

Environmental Protection Agency

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equal to 45 percent of the maximum power at rated speed and speeds less than 95 percent of maximum test speed, or 1.50 times the applicable standards (or FELs) at loads less than 45 percent of the maximum power at rated speed, or 1.50 times the applicable standards (or FELs) at any loads for speeds greater than or equal to 95 percent of the maximum test speed.

(ii) As an option, the manufacturer may choose to comply with limits of 1.25 times the applicable standards (or FELs) when tested over the whole

power range in accordance with the supplemental test procedures specified in § 94.106, instead of the limits in paragraph (e)(2)(i) of this section.

(f) The following define the requirements for low-emitting Blue Sky Series engines:

(1) *Voluntary standards.* (i) Category 1 and Category 2 engines may be designated “Blue Sky Series” engines by meeting the voluntary standards listed in Table A–2, which apply to all certification and in-use testing:

TABLE A–2—VOLUNTARY EMISSION STANDARDS [G/kW-HR]

| Rated brake power (kW) | THC+NO _x | PM |
|--|---------------------|------|
| Power ≥ 37 kW, and displ. < 0.9 | 4.0 | 0.24 |
| 0.9 ≤ displ. < 1.2 | 4.0 | 0.18 |
| 1.2 ≤ displ. < 2.5 | 4.0 | 0.12 |
| 2.5 ≤ displ. < 5 | 5.0 | 0.12 |
| 5 ≤ displ. < 15 | 5.0 | 0.16 |
| 15 ≤ disp. < 20, and power < 3300 kW | 5.2 | 0.30 |
| 15 ≤ disp. < 20, and power ≥ 3300 kW | 5.9 | 0.30 |
| 20 ≤ disp. < 25 | 5.9 | 0.30 |
| 25 ≤ disp. < 30 | 6.6 | 0.30 |

(ii) Category 3 engines may be designated “Blue Sky Series” engines by meeting these voluntary standards that would apply to all certification and in-use testing:

(A) A NO_x standard of $9.0 \times N^{-0.20}$ where N = the maximum test speed of the engine in revolutions per minute (or 4.8 g/kW-hr for engines with maximum test speeds less than 130 rpm). (NOTE: Round speed-dependent standards to the nearest 0.1 g/kW-hr.)

(B) An HC standard of 0.4 g/kW-hr.

(C) A CO standard of 3.0 g/kW-hr.

(2) *Additional standards.* Blue Sky Series engines are subject to all provisions that would otherwise apply under this part.

(3) *Test procedures.* Manufacturers may use an alternate procedure to demonstrate the desired level of emission control if approved in advance by the Administrator.

(g) Standards for alternative fuels. The standards described in this section apply to compression-ignition engines, irrespective of fuel, with the following two exceptions for Category 1 and Category 2 engines:

(1) Engines fueled with natural gas shall comply with NMHC+NO_x standards that are numerically equivalent to

the THC+NO_x described in paragraph (a) of this section; and

(2) Engines fueled with alcohol fuel shall comply with THCE+NO_x standards that are numerically equivalent to the THC+NO_x described in paragraph (a) of this section.

[64 FR 73331, Dec. 29, 1999, as amended at 67 FR 68342, Nov. 8, 2002; 68 FR 9782, Feb. 28, 2003; 68 FR 54960, Sept. 19, 2003; 72 FR 68525, Dec. 5, 2007]

§ 94.9 Compliance with emission standards.

(a) The general standards and requirements in § 94.7 and the emission standards in § 94.8 apply to each new engine throughout its useful life period. The useful life is specified both in years and in hours of operation, and ends when either of the values (hours of operation or years) is exceeded.

(1) The minimum useful life is:

(i) 10 years or 1,000 hours of operation for recreational Category 1 engines.

(ii) 10 years or 10,000 hours of operation for commercial Category 1 engines.

(iii) 10 years or 20,000 hours of operation for Category 2 engines.

(iv) 3 years or 10,000 hours of operation for Category 3 engines.

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(2) The manufacturer shall specify a longer useful life if the engine is designed to remain in service longer than the applicable minimum useful life without being rebuilt. A manufacturer's recommended time to remanufacture/rebuild longer than the minimum useful life is one indicator of a longer design life.

(3) Manufacturers may request in the application for certification that we approve a shorter useful life for an engine family. We may approve a shorter useful life, in hours of engine operation but not in years, if we determine that these engines will rarely operate longer than the shorter useful life. If engines identical to those in the engine family have already been produced and are in use, the demonstration must include documentation from such in-use engines. In other cases, the demonstration must include an engineering analysis of information equivalent to such in-use data, such as data from research engines or similar engine models that are already in production. The demonstration must also include recommended overhaul intervals, any mechanical warranty offered for the engine or its components, and any relevant customer design specifications. The demonstration may include any other relevant information. The useful life value may not be shorter than any of the following:

- (i) 1,000 hours of operation.
- (ii) The recommended overhaul interval.
- (iii) The mechanical warranty for the engine.

(b) Certification is the process by which manufacturers apply for and obtain certificates of conformity from EPA, which allows the manufacturer to introduce into commerce new marine engines for sale or use in the U.S.

(1) Compliance with the applicable emission standards by an engine family shall be demonstrated by the certifying manufacturer before a certificate of conformity may be issued under § 94.208. Manufacturers shall demonstrate compliance using emission data, measured using the procedures specified in Subpart B of this part, from a low hour engine. A development engine that is equivalent in design to the marine engines being certified may

be used for Category 2 or Category 3 certification.

(2) The emission values to compare with the standards shall be the emission values of a low hour engine, or a development engine, adjusted by the deterioration factors developed in accordance with the provisions of § 94.219. Before comparing any emission value with the standard, round it to the same number of significant figures contained in the applicable standard.

(c) Upon request by the manufacturer, the Administrator may limit the applicability of exhaust emission requirements of § 94.8(e) as necessary for safety or to otherwise protect the engine.

[64 FR 73331, Dec. 29, 1999, as amended at 67 FR 68342, Nov. 8, 2002; 68 FR 9783, Feb. 28, 2003; 68 FR 54960, Sept. 19, 2003; 70 FR 40458, July 13, 2005]

§ 94.10 Warranty period.

(a)(1) Warranties imposed by § 94.1107 for Category 1 or Category 2 engines shall apply for a period of operating hours equal to at least 50 percent of the useful life in operating hours or a period of years equal to at least 50 percent of the useful life in years, whichever comes first.

(2) Warranties imposed by § 94.1107 for Category 3 engines shall apply for a period of operating hours equal to at least the full useful life in operating hours or a period of years equal to at least the full useful life in years, whichever comes first.

(b) Warranties imposed by § 94.1107 shall apply for a period not less than any mechanical warranties provided by the manufacturer to the owner.

[64 FR 73331, Dec. 29, 1999, as amended at 68 FR 9784, Feb. 28, 2003]

§ 94.11 Requirements for rebuilding certified engines.

(a) The provisions of this section apply with respect to engines subject to the standards prescribed in § 94.8 and are applicable to the process of engine rebuilding. Engine rebuilding means to overhaul an engine or to otherwise perform extensive service on the engine (or on a portion of the engine or engine system). For the purpose of this definition, perform extensive service means to disassemble the engine (or portion of