



Regulatory Announcement

Frequently Asked Questions from Facility Managers and Other Owners of Industrial Spark-ignition Engines

The U.S. Environmental Protection Agency (EPA) has adopted new emission standards for nonroad spark-ignition engines used in forklifts, generators, aerial lifts, and many other kinds of farm, construction, and industrial equipment. This fact sheet addresses questions we have heard from concerned parties.

Why is EPA adopting emission standards for Industrial Spark-Ignition Engines?

Nonroad spark-ignition engines over 19 kilowatts ("Large SI engines") currently emit about 500,000 tons of hydrocarbons (HC) and oxides of nitrogen (NO_x) each year across the United States. These pollutants combine to form smog. The engines can also emit high levels of carbon monoxide (CO) and toxic compounds such as benzene, which is especially problematic for engines operating in areas with limited access to fresh air. Reducing these emissions will benefit our health and environment. In the Clean Air Act, Congress requires us to set emission standards that address these problems. These environmental impacts are described in more detail in the fact sheet referenced below.

Does my current Large SI engine need to meet these regulations?

No. Engine manufacturers must ensure that each **new** Large SI engine sold meets the new emission standards. The standards apply only to new engines produced after January 1, 2004. Unless manufacturers choose to sell clean engines earlier, anything manufactured before then is not affected by this regulation. Note that similar requirements already apply in California.

As an owner of a Large SI engine, how does this affect me?

You may **not** disable any emission controls installed on your engine. Manufacturers explain in their owner's manual what type of emission controls exist for each model. Manufacturers may also specify some minor maintenance you must do to keep emission controls working properly over the life of the engine.

What kind of emission controls is EPA requiring?

We don't tell manufacturers how to comply with the regulations, but we generally expect them to meet the new standards by adding technologies that have been used in cars for many years, including electronic fuel systems and three-way catalytic converters. The expected technologies for nonroad engines, however, do not include the latest improvements automotive companies have made to meet the more stringent emission standards that apply to passenger cars and other highway vehicles.

How much will these controls cost?

We are projecting that manufacturers will see increased costs of about \$600 per engine. This will vary somewhat based on the size of the engine and the type of fuel that it burns. However, we expect operators to experience a net savings from these new engines, as described below.

How will these controls affect performance and safety?

These technologies should not only reduce emissions, but substantially improve engine performance. Engines that are already operating with the expected emission-control technologies have much better fuel effi-

ciency, need less adjustment, and have less down time for maintenance. We estimate that fuel consumption will decrease by 20 percent compared with engines that have no emission controls. We expect these fuel and maintenance savings to be much greater than any extra costs to produce the cleaner engines. The expected emission controls generally raise no safety concerns; in fact, reduced CO emissions from the new engines provide a great safety advantage.

How do the emission standards protect individuals from exposure to exhaust emissions?

We are aware that forklifts, ice-surfacing machines, sweepers, and other types of equipment operate in areas that may expose people to high levels of exhaust emissions. Carbon monoxide emissions from engines that are not certified to emission standards can be particularly high, which can endanger operators or others who are around the equipment. This is true whether the engines use gasoline, natural gas, or liquefied petroleum gas.

Low-emitting engines can help ensure that pollutant concentrations are at safe levels in enclosed areas, but they are not automatic solutions. Continued monitoring of local air quality and attention to ventilation will always be an important responsibility of operators and owners. Nevertheless, in the long term, we expect manufacturers to reduce CO emissions by 90 percent or more.

Starting in 2007, engines will have additional features, such as improved calibrations and diagnostic controls, that help to make sure that each engine's emission-control system is working over its lifetime. In addition, we added provisions that give manufacturers flexibility to produce engines specifically to provide extra protection for applications where there is a greater concern for individual exposure to exhaust emissions. For example, manufacturers may sell Blue Sky Series engines, which have been certified to be cleaner than the standards for other engines. In addition, the long-term standards encourage manufacturers to tailor their emission controls based on particular needs for different applications.

Will these regulations affect where I can use my equipment?

No. These regulations do not include any specific restrictions about where you can use your equipment.

Where can I get more information?

You can access documents on Large SI engines on the Office of Transportation and Air Quality Web site at:

www.epa.gov/otaq/largesi.htm

You can also contact us at:

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See additional fact sheets:

- Emission Standards for New Nonroad Engines— Large Industrial Spark-ignition Engines, Recreational Marine Diesel Engines, and Recreational Vehicles (EPA420-F-02-037)
- Environmental Impacts of Newly Regulated Nonroad Engines (EPA420-F-02-033)
- Emission Regulations for Stationary and Mobile Engines (EPA420-F-02-034)
- How to Maintain or Rebuild Engines Certified to EPA Standards (EPA420-F-02-035)
- Blue Sky Series Engines (EPA420-F-02-036)