

Environmental Protection Agency

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either the more stringent new or revised standard or an existing standard which becomes more difficult to achieve because of a new or revised standard.

§ 86.1104-91 Determination of upper limits.

(a) The upper limit applicable to a pollutant emission standard for a subclass of heavy-duty engines or heavy-duty vehicles for which an NCP is established in accordance with § 86.1103-87, shall be the previous pollutant emission standard for that subclass.

(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) 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.

[55 FR 30629, July 26, 1990]

§ 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) COC₅₀: \$830.

(2) COC₉₀: \$946.

(3) MC₅₀: \$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) COC₅₀: \$905.

(2) COC₉₀: \$1,453.

(3) MC₅₀: \$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) COC₅₀: \$930.

(2) COC₉₀: \$1,590.

(3) MC₅₀: \$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) COC₅₀: \$711.

(B) COC₉₀: \$1,396.

(C) MC₅₀: \$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) COC₅₀: \$4,020.

(B) COC₉₀: \$4,535.

(C) MC₅₀: \$22,971 per gram per brake horsepower-hour.

(D) F: 1.2.

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(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. 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 (reapproved 1980), Standard Recommended Practice for Indicating Which Places of Figures are to be Considered Significant in Specified Limiting Values. The 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 Central Docket Section, EPA, 401 M Street, SW., Washington, DC or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC. This incorporation by reference was approved by the Director of the Federal Register on January 13, 1992. 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) particulate 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) COC₅₀: \$3292.

(B) COC₉₀: \$10,014.

(C) MC₅₀: \$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) COC₅₀: \$772.

(2) COC₉₀: \$1,325.

(3) MC₅₀: \$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) COC₅₀: \$1,276.

(2) COC₉₀: \$3,298.

(3) MC₅₀: \$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) COC₅₀: \$2,105.

(2) COC₉₀: \$6,978.

(3) MC₅₀: \$30,070 per gram per brake horsepower-hour.

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(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): 0.083.

(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) COC₅₀: \$441.

(B) COC₉₀: \$1,471.

(C) MC₅₀: \$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) COC₅₀: \$654.

(B) COC₉₀: \$779.

(C) MC₅₀: \$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) COC₅₀: \$576.

(B) COC₉₀: \$6,569.

(C) MC₅₀: \$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) COC₅₀: \$833.

(2) COC₉₀: \$1,513.

(3) MC₅₀: \$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) COC₅₀: \$444.

(2) COC₉₀: \$1,368.

(3) MC₅₀: \$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) COC₅₀: \$1,086.

(2) COC₉₀: \$2,540.

(3) MC₅₀: \$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

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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) COC₅₀: \$1,240.

(2) COC₉₀: \$2,710.

(3) MC₅₀: \$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) COC₅₀: \$2,740.

(2) COC₉₀: \$4,930.

(3) MC₅₀: \$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) COC₅₀: \$6,810.

(2) COC₉₀: \$12,210.

(3) MC₅₀: \$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) COC₅₀: \$3,930.

(2) COC₉₀: \$6,660.

(3) MC₅₀: \$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]

[50 FR 53466, Dec. 31, 1985, as amended at 52 FR 47870, Dec. 16, 1987; 53 FR 43878, Oct. 31, 1988; 56 FR 64712, Dec. 12, 1991; 58 FR 15802, Mar. 24, 1993; 58 FR 68540, Dec. 28, 1993; 60 FR 33925, June 29, 1995; 61 FR 6949, 6953, Feb. 23, 1996; 67 FR 51477, Aug. 8, 2002]

§ 86.1106-87 Production compliance auditing.

For a model year in which upper limits for heavy-duty engine or heavy-duty vehicle emission standards for one or more exhaust pollutants are specified in § 86.1105-87, a manufacturer may elect to conduct a Production Compliance Audit (PCA) for each engine or vehicle configuration satisfying the following conditions:

(a) Certification test results, pursuant to § 86.082-23, exceed the emission standard for a particular pollutant but do not exceed the upper limit established for that pollutant. In that event, the manufacturer will be offered a qualified certificate of conformity allowing for the introduction into commerce of the specified engine family, *Provided, That*:

(1) The manufacturer must agree to conduct a PCA of those engines or vehicles;

(2) PCA testing must be conducted on the same configurations that exceeded the standard in certification. In lieu of that requirement, the Administrator may approve testing of a greater or lesser number of configurations provided the manufacturer agrees to pay the NCP determined from the CL of each tested configuration for that configuration and for other non-tested