

# EPA 2027 EMISSION STANDARDS GUIDE

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The U.S. Environmental Protection Agency is moving ahead with its Heavy Duty Engine and Vehicle Standards (EPA 2027), maintaining its original timeline and strict requirements towards reducing emissions as well as industry compliance costs.

## UNDERSTANDING EMISSIONS STANDARDS

1. In December 2022, the EPA finalized its strongest nitrogen-oxide (NOx) emissions standards for heavy-duty trucks beginning with model year 2027.
2. The goal is to reduce air pollution and climate-related emissions across the transportation sector.
3. NOx emissions must drop to 0.035 grams per horsepower-hour during normal operation, 0.05 grams at low load, and 10 grams at idle.
4. Vehicle useful life increases from 435,000 miles to 650,000 miles.

Category	Requirement
Normal Operation	0.035 g/hp-hr
Low Load	0.05 g
Idle	10 g
Useful Life	650,000 miles

## TECHNOLOGY UPDATES & COST CONSIDERATIONS

1. Manufacturers must redesign diesel engines with more advanced emissions-control technologies.
2. Expected updates include improved aftertreatment systems, enhanced thermal management, and new sensors.
3. Industry estimates suggest potential cost increases of \$20,000 to \$25,000 per truck, though actual figures may vary.
4. Longer emissions system warranty periods will be required.
5. OEMs will focus on improving overall durability and system integration.

## MARKET TRENDS AND BUYER CONSIDERATIONS

1. Equipment pricing remains an important consideration for fleets and owner-operators.
2. As NOx-compliant equipment continues to evolve, challenges around electric vehicle costs and infrastructure remain.
3. Some fleets may consider earlier purchases ahead of 2027 model changes.
4. Purchasing cycles may adjust as buyers evaluate timing and total cost of ownership.

## LOOKING FORWARD: 2027 REGULATIONS

1. EPA 2027 will be followed by additional greenhouse gas (GHG) Phase 3 regulations.
2. These emissions standards are expected to impact light- and medium-duty vehicles in the future.
3. Ongoing legal and regulatory developments may influence final implementation.
4. The EPA plans to officially publish the rule in Spring 2026.