2023, for the October 20, 2023, hearing.

At the EO hearing, CARB staff informed the EO of the proposed amendment to the Omnibus regulation, and the EO received 8 written and 31 oral comments from the public. At the conclusion of the hearing, the EO indicated that he will consider approving the proposed amendments and issue an Executive Order upon consideration of all the proposed amendments and public comments. One late written comment was received on October 23, 2023.

Subsequent to the hearing, CARB released a Notice of Public Availability of Modified Text and Availability of Additional Documents and Information (15-Day Notice) on December 6, 2023. In accordance with Government Code section 11346.8, the proposed modified regulatory language is available for public comment for a period of at least 15 days. To be considered by the EO, written comments must have been submitted by December 21, 2023. The text of the proposed regulatory and staff report modifications was posted on CARB’s website at [Heavy-Duty Engine and Vehicle Omnibus Regulation Amendments | California Air Resources Board](#), accessible to all stakeholders and interested parties. The 15-Day Notice proposed modifications included:

- Slightly modify the definition of California sales volume by removing the sale to ultimate purchaser clause;
- Further clarification on the intent of the legacy engine sales limits of Options 1 and 2;
- Clarify the number of decimal places for the family emissions limits for legacy engines; and
- Minor modification to the California On-Board Diagnostic (OBD) requirements by removing the option to certify to the California OBD requirements from subsection 1971.1(d)(8.5.1.) to align with the OBD requirements in the current subsection 1956.8(a)(2)(C)2.

⁶ 23-3-3: *Public Meeting to Consider Proposed Delegation of Authority to the Executive Officer to Consider Proposed Amendments to Mobile Source Regulations*. March 23, 2023

During the 15-Day Notice comment period, 14 written comments were submitted and subsequently considered by the EO.

On December 28, 2023, Executive Order R-23-006 was approved, adopting amendments to sections 1956.8, 1971.1, and 1971.5, title 13 California Code of Regulations.

Comparable Federal Regulations:

Both California and United States Environmental Protection Agency (U.S. EPA) have the authority and responsibility to set emission standards for new HD engines and vehicles. For the past several decades, California's and U.S. EPA's HD engine emissions standards and other emission-related requirements have largely been harmonized. Thus, for many years the regulated industry has been able to design and produce a single product line of engines and vehicles that comply with both U.S. EPA and CARB emission standards and sold in all 50 states. So-called "50-state" certification enable technology suppliers and manufacturers to efficiently produce a single set of reliable and compliant products.

HD vehicles comprise the largest NOx emissions source category in California, contributing to about a third of total statewide NOx inventory. As a result, California urgently needs to achieve significant emission reductions from on-road HD vehicles in order to meet the California's SIP commitments and protect public health. The Omnibus regulation is one of the biggest measures in the 2016 State SIP Strategy. The regulation, as adopted on September 9, 2021, was developed to achieve significant NOx emission reductions by requiring HD engines meet stricter requirements beginning with 2024 MY.

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 amendments to the Omnibus regulation, CARB conducted a search of any similar regulations on this topic and concluded these regulations are neither inconsistent nor incompatible with existing state regulations.