



Technical Highlights

Emission Standards for Marine Diesel Engines: Scope of Application

The U.S. Environmental Protection Agency's (EPA) final rule for commercial marine diesel engines sets emission standards that apply to new engines used in the United States. These standards take effect for new engines manufactured starting in 2004, 2005, or 2007, depending their size (see Table 1). This fact sheet addresses companies that produce these engines.

How does EPA distinguish marine and non-marine diesel engines?

We define a marine diesel engine as one that is “installed on” a marine vessel. A loose engine that someone intends to install on a marine vessel is also a marine diesel engine if its fueling, cooling, and exhaust systems are integral to the vessel.

Do the emission standards apply to remanufactured engines?

Generally no. Our requirements don't affect marine engines you produce and sell before the new standards take effect, with three exceptions:

1. if you remanufacture a land-based engine for installation on a marine vessel, or
2. if you remanufacture any engine for installation in a new vessel, or
3. if anyone imports an uncertified engine installed (or to be installed) on a vessel.

In the first two cases, we treat the engine as a new marine engine that must meet standards when you remanufacture it. Also, if you try to install a used engine in a new vessel (or a land-based engine in any vessel) without remanufacturing it, the emission standards in effect at the time of installation would apply to that engine. For an imported engine, we apply the marine engine standards, if any, in effect when it was freshly manufactured.

What is a “new vessel”?

A new vessel is one that is freshly manufactured or on whose value at the point of sale is at least 50 percent from new parts and construction. This includes vessels that recycle selected components and refurbished vessels that are so extensively overhauled that the majority of the resale value is from the new construction.

What about remanufacturing EPA-certified engines?

Anyone rebuilding or remanufacturing a certified engine must bring it back to its original configuration. See the fact sheet on rebuilding diesel engines for more information (EPA420-F-99-045). We do not expect anyone to certify or re-certify these remanufactured engines.

What if my customer wants to repower a vessel with a new engine?

If you make a new marine engine to replace another one, it must meet any emission standards in effect when you finish assembling it. However, if we agree no engine is available (from you or any other manufacturer) with the physical and performance characteristics needed for that installation, we will allow you to produce an uncertified engine. You must label the new engine and collect the one you’re replacing.

What is the foreign-trade exemption?

If someone wants to install a new marine diesel engine on a U.S.-flagged vessel for overseas operation, you may ask us to exempt it. You must get a letter from the buyer of the new vessel showing it will operate mainly overseas. The buyer can do this in one of two ways:

- (1) Show that at least 75 percent of the engine’s operation will occur more than 320 nautical kilometers outside the U.S., not

including trips between U.S. ports in Alaska, Hawaii, the continental U.S., or its territories.

(2) Show the vessel has (or will have) solely a registry endorsement so it's clear the vessel won't operate between two U.S. ports.

What if I modify a new engine that is already certified to meet land-based requirements for installation in a marine vessel?

You may qualify for the engine dressing exemption. For more information, see 40 CFR 94.907. See the earlier question about remanufacturing land-based engines for marine vessels.

What about recreational marine diesel engines?

A recreational marine diesel engine is one you intend to be installed on a recreational vessel. The emission standards in this final rule don't apply to these engines, but you must label them to show they're for recreational vessels. We will propose separate emission standards for recreational engines.

What other exemptions are available?

The final rule for commercial marine diesel engines includes several other exemptions, many of which are common to other programs. See 40 CFR 94, Subparts I and J for more information about how we handle each of these exemptions.

1. **Competition exemption:** for engines used solely for competition.
2. **National security exemption:** for combat-related applications.
3. **Testing exemption:** for your specific testing programs with uncertified engines.
4. **Manufacturer-owned engine exemption:** for engines you keep to further develop your product.
5. **Display exemption:** for engines that are strictly for observation.
6. **Export exemption:** for engines you export to other countries (as long as they don't adopt our standards).
7. **Incomplete engine exemption:** for loose, uncertified engines you import to convert into a certified marine configuration.

How do I get more information?

You can get electronic documents on emission standards for marine diesel engines on the Office of Transportation and Air Quality web site at:

<http://www.epa.gov/otaq/marine.htm>

You can also contact Alan Stout at:

U.S. Environmental Protection Agency
Office Transportation and Air Quality
2000 Traverwood Drive
Ann Arbor, MI 48105
(734) 214-4805
e-mail: stout.alan@epa.gov

Table 1
U.S. EPA Emission Standards and Dates for Marine Diesel Engines

Category	Displacement (liters/cylinder)	Starting Date	NOx+HC (g/kW-hr)	PM (g/kW-hr)	CO (g/kW-hr)
1	power \geq 37 kW disp. <0.9	2005	7.5	0.40	5.0
	0.9 \leq disp. <1.2	2004	7.2	0.30	5.0
	1.2 \leq disp. <2.5	2004	7.2	0.20	5.0
	2.5 \leq disp. <5.0	2007	7.2	0.20	5.0
2	5.0 \leq disp. <15	2007	7.8	0.27	5.0
	15 \leq disp. <20, and Power <3300 kW	2007	8.7	0.50	5.0
	15 \leq disp. <20, and power \geq 3300 kW	2007	9.8	0.50	5.0
	20 \leq disp. <25	2007	9.8	0.50	5.0
	25 \leq disp. <30	2007	11.0	0.50	5.0