

## Environmental Protection Agency

## § 86.1105–87

§ 86.1103–87, shall be the previous pollutant emission standard for that subclass.

(2) If a manufacturer participates in any of the emissions averaging, trading, or banking programs, and carries over certification of an engine family from the prior model year, the upper limit for that engine family shall be the family emission limit of the prior model year, unless the family emission limit is less than the upper limit determined in paragraph (a) of this section.

(b) If no previous standard existed for the pollutant under paragraph (a) of this section, the upper limit will be developed by EPA during rulemaking.

(c) EPA may set the upper limit during rulemaking at a level below the default level specified in paragraph (a) of this section if we determine that a lower level is achievable by all engines.

[77 FR 4686, Jan. 31, 2012]

### **§ 86.1105–87 Emission standards for which nonconformance penalties are available.**

(a)–(b) [Reserved]

(c) Effective in the 1991 model year, NCPs will be available for the following additional emission standards:

(1) [Reserved]

(2) Petroleum-fueled diesel heavy-duty engine oxides of nitrogen standard of 5.0 grams per brake horsepower-hour.

(i) For petroleum-fueled light heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(1) COC<sub>50</sub>: \$830.

(2) COC<sub>90</sub>: \$946.

(3) MC<sub>50</sub>: \$1,167 per gram per brake horsepower-hour.

(4) F: 1.2.

(B) The following factor shall be used to calculate the engineering and development component of the NCP in accordance with § 86.1113–87(h): 0.12.

(ii) For petroleum-fueled medium heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(1) COC<sub>50</sub>: \$905.

(2) COC<sub>90</sub>: \$1,453.

(3) MC<sub>50</sub>: \$1,417 per gram per brake horsepower-hour.

(4) F: 1.2.

(B) The following factor shall be used to calculate the engineering and development component of the NCP in accordance with § 86.1113–87(h): 0.11.

(iii) For petroleum-fueled heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(1) COC<sub>50</sub>: \$930.

(2) COC<sub>90</sub>: \$1,590.

(3) MC<sub>50</sub>: \$2,250 per gram per brake horsepower-hour.

(4) F: 1.2.

(B) The following factor shall be used to calculate the engineering and development component of the NCP in accordance with § 86.1113–87(h): 0.11.

(3) Petroleum-fueled diesel light-duty trucks (between 6,001 and 14,000 lbs GVW) particulate matter emission standard of 0.13 grams per vehicle mile.

(i) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(A) COC<sub>50</sub>: \$711.

(B) COC<sub>90</sub>: \$1,396.

(C) MC<sub>50</sub>: \$2,960 per gram per brake horsepower-hour.

(D) F: 1.2.

(ii) The following factor shall be used to calculate the engineering and development component of the NCP in accordance with § 86.1113–87(h): 0.01.

(d) Effective in the 1993 model year, NCPs will be available for the following additional emission standard:

(1) Petroleum-fueled diesel bus engine (as defined in § 86.093–2) particulate emission standard of 0.10 grams per brake horsepower-hour.

(i) The following values shall be used to calculate an NCP for the standard set forth in § 86.093–11(a)(1)(iv)(A) in accordance with § 86.1113–87(a):

(A) COC<sub>50</sub>: \$4,020.

(B) COC<sub>90</sub>: \$4,535.

(C) MC<sub>50</sub>: \$22,971 per gram per brake horsepower-hour.

(D) F: 1.2.

(E) UL: 0.25 grams per brake horsepower-hour.

(ii) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.093–11(a)(1)(iv)(A) in accordance with § 86.1113–87(h): 0.02.

(2) [Reserved]

(e) The values of COC50, COC90, and MC50 in paragraphs (a) and (b) of this section are expressed in December 1984 dollars. The values of COC50, COC90, and MC50 in paragraphs (c) and (d) of this section are expressed in December 1989 dollars. The values of COC50, COC90, and MC50 in paragraph (f) of this section are expressed in December 1991 dollars. The values of COC50, COC90, and MC50 in paragraphs (g) and (h) of this section are expressed in December 1994 dollars. The values of COC50, COC90, and MC50 in paragraph (i) of this section are expressed in December 2001 dollars. The values of COC50, COC90, and MC50 in paragraph (j) of this section are expressed in December 2011 dollars. These values shall be adjusted for inflation to dollars as of January of the calendar year preceding the model year in which the NCP is first available by using the change in the overall Consumer Price Index, and rounded to the nearest whole dollar in accordance with ASTM E29–67 (re-approved 1980), Standard Recommended Practice for Indicating Which Places of Figures are to be Considered Significant in Specified Limiting Values. This method was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. This document is available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428–2959, and is also available for inspection as part of Docket A–91–06, located at the U.S. EPA, Air and Radiation Docket and Information Center, 1301 Constitution Ave., NW., Room 3334, EPA West Building, Washington, DC 20004, (202) 202–1744 or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>. These materials are incorporated as they exist on the date of the approval and a notice of any change in these materials will be published in the FEDERAL REGISTER.

(f) Effective in the 1994 model year, NCPs will be available for the following emission standards:

(1) Petroleum-fueled urban bus engine (as defined in § 86.091–2) particu-

late emission standard of 0.07 grams per brake horsepower-hour.

(i) The following values shall be used to calculate an NCP for the standard set forth in § 86.094–11(a)(1)(iv)(A) in accordance with § 86.1113–87(a):

- (A) COC<sub>50</sub>: \$3292.
- (B) COC<sub>90</sub>: \$10,014.
- (C) MC<sub>50</sub>: \$109,733.
- (D) F: 1.2.

(ii) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.094–11(a)(1)(iv)(A) in accordance with § 86.1113–87(h): 0.38.

(2) Petroleum-fueled diesel heavy-duty engine particulate matter emission standard of 0.10 grams per brake horsepower-hour.

(i) For petroleum-fueled light heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

- (1) COC<sub>50</sub>: \$772.
- (2) COC<sub>90</sub>: \$1,325.
- (3) MC<sub>50</sub>: \$8,178 per gram per brake horsepower-hour.
- (4) F: 1.2.

(B) The following factor shall be used to calculate the engineering and development component of the NCP in accordance with § 86.1113–87(h): 0.081.

(ii) For petroleum-fueled medium heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

- (1) COC<sub>50</sub>: \$1,276.
- (2) COC<sub>90</sub>: \$3,298.
- (3) MC<sub>50</sub>: \$15,370 per gram per brake horsepower-hour.
- (4) F: 1.2.

(B) The following factor shall be used to calculate the engineering and development component of the NCP in accordance with § 86.1113–87(h): 0.098.

(iii) For petroleum-fueled heavy heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

- (1) COC<sub>50</sub>: \$2,105.
- (2) COC<sub>90</sub>: \$6,978.
- (3) MC<sub>50</sub>: \$30,070 per gram per brake horsepower-hour.
- (4) F: 1.2.

## Environmental Protection Agency

## § 86.1105–87

(B) The following factor shall be used to calculate the engineering and development component of the NCP in accordance with § 86.1113-87(h): 0.083.

(g) Effective in the 1996 model year, NCPs will be available for the following emission standard:

(1) Light-duty truck 3 diesel-fueled vehicle at full useful life (as defined in § 86.094-2) particulate matter emission standard of 0.10 g/mi.

(i) The following values shall be used to calculate an NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(a):

(A) COC<sub>50</sub>: \$441.

(B) COC<sub>90</sub>: \$1,471.

(C) MC<sub>50</sub>: \$14,700 per gram per mile.

(D) F: 1.2.

(ii) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(h): 0.093.

(2) Light-duty truck 3 diesel-fueled vehicle at full useful life (as defined in § 86.094-2) oxides of nitrogen emission standard of 0.98 g/mi.

(i) The following values shall be used to calculate an NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(a):

(A) COC<sub>50</sub>: \$654.

(B) COC<sub>90</sub>: \$779.

(C) MC<sub>50</sub>: \$908 per gram per mile.

(D) F: 1.2.

(ii) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(h): 0.082.

(3) 1996 Urban Bus (as defined in § 86.094-2) particulate matter emission standard of 0.05 g/BHp-hr.

(i) The following values shall be used to calculate an NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(a):

(A) COC<sub>50</sub>: \$576.

(B) COC<sub>90</sub>: \$6,569.

(C) MC<sub>50</sub>: \$28,800 per gram per brake horsepower-hour.

(D) F: 1.2.

(ii) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(h): 0.500.

(h) Effective in the 1998 model year, NCPs will be available for the following emission standard:

(1) Petroleum-fueled diesel heavy-duty engine oxides of nitrogen standard of 4.0 grams per brake horsepower-hour.

(i) For petroleum-fueled light heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113-87(a):

(1) COC<sub>50</sub>: \$833.

(2) COC<sub>90</sub>: \$1,513.

(3) MC<sub>50</sub>: \$833 per gram per brake horsepower-hour.

(4) F: 1.2.

(B) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(h): 0.039.

(ii) For petroleum-fueled medium heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113-87(a):

(1) COC<sub>50</sub>: \$444.

(2) COC<sub>90</sub>: \$1,368.

(3) MC<sub>50</sub>: \$444 per gram per brake horsepower-hour.

(4) F: 1.2.

(B) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(h): 0.043.

(iii) For petroleum-fueled heavy heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113-87(a):

(1) COC<sub>50</sub>: \$1,086.

(2) COC<sub>90</sub>: \$2,540.

(3) MC<sub>50</sub>: \$1,086 per gram per brake horsepower-hour

(4) F: 1.2.

(B) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.094-9(a)(1)(ii) in accordance with § 86.1113-87(h): 0.039.

(2) [Reserved]

(i) Effective in the 2004 model year, NCPs will be available for the following emission standard:

(1) Diesel heavy-duty engine non-methane hydrocarbon plus oxides of nitrogen standard of 2.4 grams per brake

**§ 86.1105–87****40 CFR Ch. I (7–1–12 Edition)**

horsepower-hour (or alternatively, 2.5 grams per brake horsepower-hour with a limit on non-methane hydrocarbon emissions of 0.5 grams per brake horsepower-hour), in § 86.004–11(a)(1)(i).

(i) For light heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(1) COC<sub>50</sub>: \$1,240.

(2) COC<sub>90</sub>: \$2,710.

(3) MC<sub>50</sub>: \$2,000 per gram per brake horsepower-hour.

(4) F: 1.3.

(5) UL: 4.5 grams per brake horsepower-hour; notwithstanding § 86.1104–91.

(B) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.004–11(a)(1)(i) in accordance with § 86.1113–87(h): 0.403.

(ii) For medium heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(1) COC<sub>50</sub>: \$2,740.

(2) COC<sub>90</sub>: \$4,930.

(3) MC<sub>50</sub>: \$1,400 per gram per brake horsepower-hour.

(4) F: 1.3.

(5) UL: 4.5 grams per brake horsepower-hour; notwithstanding § 86.1104–91.

(B) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.004–11(a)(1)(i) in accordance with § 86.1113–87(h): 0.197.

(iii) For heavy heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(1) COC<sub>50</sub>: \$6,810.

(2) COC<sub>90</sub>: \$12,210.

(3) MC<sub>50</sub>: \$5,600 per gram per brake horsepower-hour.

(4) F: 1.3.

(5) UL: 6.0 grams per brake horsepower-hour; notwithstanding § 86.1104–91.

(B) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.004–11(a)(1)(i) in accordance with § 86.1113–87(h): 0.090.

(iv) For diesel urban bus engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(1) COC<sub>50</sub>: \$3,930.

(2) COC<sub>90</sub>: \$6,660.

(3) MC<sub>50</sub>: \$3,800 per gram per brake horsepower-hour.

(4) F: 1.3.

(5) UL: 4.5 grams per brake horsepower-hour; notwithstanding § 86.1104–91.

(B) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.004–11(a)(1)(i) in accordance with § 86.1113–87(h): 0.155.

(2) [Reserved]

(j) Effective in the 2012 and 2013 model years, NCPs will be available for the following emission standard:

(1) Diesel heavy-duty engine oxides of nitrogen standard of 0.20 grams per brake horsepower-hour in § 86.007–11(a)(1)(i).

(i) [Reserved]

(ii) For heavy heavy-duty diesel engines:

(A) The following values shall be used to calculate an NCP in accordance with § 86.1113–87(a):

(1) COC<sub>50</sub>: \$1,561.

(2) COC<sub>90</sub>: \$1,919.

(3) MC<sub>50</sub>: \$5,203 per gram per brake horsepower-hour NO<sub>x</sub>.

(4) F: 1.23.

(5) UL: 0.50 grams per brake horsepower-hour NO<sub>x</sub>.

(B) The following factor shall be used to calculate the engineering and development component of the NCP for the standard set forth in § 86.007–11(a)(1)(i) in accordance with § 86.1113–87(h): 0.004.

(2) Manufacturers may not generate emission credits for any pollutant from engines for which the manufacturer pays an NCP.

(3) The penalty shall be adjusted annually as specified in § 86.1113–87 with 2012 as the first year. Note that this means AAF<sub>2012</sub> is equal to 1.

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