

- Manufactured after the emission standards become effective, whether it is made in the United States or is imported;
- Installed for the first time in a marine vessel flagged or registered in the United States after having been used in another application subject to different emission standards (or exempt from emission standards); or
- Installed on a new vessel flagged in the United States.

The standards will apply to new marine diesel engines subject to this rule regardless of how they are used. In other words, engine manufacturers will no longer be able to obtain an exemption for engines used on vessels engaged in foreign trade (defined as vessels flagged or registered in the United States that would spend less than 25 percent of total operating time within 320 kilometers of U.S. territory). This exemption was generally targeted at auxiliary engines, which are invariably less than 30 liters per cylinder.

In the remainder of this section we discuss the scope of application of this final rule in greater detail.

A. What Is a Marine Vessel?

For the purpose of our marine diesel engine standards, “marine vessel” has the meaning specified in the General Provisions of the United States Code, 1 U.S.C. 3 (see 40 CFR 94.2). According to that definition, the word “vessel” includes “every description of watercraft or other artificial contrivance

used, or capable of being used, as a means of transportation on water.”

B. What Are Category 1, 2, and 3 Marine Diesel Engines?

In our 1999 commercial marine diesel engine rule, we defined “marine engine” as an engine that is installed or intended to be installed on a marine vessel. We also differentiated between three types of marine diesel engines. As explained in that rule, this approach is necessary because marine diesel engines are typically derivatives of land-based diesel engines and those land-based engines are not all subject to the same numerical standards, test procedures, and effective dates.

The definitions for the different categories of marine diesel engines are contained in 40 CFR 94.2. Category 1 marine diesel engines, those having a rated power greater than or equal to 37 kilowatts and a per-cylinder displacement less than 5 liters, are similar to land-based nonroad engines used in construction and farm equipment. Category 2 marine diesel engines, those with per-cylinder displacement at or above 5 liters but less than 30 liters, are most often similar to locomotive engines. Category 1 and Category 2 marine diesel engines are used as propulsion engines (*i.e.*, an engine that moves a vessel through the water or directs the movement of a vessel (40 CFR 94.2)) on tugboats, fishing vessels, supply vessels, and smaller cargo vessels. They are also used as auxiliary engines (*i.e.*, a marine

engine that is not a propulsion engine (40 CFR 94.2)) to provide electricity for navigation equipment and crew service or other services such as pumping, powering winches, or handling anchors.

Category 3 marine diesel engines, which are the primary focus of this final rule, are defined as having per-cylinder displacement at or above 30 liters. These are very large engines used for propulsion on large vessels such as container ships, tankers, bulk carriers, and cruise ships. Most of these engines are installed on ocean-going vessels, though a few are found on ships in the Great Lakes. Category 3 marine diesel engines have no land-based mobile-source counterpart, though they are similar to engines used to generate electricity in certain power-plant applications. In marine applications they are either mechanical drive or indirect drive. Mechanical drive engines can be direct drive (engine speed is the same as propeller speed; this is common on very large ships) or have a gearbox (*i.e.*, they have reduction gears; this is common on ships using medium-speed Category 3 marine diesel engines). Indirect drive engines are used to generate electricity that is then used to turn the propeller shaft. These are common in cruise ships, since they have heavy electricity demands. Category 3 marine diesel engines typically operate at a lower speed and higher power than Category 1 and Category 2 engines, with the slowest speed being about 60 rpm (see Table II.B–1).

TABLE II.B–1.—MARINE ENGINE CATEGORY DEFINITIONS

Category	Displacement per cylinder	hp range (kW)	rpm range
1	Disp. <5 liters (and power ≥37 kW)	37–2,300	1,800–3,000
2	5 ≤disp. <30 liters	1,500–8,000	750–1,500
3	Disp. ≥30 liters	2,500–80,000	60–900

C. What Is a New Marine Diesel Engine?

In the proposal for this rule, we proposed that the emission standards would apply to new engines on vessels flagged or registered in the United States. We also requested comment on whether to modify the definition of a “new marine engine” to find that the engine emission standards apply to marine diesel engines that are built after the standards become effective and that are installed on foreign vessels that enter U.S. ports. We have decided to finalize the scope of application as proposed. However, we intend to revisit this issue in our future rule.

1. “New” Engines on Vessels Flagged or Registered in the United States

As set out in 40 CFR 94.2, a new marine engine is (i) a marine engine, the equitable or legal title to which has never been transferred to an ultimate purchaser; (ii) a marine engine installed on a vessel, the equitable or legal title to such vessel has never been transferred to an ultimate purchaser; or (iii) a marine engine that has not been placed into service on a vessel. In cases where the equitable or legal title to an engine or vessel is not transferred to an ultimate purchaser prior to its being placed into service, an engine ceases to be new after it is placed into service.

This means that a marine engine is new and is subject to emission standards before its initial sale is completed or it is placed into service. Practically, it means that any engine must meet emission standards that are in effect the first time it is sold or placed into service or the first time the vessel on which it is installed is sold or placed into service. This is true for any engine that is sold for the first time as a marine engine (placed into service on a marine vessel), regardless of whether it has previously been used for other nonroad or highway purposes. This clarification is necessary because some marine engines are made by “marinizing” existing land-based nonroad or highway engines. Without this clarification, a