



State of Oregon Department of Environmental Quality

Low Emissions Vehicles 2018 Rules - Overview

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Overview

Under Section 177 of the U.S. Clean Air Act, states that choose to require more stringent emission limits than the federal standards for new vehicles can only adopt California's vehicle emission standards. Oregon is one of thirteen "Section 177" states that have opted-in to California's low emission vehicle standards. The Oregon Environmental Quality Commission first adopted California's emission standards for light-duty vehicles in late 2005. These rules reduce emissions of greenhouse gases, ozone-forming compounds and air toxics from cars and light trucks. California's regulations also provide Zero-Emission Vehicle requirements, known as the ZEV program, which are nested inside of the LEV requirements. These regulations mandate the development and commercial-scale production of pollution-free vehicles by automakers.

Background

The California Air Resources Board (CARB) adopted the first LEV regulations in 1990, requiring automobile manufacturers to introduce progressively cleaner light- and medium-duty vehicles with more durable emission controls from 1994 through 2003. By adopting these regulations, CARB established the most stringent exhaust regulations ever for light- and medium-duty vehicles. The regulations, now referred to as the "LEV I" regulations included three primary elements:

- (1) tiers of exhaust emission standards for increasingly more stringent categories of low-emission vehicles,
- (2) a mechanism requiring each manufacturer to phase-in a progressively cleaner mix of vehicles from year to year with the option of credit banking and trading, and
- (3) a requirement that a specified percentage of passenger cars and lighter light-duty trucks be zero-emission vehicles (ZEVs), vehicles with no exhaust or evaporative emissions.

In 1999, CARB developed the LEV II program to further reduce exhaust emissions including requirements for 2004 through 2010 model year phase-in requirements for passenger cars, light-duty trucks, and medium-duty vehicles. In 2004, CARB adopted the Pavley regulations, which reduced greenhouse gas emissions from new passenger vehicles for model years 2009 and 2016.

The ZEV program has been modified four times – in 1996, 1998, 2001, 2003, and 2008. While the program requirements were changed to reflect the status of technology, the original objective

of commercializing ZEV technologies and requiring the development and placement of ZEVs in states remained.

In 2012, CARB developed the Advanced Clean Cars (ACC) program, which combined updates to the ZEV program and introduced the LEV III program. The ACC program required further reduction of smog-causing pollutants and GHG emissions. This included increased ZEV requirements through 2025 model year for various size auto manufacturers (ZEV program), and light duty GHG and criteria pollutant emission standards for model years 2015 through 2025 (LEV III program).

Subsequent to the adoption of the ACC program, the U.S. EPA finalized its federal Tier 3 program designed to reduce criteria pollutants from light-duty vehicles from model years 2017 through 2025. The Tier 3 program essentially mirrors California's LEV III criteria pollutant program in both structure and requirements and was developed in a cooperative effort with CARB.

CARB, EPA, U.S. Department of Transportation (NHTSA) and auto manufacturers also negotiated additional emission limits that further decreased greenhouse gases and cut traditional pollutants from new vehicles by substantial amounts. The coordinated requirements were phased in starting in 2017 and continue through 2025. California adopted the so-called "deemed to comply" option, which allows compliance with U.S. EPA's regulations as an alternative to complying with California's regulations for these model years. This allowed auto makers to manufacture only one type of car to meet both the California and federal emission standards.

In August 2018, EPA issued a notice of proposed rulemaking indicating it would freeze the GHG vehicle emission standards to 2020 levels. Although the federal rule is not final, California has issued a proposed revision to its LEV III GHG standards to clarify that the "deemed to comply" option is available only if the currently adopted federal greenhouse gas regulations remain in effect.

Summary of DEQ's Rule Revisions (incorporation by reference)

DEQ last updated its Low Emission Vehicle rules in 2013. Since then, California has revised its low emission vehicle and Zero Emission Vehicle program rules. Oregon must incorporate California's rules "identically" to maintain conformity with the California program and remain in compliance with federal law. In order to remain identical, DEQ must adopt the following California rules:

Zero Emission Vehicle Rules – 2013

The 2013 ZEV rule update included minor amendments to modify the 2012 ZEV regulations. The 2013 ZEV rules basically put into effect an agreement between the nine Section 177 ZEV states and regulated manufacturers regarding the optional Section 177 state compliance path. The optional compliance path, allowed manufacturers to obtain ZEV credits for ZEVs and transitional zero emission vehicles (TZEVs) placed in car share programs; these credits could be used to meet a portion of their ZEV requirement. The other option allowed for trading and

transferring 2012-2017 model year ZEV and TZEV credits within and between regional pools. It allowed a manufacturer to use 2012 through 2015 model year credits to meet a 2015 model year obligation, whereas previously a manufacturer would have only been able to pool 2015 model year credits to meet a 2015 model year obligation.

The rule also added provisions to ensure ZEVs are delivered for sale in California every year, modified the fast refueling provisions to ensure that credits received from battery swapping are based on real-world use, and corrected grammatical errors and clarified language where needed.

Zero Emission Vehicle Rules - 2014

The ZEV 2014 rules primarily focused on modifications for the intermediate volume manufacturers, since they were now competing and would be classified as large volume manufacturers beginning with the 2018 model year. The rules provided flexibilities for intermediate volume manufacturers through:

1. Providing intermediate volume manufacturers (IVMs) transitioning to large vehicle manufacturer (LVM) status additional time before having to deliver advanced technology vehicles;
2. Modifying the IVM definition to add a global revenue test, to help assess a manufacturer's ability to bring advanced technology vehicles to market;
3. Lowering the percent of ZEVs that IVMs must produce;
4. Providing a pathway for IVMs to pool compliance obligations in Section 177 states, and
5. Allowing IVMs three years (as opposed to one year) to make up ZEV credit deficits.

LEV III rules - 2014

When EPA finalized the federal Tier 3 program in 2012, CARB needed to update its rules to align some of the more stringent federal requirements with its program. This rule incorporated those updates including:

- Updating California's test procedures to be consistent with EPA's updates to the test procedures in the Federal Tier 3 regulation. California's rules extensively referenced the CFR, to assure that manufacturers can use the same test procedures to certify both their federal and California vehicles. Overall, this had the effect of helping to streamline certification procedures for manufacturers.
- Revisions to the manufacturer reporting procedures for their advanced technology vehicles to include Battery Electric Vehicles and Plug-In Electric Vehicles.
- Modifications to the California Environmental Performance Label scores to incorporate the LEV III emission categories.
- Modifications to the Hybrid Electric Vehicle Test Procedures to accommodate "real world" plug-in hybrid electric vehicles. Current PHEV configurations were difficult for manufacturers to test using the existing test procedures.
- Additional compliance flexibility for manufacturers.

GHG Phase 1 rules – 2014

These rules aligned California’s GHG emissions standards and test procedures with those of the U.S. Phase 1 GHG regulations. In 2011, the U.S. Environmental Protection Agency (U.S. EPA) and the U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) jointly adopted GHG emission standards and fuel economy standards for medium- and heavy-duty engines and vehicles, informally known as the “U.S. Phase 1” GHG regulations or federal Phase 1 program. The program, which phased in between model years (MY) 2014 and 2019, established the first ever national GHG emission standards for medium- and heavy-duty engines and vehicles with gross vehicle weight rating (GVWR) over 8,500 pounds. CARB’s GHG Phase 1 rule updated its rules to match the federal rules and provided nationwide consistency for engine and vehicle manufacturers. Changes to the rules included:

- Amending existing regulations to establish GHG standards applicable to new California medium-duty engines to harmonize with the existing federal GHG emission standards (Phase 1 GHG Regulations) for medium-duty engines and vehicles.
- Other clarifying edits to the rules

OBD II rules – 2015

The 2015 amendments to the OBD II requirements updated California’s program to match the federal OBD requirements. At the time, California’s OBD II regulations established requirements applicable to 2013 and subsequent model year vehicles and engines while the amended federal OBD regulation applied to 2017 and subsequent model year vehicles and engines. The 2015 amendments ensured California’s OBD II requirements were at least as stringent as the federal OBD requirements. The amendments also incorporate some new requirements that were adopted in EPA’s Tier 3 regulation from 2012.

The changes included:

- Adding LEV III emission malfunction thresholds for emission threshold monitors
- Revising the air-fuel ratio cylinder imbalance monitor monitoring requirements and standardization requirements
- Clarifying monitoring requirements for hybrid vehicles
- Revising the gasoline misfire monitoring requirements for plug-in hybrid electric vehicles
- Revising the evaporative system monitoring requirements for turbocharged vehicles with high load lines
- Revising the crankcase ventilation monitoring requirements
- Revising the light-duty diesel monitoring requirements to align with medium-duty diesel requirements, including full-range misfire monitoring
- Adding allowances for exemptions to selective catalytic reduction (SCR) system low reductant and wrong reductant monitoring for vehicles with inducement systems

- Revising the requirements to allow for exemption from illuminating the MIL for certain components that activate emissions-neutral default actions when they fail
- Revising the requirements to allow for exemption from monitoring for certain components used only for safety purposes
- Adding a definition for smart device and clarifying the monitoring requirements for smart devices
- Adding specific test-out requirements that would allow exemption from monitoring of components that do not have a significant impact on emissions and are not used as part of a diagnostic strategy
- Adding new data stream parameters required to be reported by the OBD II system for CO2 technology performance, PEMS data collection, and other purposes
- Revising the mandatory recall provisions in the OBD II enforcement regulation, including changes related to the gasoline air-fuel ratio cylinder imbalance monitor and changes related to light-duty diesel vehicles

The rules included amendments to the OBD II enforcement regulation (section 1968.5) to align with the changes to the OBD II regulation. It included relaxations to the mandatory recall interim thresholds for the gasoline air-fuel ratio cylinder imbalance monitor, changes to the mandatory recall provisions for gasoline and diesel misfire monitors, and changes to the mandatory recall provisions for light-duty diesel vehicles.

LEV III GHG rules – 2018

In August 2018, California proposed amendments to its LEV III GHG standards that will modify its “deemed to comply” option, which allows compliance with U.S. EPA’s regulations as an alternative to complying with California’s regulations for specific model years. Specifically, the rule amendment clarifies that the “deemed to comply” option is available only if the currently adopted federal greenhouse gas regulations remain in effect for model years 2021 through 2025.

Specific Rule Changes by Reference

This table shows the most recent updates to the California Code of Regulations (CCR) Title 13, based on the most recent rulemaking. Previous CCR Title 13 Section changes in earlier rules (e.g. LEV III in 2015) are not listed, as they were later updated by more recent rules (e.g. ZEV updates in 2016). The rules are not a comprehensive list of all the California rules adopted, but only reflect those that are adopted by reference in Oregon and will be subsequently updated as a result of DEQ’s proposed rules.

CARB Rulemaking	CCR Title 13, Section
LEV III (effective 10/8/15)	1961.2
	1965
	1976
	1978
HD GHG Phase 1 (effective 12/5/14)	1956.8 (h)
	2037

	2112
	2147
OBD II (effective 7/25/16)	1900
	1968.2
	1968.5
ZEV updates (effective 7/10/14 and 1/1/16)	1962.1
	1962.2
LEV III GHG (proposed 8/7/18)	1961.2
	1961.3

Alternative formats

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