

Facts about the Proposed Heavy-Duty Inspection and Maintenance Regulation

The Proposed Regulation will keep polluting, poorly maintained heavy-duty trucks from operating on the road, hence reduce particulate matter (PM) and oxides of nitrogen (NO_x) emissions, and protect communities most impacted by air pollution.

Why is it important to reduce PM and NO_x emissions?

Heavy-duty vehicles' PM and NO_x emissions impose a damaging effect on human health and the environment. Diesel PM is a carcinogenic toxic air contaminant. NO_x is a precursor of ozone formation and several other air toxics including PM. Exposure to PM and ozone can lead to serious adverse health effects such as asthma, cardiopulmonary and respiratory disease, and premature death.

The majority of densely populated areas in California, such as the South Coast and San Joaquin Valley air basins, exceed the federal ozone and PM less than 2.5 micron in diameter (PM 2.5) standards. To achieve federal air quality standards and improve public health across the State, it is critical to substantially further reduce NO_x and PM emissions beyond what CARB's current programs are already doing.

Emissions from On-Road Heavy-Duty Vehicles

Heavy-duty vehicles continue to be major contributors to statewide mobile air pollution even though this sector makes up only a small portion of California's total on-road vehicle fleet. In 2020, these vehicles emitted about 52 percent of the statewide on-road mobile source NO_x emissions and about 54 percent of the statewide on-road mobile source PM 2.5 emissions.



Modern trucks are equipped with aftertreatment systems like diesel particulate filters for controlling PM and selective catalytic reduction for cutting NOx. Although most heavy-duty truck owners take good care of their trucks and keep them low-emitting, a significant portion do not. Recent CARB field testing of heavy-duty vehicles show 11 to 17 percent of tested on-board diagnostic (OBD) vehicles had illuminated OBD malfunction indicator light, suggesting significant number of heavy-duty vehicles are operating in California with malfunctioning emissions control systems. The proposed Heavy-Duty Inspection and Maintenance (HD I/M) program is aimed at ensuring all heavy-duty trucks operating in California are well maintained and repaired rapidly when needed, and ensuring a level playing field for the businesses that operate them.

HD I/M Regulation

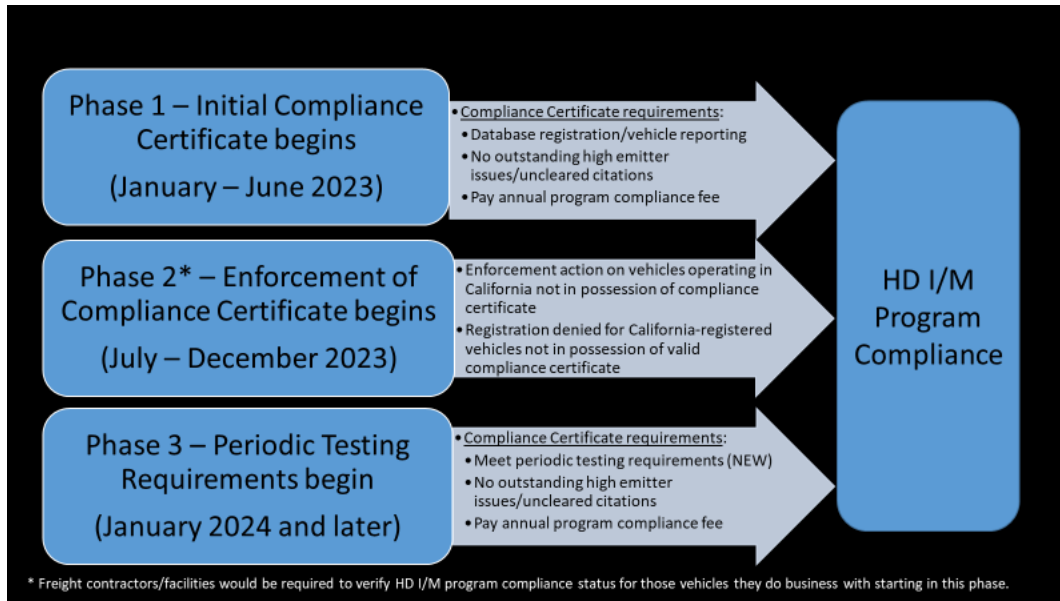
In September 2019, Governor Gavin Newsom signed Senate Bill (SB) 210 (Leyva, Chapter 5.5, Statutes of 2019) into law. SB210 directed CARB to develop a new, comprehensive HD I/M program to control emissions more effectively from non-gasoline on-road heavy-duty vehicles with a gross vehicle weight rating greater than 14,000 pounds operating in California.

Similar to the Bureau of Automotive Repair's Smog Check program for light-duty vehicles, affected heavy-duty vehicles would be required to perform periodic emissions testing to show compliance at specified intervals, although the majority of vehicle owners would be able to comply by remotely transmitting vehicle emission system monitoring data without bringing their vehicles to a designated testing facility. OBD-equipped vehicles would be subject to OBD testing, while non-OBD vehicles would be subject to smoke opacity testing and visual inspection.

To enhance CARB's ability to enforce the Proposed Regulation, CARB would deploy roadside vehicle emission monitoring and an automated license plate recognition camera network throughout the State to identify potentially non-compliant vehicles. All vehicles operating in California would be required to have a valid HD I/M compliance certificate to operate legally in the State, and HD I/M program compliance would be tied to DMV vehicle registration for in-state vehicles. Freight contractors, brokers, and freight facilities such as seaports and intermodal railyards would be required to check vehicle compliance of vehicles they do business with.

Phase-in Implementation of the HD I/M Regulation

The Proposed Regulation would begin in 2023 with requirements implemented in three phases.



Benefits of the HD I/M Regulation

The Proposed Regulation would help California meet State Implementation Plan commitments and move closer to achieving federal ambient air quality standards in the San Joaquin Valley and South Coast air basins. Many major populated regions and economically disadvantaged communities are situated near heavy trucking traffic areas. The Proposed Regulation is expected to provide the largest benefits in regions with the most heavy-duty truck traffic. Thus, it would reduce adverse health impacts and improve air quality throughout the State, especially in areas disproportionately impacted by truck emissions.

The HD I/M program is expected to be one of the most impactful CARB programs approved in decades. In 2024, it is projected to reduce 8.6 tons per day (tpd) NO_x and 0.09 tpd PM emissions in San Joaquin Valley. In 2037, it is projected to cut statewide NO_x emissions by 81.3 tpd and PM emissions by 0.7 tpd. The PM and NO_x reduction would result in roughly 7,500 avoided premature deaths and 6,000 avoided hospitalization statewide, which are equivalent to monetized health benefits of \$75.8 billion for the 2023-2050 period.