

§ 86.1727-99

standard, he or she may accept the information supplied by the manufacturer in lieu of vehicle test data.

[62 FR 31242, June 6, 1997. Redesignated and amended at 63 FR 987, Jan. 7, 1998]

§ 86.1727-99 [Reserved]

§ 86.1728-01 Compliance with emission standards for the purpose of certification.

The provisions of § 86.1837-01 and subsequent model year provisions apply with respect to the applicable standards of this subpart.

[64 FR 23924, May 4, 1999]

§ 86.1728-99 Compliance with emission standards.

The provisions of § 86.094-28 and subsequent model year provisions apply to this subpart, with the following exceptions and additions:

(a) The provisions of § 86.094-28(a)(1) and subsequent model year provisions do not apply to this subpart. The following shall instead apply to this subpart:

(1) The provisions of § 86.094-28(a) and subsequent model year provisions apply to light-duty vehicles and light-duty trucks, except ZEVs.

(2) [Reserved]

(b) The provisions of § 86.094-28(a)(4)(i) and subsequent model year provisions do not apply to this subpart. The following shall instead apply to this subpart:

(1) Separate emission deterioration factors shall be determined from the exhaust emission results of the durability-data vehicle(s) for each engine-system combination. A separate factor shall be established for exhaust HC (non-alcohol vehicles, non-TLEVs, non-LEVs, and non-ULEVs), exhaust OMHCE or OMNMHCE (alcohol vehicles that are not TLEVs, LEVs, or ULEVs), exhaust NMOG (all TLEVs, LEVs, ULEVs), exhaust formaldehyde (alcohol vehicles, TLEVs, LEVs, ULEVs), exhaust CO, exhaust NO_x, and exhaust particulate (diesel vehicles only) for each engine-system combination. A separate evaporative emission deterioration factor shall be determined for each evaporative emission family-evaporative emission control system combination from the testing

40 CFR Ch. I (7-1-07 Edition)

conducted by the manufacturer (gasoline- and alcohol-fueled vehicles only). Separate emission correction factors (diesel light-duty vehicles and light-duty trucks equipped with periodically regenerating trap oxidizer systems only) shall be determined from the exhaust emission results of the durability-data vehicle(s) for each engine-system combination. A separate factor shall be established for exhaust HC (non-alcohol vehicles, non-TLEVs, non-LEVs, and non-ULEVs), exhaust OMHCE or OMNMHCE (alcohol vehicles that are not TLEVs, LEVs, or ULEVs), exhaust NMOG (TLEVs, LEVs, ULEVs), exhaust CO, exhaust NO_x, and exhaust particulate for each engine-system combination.

(2) [Reserved]

(c) The provisions of § 86.094-28(a)(4)(i)(A)(4) and subsequent model year provisions do not apply to this subpart. The following shall instead apply to this subpart:

(1) The manufacturer must use the outlier identification procedure set forth in appendix VIII of this part to test for irregular data from a durability-data set. If any data point is identified as a statistical outlier, the Administrator shall determine, on the basis of an engineering analysis of the causes of the outlier submitted by the manufacturer, whether the outlier is to be rejected. The outlier shall be rejected only if the Administrator determines that the outlier does not reflect representative characteristics of the emission control system, *i.e.*, the outlier is a result of an emission control system anomaly, test procedure error, or an extraordinary circumstance not expected to recur. Only the identified outlier shall be eliminated; other data at that test point (*i.e.*, data for other pollutants) shall not be eliminated unless the Administrator determines, based on the engineering analysis, that they also do not reflect representative characteristics of the emission control system. Where the manufacturer chooses to apply both the outlier procedure and averaging to the same data set, the outlier procedure shall be completed prior to applying the averaging procedure. All durability test data, including any

outliers and the manufacturer's engineering analysis, shall be submitted with the final application.

(2) [Reserved]

(d) The provisions of § 86.094-28(a)(4)(i)(B) and subsequent model year provisions do not apply to this subpart. The following shall instead apply to this subpart:

(1) All applicable exhaust emission results shall be plotted as a function of the mileage on the system, rounded to the nearest mile, and the best fit straight lines, fitted by the method of least squares, shall be drawn through all these data points. The emission data will be acceptable for use in the calculation of the deterioration factor only if the interpolated 4,000-mile, 50,000-mile, and full useful life points on this line are within the applicable emission standards in §§ 86.1708 and 86.1709. For hybrid electric vehicles, the emission data will be acceptable for use in the calculation of the deterioration factor only if the engine mileage points corresponding to the interpolated 4,000 mile, 50,000 mile, and full useful life points of the vehicle on this line are within the applicable emission standards in §§ 86.1708 and 86.1709. The engine mileage points shall be determined based on the test schedule submitted to the Administrator as required in § 86.096-26. As an exception, the Administrator will review the data on a case-by-case basis and may approve its use in those instances where the best fit straight line crosses an applicable standard but no data point exceeds the standard or when the best fit straight line crosses the applicable standard at the 4,000-mile point but the 5,000-mile actual test point and the 50,000 mile and full useful life interpolated points are both below the standards. A multiplicative exhaust emission deterioration factor shall be calculated for each engine system combination as follows:

(i) For engine families certified to 50,000 mile emissions standards: Factor = Exhaust emissions interpolated to 50,000 miles divided by exhaust emissions interpolated to 4,000 miles.

(ii) For engine families certified to full useful life emissions standards beyond 50,000 miles: Factor = Exhaust emissions interpolated to the full use-

ful life divided by exhaust emissions interpolated to 4,000 miles.

(2) [Reserved]

(e) The following requirements shall be in addition to the provisions of § 86.094-28(a)(4) and subsequent model year provisions:

(1)(i) The regeneration exhaust emission data (diesel light-duty vehicles and light-duty trucks equipped with periodically regenerating trap oxidizer systems only) from the tests required under § 86.096-26(a)(4) and subsequent model year provisions shall be used to determine the regeneration exhaust emissions interpolated to the 50,000-mile point. The regeneration exhaust emission results shall be plotted as a function of the mileage on the system, rounded to the nearest mile, and the best fit straight lines, fitted by the method of least squares, shall be drawn through all these data points. The interpolated 50,000-mile point of this line shall be used to calculate the multiplicative exhaust emission correction factor for each engine-system combination as follows:

$$\text{Factor} = 1 + \frac{R-1}{4505}n$$

where:

R = the ratio of the regeneration exhaust emissions interpolated to 50,000 miles to the non-regeneration exhaust emissions interpolated to 50,000 miles.

n = the number of complete regenerations which occur during the durability test.

(ii) The interpolated values determined in paragraph (e)(1)(i) of this section shall be carried out to a minimum of four places to the right of the decimal point before dividing one by the other to determine the correction factor. The results shall be rounded to three places to the right of the decimal point in accordance with the Rounding-Off Method specified in ASTM E 29-90, Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications (incorporated by reference; see § 86.1). For applicability to gaseous emission standards under the 100,000 mile option, R will be determined based upon projected 100,000 mile emissions.

(2) [Reserved]

(f) The provisions of § 86.094-28(a)(4)(ii)(A) and subsequent model

year provisions do not apply to this subpart. The following shall instead apply to this subpart:

(1) The official exhaust emission test results for each emission-data vehicle at the 4,000 mile test point shall be multiplied by the appropriate deterioration factor, and correction factor (diesel light-duty vehicles and light-duty trucks equipped with periodically regenerating trap oxidizer systems only): Provided: that if a deterioration factor as computed in §86.094-28(a)(4)(i)(B) and subsequent model year provisions or a correction factor as computed in paragraph (e) of this section is less than one, that deterioration factor or correction factor shall be one for the purposes of this paragraph (f).

(2) [Reserved]

(g) The provisions of §86.094-28(a)(4)(iii) and subsequent model year provisions do not apply to this subpart. The following shall instead apply to this subpart:

(1) The emissions to compare with the standard (or the family particulate emission limit, as appropriate) shall be the adjusted emissions of §86.094-28(a)(4)(ii) (A) and (B) and subsequent model year provisions for each emission-data vehicle. Before any emission value is compared with the standard (or the family particulate limit, as appropriate), it shall be rounded to one significant figure beyond the number of significant figures contained in the standard (or the family particulate emission limit, as appropriate) in accordance with the Rounding-Off Method specified in ASTM E 29-90, Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications (incorporated by reference; see §86.1). The rounded emission values may not exceed the standard (or the family particulate emission limit, as appropriate). Fleet average NMOG value calculations shall be rounded to four significant figures in accordance with the Rounding-Off Method specified in ASTM E 29-90, Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications (incorporated by reference; see §86.1) before comparing with fleet average NMOG requirements.

(2) [Reserved]

(h) The provisions of §86.094-28(b) and subsequent model year provisions do not apply to this subpart.

[62 FR 31242, June 6, 1997. Redesignated at 63 FR 987, Jan. 7, 1998]

§§ 86.1729-99—86.1733-99 [Reserved]

§ 86.1734-01 [Reserved]

§ 86.1734-99 Alternative procedure for notification of additions and changes.

The provisions of §86.082-34 and subsequent model year provisions apply to this subpart, with the following exceptions and additions:

(a) The provisions of §86.082-34(a) and subsequent model year provisions apply to this subpart, with the following addition:

(1) A manufacturer must notify the Administrator within 10 working days of making an addition of a vehicle to a certified engine family or a change in a vehicle previously covered by certification. The manufacturer shall also submit, upon request of the Administrator, the following items:

- (i) service bulletin;
- (ii) driveability statement;
- (iii) test log;
- (iv) maintenance log.

(2) All running changes and field fixes that do not adversely affect the system durability are deemed approved unless disapproved by the Administrator within 30 days of the receipt of the running change or field fix request. A change not specifically identified in the manufacturer's application must also be reported to the Administrator if the change may adversely affect engine or emission control system durability. Examples of such changes include any change that could affect durability, thermal characteristics, deposit formation, or exhaust product composition, i.e., combustion chamber design, cylinder head material, camshaft profile, computer modifications, turbocharger, intercooler wastegate characteristics, and transmission or torque converter specifications. The manufacturer is required to update and submit to the Administrator the "supplemental data sheet" for all running changes and field fixes implemented