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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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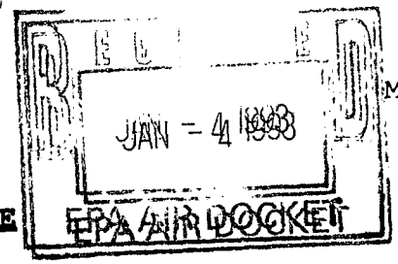
OFFICE OF
AIR AND RADIATION



May 15, 1992

NOTE

SUBJECT: Revised Durability Procedures Regulation Handouts

FROM: Mary E. Walsh
Certification Division
Office of Mobile Sources

TO: Public Hearing Attendees

We have provided for your convenience copies of the marked-up regulatory text for the Revised Durability Procedures NPRM (Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines: Revisions to Light-Duty Durability Procedures; Proposed Rule). The mark-up shows the differences in content between the current version of the Code of Federal Regulations (dated July 1, 1991) and the version appearing in the Federal Register on April 30, 1992. Text proposed to be added is indicated by the use of **bold** typeface; text proposed to be removed is indicated by ~~strikeout~~.

This mark-up contains minor differences from the Federal Register version in format, but not in content. It is also unabridged, meaning that the text referenced by asterisks in the Federal Register version is included in full in this copy.

If you have any questions on the distribution of these materials, you may contact me at (313) 668-4205.

Attachments

Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines; Revisions to Light-Duty Durability Procedures; Proposed Rule

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

Part 86 -- [AMENDED]

PART 86--CONTROL OF AIR POLLUTION FROM NEW AND IN-USE MOTOR VEHICLES AND NEW AND IN-USE MOTOR VEHICLE ENGINES; CERTIFICATION AND TEST PROCEDURES

Authority: Secs. 202, 203, **205**, 206, 207, 208, 215, **216, and** 301~~(a)~~, Clean Air Act as amended (42 U.S.C. 7521, 7522, 7524, 7525, 7541, 7542, 7549, 7550, **7552**, and 7601~~(a)~~).

Subpart A -- [Amended]

Subpart A -- General Provisions for Emission Regulations for 1977 and Later Model Year New Light-Duty Vehicles, Light-Duty Trucks, and Heavy-Duty Engines, and for 1985 and Later Model Year New Gasoline-Fueled and Methanol-Fueled Heavy-Duty Vehicles

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§86.09~~2~~**94** - 1 General applicability.

Section 86.094-1 includes text that specifies requirements that differ from §86.092-1. Where a paragraph in §86.092-1 is identical and applicable to §86.094-1, this is indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.092-1." Where a corresponding paragraph of §86.092-1 is not applicable, this is indicated by the statement "[Reserved]."

(a) The provisions of this Subpart **generally** apply to ~~1992~~ **1994** and later model year new Otto-cycle and diesel-**cycle** light-duty vehicles, ~~1992~~ **1994** and later model year new Otto-cycle and diesel-**cycle** light-duty trucks, and ~~1992~~ **1994** and later model year new Otto-cycle and diesel heavy-duty engines. **In cases where a provision applies only to a certain vehicle group based on its model year, vehicle class, motor fuel, engine type, or other distinguishing characteristics, the limited applicability is cited in the appropriate section or paragraph.**

(b) Optional applicability. A manufacturer may request to certify any heavy-duty vehicle of 10,000 pounds Gross Vehicle Weight Rating or less in accordance with the light-duty truck provisions. Heavy-duty engine or vehicle provisions do not apply to such a vehicle.

(c) [Reserved]

(d) [**Reserved**] ~~Alternative Durability Program. For 1992 and later model year light-duty vehicles and light-duty trucks, a manufacturer may elect to participate in the Alternative Durability Program. This optional program provides an alternative methods of determining exhaust emission control system durability. The general procedures and a description of the programs are contained in §86.085 - 13 and specific provisions on test vehicles and compliance procedures are contained in §86.092 - 24 and §86.091 - 28 respectively.~~

(e) Small volume manufacturers. Special certification procedures are available for any manufacturer whose projected combined U.S. sales of light-duty vehicles, light-duty trucks, heavy-duty vehicles, and heavy-duty engines in its product line (including all vehicles and engines imported under the provisions of 40 CFR 85.1505 and 40 CFR 85.1509) are fewer than 10,000 units for the model year in which the manufacturer seeks certification. To certify its product line under these optional procedures, the small-volume manufacturer must first obtain the Administrator's approval. The manufacturer must meet the eligibility criteria specified in §86.092 - 14(b) before the Administrator's approval will be granted. The small-volume manufacturer's certification procedures are described in §86.092 - 14.

(f) Optional procedures for determining exhaust opacity. (1) The provisions of subpart I apply to tests which are performed by the Administrator, and optionally, by the manufacturer.

(2) Measurement procedures, other than that described in subpart I, may be used by the manufacturer provided the manufacturer satisfies the requirements of §86.091 - 23(f).

(3) When a manufacturer chooses to use an alternative measurement procedure it has the responsibility to determine whether the results obtained by the procedure will correlate with the results which would be obtained from the measurement procedure in subpart I. Consequently, the Administrator will not routinely approve or disapprove any alternative opacity measurement procedure or any associated correlation data which the manufacturer elects to use to satisfy the data requirements for subpart I.

(4) If a confirmatory test(s) is performed and the results indicate there is a systematic problem suggesting that the data generated under an optional alternative measurement procedure do not adequately correlate with subpart I data, EPA may require that all certificates of conformity not already issued be based on data from subpart I procedures.

5. The following definition is added to the definitions list in §86.094-2:

Durability Useful Life means the longest useful life mileage at which a certification exhaust emission standard contained in this Part applies. The determination of durability useful life shall reflect any alternative useful life mileages approved by the Administrator under §86.094-21(f). The determination of durability useful life shall exclude any standard and related useful life mileage for which the manufacturer has obtained a waiver under §86.094-23(c) of emission data submission requirements.

§86.0~~85~~94 - 13 ~~Alternative Light-Duty Exhaust~~ Durability Programs.

(a)(1) This section describes the various durability programs available to manufacturers for determining exhaust deterioration factors (DFs) for the certification of 1994 and 1995 model year light-duty vehicles and light-duty trucks. While this section describes many of the important elements of those durability programs, it is not intended as an exhaustive list of all requirements applicable either to those programs or to the certification process.

(2) The durability programs consist of various elements, such as a statement of applicability, a service accumulation method, vehicle/component selection methods, durability-data vehicle compliance requirements, in-use verification requirements, optional elements, data reporting requirements, and additional requirements. Cross references to other sections in this subpart are indicated where appropriate.

(b) The following table summarizes the durability programs available to all manufacturers of light-duty vehicles and light-duty trucks. The Tier 1 and Tier 0 standards cited in the table are those specified in §86.094-8 (for light-duty vehicles) and §86.094-9 (for light-duty trucks). The durability programs described in this section are separate and distinct alternatives, such that determination of an exhaust DF under one program does not require compliance with the requirements of a different durability program.

Class	Standards	Durability Program Name	Optional Elements
Light-duty Vehicles	Tier 1	Standard AMA	Carryover
			Extrapolation
			Substitute AMA
		Production AMA	Carryover
			Extrapolation
			Substitute AMA
		Alternative Service Accumulation	Carryover
	Tier 0	Standard AMA	Carryover
			Substitute AMA
		Production AMA	Carryover
			Substitute AMA
		Alternative Service Accumulation	Carryover
Light-duty Trucks	Tier 1 & Tier 0	Standard Self-Approval	Carryover
		Alternative Service Accumulation	Carryover

(c) Standard AMA Durability Program.

(1) Applicability. The standard AMA durability program is applicable to light-duty vehicles in model years 1994 and 1995.

(2) Service accumulation method. The method shall be mileage accumulation performed on whole durability data vehicles, using the Durability Driving Schedule (commonly refered to as the AMA schedule) specified in Part 86, Appendix IV. The provisions of §86.094-26(a), which include vehicle weight requirements, the duration of mileage accumulation, and the specification of emission tests to be performed during the mileage accumulation, shall apply. Scheduled and unscheduled maintenance may be performed on the vehicle in accordance with the provisions of §86.094-25.

(3) Vehicle/component selection method. Durability data vehicles shall be selected by the Administrator as required in §86.090-22(a) and in accordance with the provisions of §86.094-24(c)(1). Typically, the Administrator selects one durability-data vehicle to represent each engine-system combination. The selection of durability data vehicles is also governed by §86.091-7(a)(2)(i)(A), which generally requires that vehicles used for certification must be representative of production vehicles.

(4) Durability-data vehicle compliance requirements. Durability-data vehicle compliance requirements for the Standard AMA Durability Program are contained in §86.094-28(a). These include the method of calculating deterioration factors, line crossing criteria, and related requirements.

(5) In-use verification. Manufacturer testing of in-use vehicles subsequent to certification is not a requirement of the Standard AMA Durability Program .

(6) Optional elements.

(i) Extrapolation. Manufacturers selecting the Standard AMA Durability Program may petition the Administrator for the use of extrapolated mileage accumulation data according to the provisions of §86.094-26(a)(4) for use in certifying light-duty vehicles to the Tier 1 standards of §86.094-8. If use of extrapolated data is approved, deterioration factors are determined by the method of linear extrapolation described in §86.094-28(a)(4)(i).

(ii) Substitute AMA. Manufacturers selecting the Standard AMA Durability Program may petition the Administrator under §86.094-26(a)(2)(ii) to substitute a different whole-vehicle mileage accumulation schedule for the Durability Driving Schedule (standard AMA) specified in Part 86, Appendix IV.

(iii) Carryover and Carry-across. Manufacturers selecting the Standard AMA Durability Program may petition the Administrator for the use of carryover or carry-across mileage accumulation data according to the provisions of §86.094-24(f). If use of carryover or carry-across data is approved, deterioration factors are determined by the method of linear extrapolation described in §86.094-28(a)(4)(i).

(7) Data reporting requirements. Data reporting requirements for the Standard AMA Durability Program are contained in §86.094-21, §86.094-23(b)(1)(i), and §86.094-26(a)(6)(ii) and (a)(7).

(d) Production AMA Durability Program.

(1) Applicability. The production AMA durability program is applicable to light-duty vehicles in model years 1994 and 1995.

(2) Service accumulation method. The method shall be mileage accumulation performed on whole durability data vehicles, using the Durability Driving Schedule (commonly referred to as the AMA schedule) specified in Part 86, Appendix IV. The provisions of §86.094-26(a), which include vehicle weight requirements, the duration of mileage accumulation, and the specification of emission tests to be performed during the mileage accumulation, shall apply. Scheduled and unscheduled maintenance may be performed on the vehicle in accordance with the provisions of §86.094-25.

(3) Vehicle/component selection method. Durability data vehicles shall be selected by the Administrator as required in §86.090-22(a) and in accordance with the provisions of §86.094-24(h). Typically, the Administrator selects several random production durability-data vehicles, up to a maximum of three vehicles per engine family group.

(4) Durability-data vehicle compliance requirements. Durability-data vehicle compliance requirements for the Production AMA Durability Program are contained in §86.094-28(a)(7). These include the method of calculating deterioration factors, line crossing criteria, and related requirements.

(5) In-use verification. The Production AMA Durability Program includes no requirement for manufacturer testing of in-use vehicles subsequent to certification.

(6) Optional elements.

(i) Extrapolation. Manufacturers selecting the Production AMA Durability Program may petition the Administrator for the use of extrapolated mileage accumulation data according to the provisions of §86.094-26(a)(4) for use in certifying light-duty vehicles to the Tier 1 standards of §86.094-8. If use of extrapolated data is approved, deterioration factors are determined by the method of linear extrapolation described in §86.094-28(a)(7)(ii)(B).

(ii) Substitute AMA. Manufacturers selecting the Production AMA Durability Program may petition the Administrator under §86.094-26(a)(2)(ii) to substitute a different whole-vehicle mileage accumulation schedule for the Durability Driving Schedule (standard AMA) specified in Part 86, Appendix IV.

(iii) Carryover and Carry-across. Manufacturers selecting the Production AMA Durability Program may petition the Administrator for the use of carryover or carry-across mileage accumulation data according to the provisions of §86.094-24(h)(1)(v). If use of carryover or carry-across data is approved, deterioration

factors are determined by the method of linear extrapolation described in §86.094-28(a)(7)(ii)(B).

(7) Data reporting requirements for the Production AMA Durability Program are contained in §86.094-21, §86.094-23(b)(1)(i), and §86.094-26(a)(6)(ii) & (a)(7).

(8) Additional requirements.

~~(a) The procedures of the Alternative Durability Program are optional. Manufacturers may use these optional procedures to determine deterioration factors instead of using the procedures that this subpart otherwise requires.~~

~~(b) The optional procedures of the Alternative Durability Program apply only to light-duty vehicles and light-duty trucks, and are effective for the 1985 and later model years. All manufacturers of these vehicles are eligible to participate in this program.~~

~~(c)~~ **(i)** For engine families subject to the procedures of the ~~Alternative Durability Program~~ **Production AMA Durability Program,** the manufacturer shall submit deterioration factors to the Administrator for approval to use them for certification. The Administrator shall approve the use of deterioration factors that:

~~(1)~~ **(A)** The manufacturer attests are representative of the durability performance of its vehicles in actual field use when maintained according to the manufacturer's maintenance instructions (as limited under §86.0~~8~~**94** - 25(a)), and

~~(2)~~ **(B)** Are equal to or greater than the deterioration factors that EPA determines under paragraph ~~(d)~~**(d)(8)(ii)** of this section.

~~(d)~~ **(ii)** EPA shall determine minimum deterioration factors for engine families subject to the ~~Alternative Durability Program~~ **Production AMA Durability Program.** This determination shall be based on a procedure of grouping engine families (see §86.0~~8~~**594** - 24(a)) in order to use historical certification data to determine deterioration factors for each engine family group. The historical data shall be updated yearly through the testing of production durability-data vehicles. Test vehicle requirements under these procedures are contained in §86.0~~8~~**594** - 24(h) and compliance requirements are contained in §86.0~~8~~**594** - 28 (a)~~(5)~~(7) ~~and (b)(5)~~.

~~(e)~~**(iii)** Request Procedures. ~~(1)~~

(A) A manufacturer wishing to participate in the ~~Alternative Durability Program~~ **Production AMA Durability Program** must submit to the Administrator, for each model year, a written request describing the engine families that the manufacturer elects to be included in the program.

~~(2)~~ **(B)** The Administrator may declare ineligible any engine family for which the Administrator determines there is unreasonable risk in determining a deterioration factor using the methods of the ~~Alternative Durability Program~~ **Production AMA Durability Program.** Furthermore, the Administrator may limit the number of engine families within the manufacturer's product line that are eligible for the ~~Alternative Durability Program~~ **Production AMA Durability Program.**

~~(3)~~ **(C)** Upon approval of the manufacturer's request to participate, the Administrator and the manufacturer may enter into a written agreement prescribing the terms and conditions of the program. This agreement shall be equitable as compared to agreements entered into with other manufacturers. The

agreement shall specify the following:

~~(i)~~ **(D)** The engine families to be included in the program and the engine family groups that have been established by the provisions of §86.08~~59~~4 - 24(a) (8) and (9).

~~(ii)~~ **(E)** The procedures for the selection of production durability-data vehicles specified under the provisions of §86.08~~59~~4 - 24(h).

~~(iii)~~ **(F)** The procedures for the determination of minimum exhaust emission deterioration factors for each engine family group.

~~(f)~~ **(iv)** Withdrawal from ~~Alternative Durability Program~~ **Production AMA Durability Program.**

~~(1)~~ **(A)** Subject to the conditions of the following paragraphs, a manufacturer may, at any time, withdraw all of its product line or separate engine family groups from this program. Only entire engine family groups may be withdrawn.

~~(2)~~ **(B)** Once any engine family in an engine family group is certified using deterioration factors determined in the ~~Alternative Durability Program~~ **Production AMA Durability Program,** the manufacturer shall operate and test the production durability-data vehicles specified in §86.08~~59~~4 - 24(h) in accordance with the procedures of this part.

~~(3)~~ **(C)** The Administrator shall notify the manufacturer if a nonconformity of a category of vehicles within the engine family group is indicated by the production durability data. For the purpose of this paragraph, a nonconformity is determined to exist if:

~~(i)~~ **(1)** Any emission-data vehicle within an engine family of the model year most recently certified under the ~~Alternative Durability Program~~ **Production AMA Durability Program** is projected to exceed an emission standard by applying deterioration factors generated by a production durability-data vehicle within the same engine family, or

~~(ii)~~ **(2)** Any of the most recent model year's production durability-data vehicle configurations tested under paragraph ~~(f)(2)~~ **(d)(8)(iv)(B)** of this section line crosses as defined in §86.08~~59~~4 - 28(a)~~(5)~~(7)(ii)(C). For the purpose of this paragraph, data from identical vehicles will be averaged as under §86.08~~59~~4 - 28(a)(4)(i) (A) and (B).

~~(4)~~ **(D)** If the Administrator notifies a manufacturer of such a nonconformity, the manufacturer shall submit, by a date specified by the Administrator, a plan to remedy the nonconformity which is acceptable to the Director, Office of Mobile Sources. For the purpose of this paragraph, the term "remedy the nonconformity" will have the same meaning as it does when it appears in section 207(c)(1) of the Clean Air Act.

~~(5)~~ **(E)** The manufacturer shall comply with the terms of the remedial plan approved by the Director, Office of Mobile Sources.

~~(6)~~ **(F)** If a manufacturer does not comply with the requirements of paragraph ~~(f)(2), (4), or (5)~~ **(d)(8)(iv)(B), (d)(8)(iv)(D), or (d)(8)(iv)(E)** of this section, the Administrator may deem the certificate of conformity for the affected engine families void ab initio.

(e) Alternative Service Accumulation Durability Program.

(1) Applicability. The Alternative Service Accumulation Durability Program is applicable to light-duty vehicles and light-duty trucks in model years 1994 and 1995.

(2) Service accumulation method.

(i) The manufacturer shall propose a service accumulation method for the Alternative Service Accumulation Durability Program, for advance approval by the Administrator. The method shall be consistent with good engineering practice and be designed to accurately predict the deterioration of the vehicle's emissions in actual use over its full useful life.

(ii) Manufacturers may propose service accumulation methods based upon a combination of whole-vehicle milage accumulation and bench aging of individual components or systems. Bench procedures should simulate the aging of components or systems over the applicable durability useful life as defined in §86.094-2 and should simulate cycles and environments found in actual use. For this purpose, manufacturers may remove the emission-related components, in whole or in part, from the durability vehicle itself and deteriorate them independently. Vehicle testing for the purpose of determining deterioration factors may include the testing of durability vehicles that incorporate such bench-aged components.

(iii) Service accumulation shall be according to the method approved in advance by the Administrator.

(3) Vehicle/component selection method. The manufacturer shall propose vehicle/component selection method for the Alternative Service Accumulation Durability Program for advance approval by the Administrator. The vehicle/component selection shall be according to the method approved in advance by the Administrator. The selection of durability data vehicles and components is also governed by §86.091-7(a)(2)(i)(A), which generally requires that vehicles and components used for certification must be representative of production vehicles and components.

(4) Durability-data vehicle compliance requirements. The manufacturer shall propose procedures for the calculation of deterioration factors and for the determination of vehicle compliance for advance approval by the Administrator. The Administrator may approve the use of such procedures if the manufacturer demonstrates that the resulting deterioration factors are likely to be representative of the in-use performance of the vehicles. The calculation of deterioration factors and the determination of vehicle compliance shall be according to the procedures approved in advance by the Administrator.

(5) In-use verification. Manufacturers selecting the Alternative Service Accumulation Durability Program shall agree to perform an in-use verification program, which shall include testing on in-use vehicles from each engine-system combination certified under the program in the years subsequent to certification. The purpose of the in-use verification program is to confirm the adequacy of the manufacturer-designed components of the Alternative Service Accumulation Durability program. The manufacturer shall propose sample sizes, recruitment procedures, testing procedures, optional provisions for the cessation of testing in the event the in-use testing confirms the adequacy of

elements of the Alternative Service Accumulation Durability program, and remedies in the event the in-use testing fails to confirm the adequacy of elements of the Alternative Service Accumulation Durability program. These and other elements of in-use verification are subject to advance approval by the Administrator.

(6) Optional element: Carryover and Carry-across. Manufacturers selecting the Alternative Service Accumulation Durability Program may petition the Administrator for the conditional use of carryover or carry-across mileage accumulation data according to the provisions of §86.094-24(f). If use of carryover or carry-across data is approved, deterioration factors are determined by the method described in paragraph (e)(4) of this section.

(7) Data reporting requirements.

(i) Data reporting requirements for the alternative service accumulation durability program are contained in §86.094-21, §86.094-23(b)(1)(i), and §86.094-26(a)(6)(ii) and (a)(7).

(ii) In addition to the reporting of deterioration factors determined under paragraph (e)(4) of this section, the manufacturer shall provide reliability data that shows to the Administrator's satisfaction that all emission-related components are designed to operate properly for the durability useful life of the vehicles in actual use (or such shorter intervals as permitted in section §86.094-25).

(8) Additional requirements. (i) The manufacturer shall consolidate the approved versions for each of the required elements of the Alternative Service Accumulation Durability Program into a written agreement that documents the details of the program and the manufacturer's responsibilities. The manufacturer shall submit this agreement for approval by the Administrator as part of the application for certification.

(ii) The manufacturer may amend the written agreement entered into pursuant to subsection (i) so long as the manufacturer demonstrates to the satisfaction of the Administrator that the proposed amendments to the agreement improve upon the in-use verification portion of the existing agreement. Such amendment to the Alternative Service Accumulation Durability Program agreement is subject to the prior approval of the Administrator.

(iii) The certification requirements described in §86.094-30(a)(14) are applicable.

(f) Standard Self-Approval Durability Program.

(1) Applicability. The Standard Self-Approval Durability Program is applicable to light-duty trucks in the 1994 and 1995 model years.

(2) Service accumulation method. The manufacturer shall determine the form and extent of service accumulation used in the Standard Self-Approval Durability Program, according to the provisions of §86.094-26(b)(2). The method shall be consistent with good engineering practice and be designed to evaluate the mechanisms that are expected to

cause deterioration of the vehicle's emissions over its full useful life.

(3) Vehicle/component selection method. The manufacturer shall determine the vehicle/component selection method for use in the Standard Self-Approval Durability Program according to the provisions of §86.094-24(c)(2). Manufacturers shall select the vehicles, engines, subsystems, or components for each engine-system so that their emissions deterioration characteristics may be expected to reqresent those of in-use vehicles, based on good engineering judgement. The selection of durability data vehicles or components is also governed by §86.091-7(a)(2)(A), which generally requires that vehicles and components used for certification must be representative of production vehicles and components.

(4) Durability-data vehicle compliance requirements. Durability-data vehicle compliance requirements for the Standard Self-approval Durability Program are contained in §86.094-28(b). These include the method of calculating deterioration factors, line crossing criteria, and related requirements.

(5) In-use verification. The Standard Self-Approval Durability Program includes no requirement for manufacturer testing of in-use vehicles subsequent to certification.

(6) Data reporting requirements. Data reporting requirements for the Standard Self-Approval Durability Program are contained in §86.094-21, §86.094-23(b)(1)(ii), and §86.094-26(d).

(7) Additional requirement. The Administrator does not approve the test procedures for establishing exhaust emission deterioration factors. The manufacturer shall submit these procedures and determinations as required in §86.094-21(b)(5)(i)(A).

(g) Assigned Deterioration Factor Durability Program

(1) Applicability.

(i) Small volume manufacturers. The assigned DF durability program is applicable to light-duty vehicles and light-duty trucks certified under the small volume manufacturer provisions of §86.094-1(e) and §86.094-14(b).

(ii) Small volume engine families. The assigned DF durability program is available to light-duty vehicles and light-duty trucks certified under the small volume engine family provisions of §86.094-24(e)(2).

(2) Deterimination of deterioration factors. No service accumulation method or vehicle/component selection method are required. Deterioration factors are proposed by the manufacturer or assigned by the Administrator based on the provisions of §86.094-14(c)(7)(i)(C).

(3) In-use verification. The Assigned Deterioration Factor Durability Program includes no requirement for manufacturer testing of in-use vehicles subsequent to certification.

(4) Data reporting requirements. Data reporting requirements for the Assigned DF Durability Program are

contained in §86.094-14(c)(4), (c)(6), and (c)(11)(ii).

§86.09294 - 14 Small-volume manufacturers certification procedures.

Section 86.094-14 includes text that specifies requirements that differ from §86.092-14. Where a paragraph in §86.092-14 is identical and applicable to §86.094-14, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.092-14." Where a corresponding paragraph of §86.092-14 is not applicable, this is indicated by the statement "[Reserved]."

(a) The small-volume manufacturers certification procedures described in paragraphs (b) and (c) of this section are optional. Small-volume manufacturers may use these optional procedures to demonstrate compliance with the general standards and specific emission requirements contained in this subpart.

(b)(1) The optional small-volume manufacturers certification procedures apply to light-duty vehicles, light-duty trucks, heavy-duty vehicles, and heavy-duty engines produced by manufacturers with U.S. sales, including all vehicles and engines imported under the provisions of 40 CFR 85.1505 and 40 CFR 85.1509 (for the model year in which certification is sought) of fewer than 10,000 units (Light-Duty Vehicles, Light-Duty Trucks, Heavy-Duty Vehicles and Heavy-Duty Engines combined).

(2) For the purpose of determining the applicability of paragraph (b)(1) of this section, the sales the Administrator shall use shall be the aggregate of the projected or actual sales of those vehicles and/or engines in any of the groupings identified below in this subparagraph.

(i) Vehicles and/or engines produced by two or more firms, one of which is 10 percent or greater part owned by another;

(ii) Vehicles and/or engines produced by any two or more firms if a third party has equity ownership of 10 percent or more in each of the firms;

(iii) Vehicles and/or engines produced by two or more firms having a common corporate officer(s) who is(are) responsible for the overall direction of the companies;

(iv) Vehicles and/or engines imported or distributed by all firms where the vehicles and/or engines are manufactured by the same entity and the importer or distributor is an authorized agent of the entity.

(3) If the aggregated sales, as determined in paragraph (b)(2) of this section are less than 301 units, the manufacturers in the aggregated relationship may certify under the provisions in this section that apply to manufacturers with sales of less than 301 units.

(4) If the aggregated sales, as determined in paragraph (b)(2) of this section are greater than 300 but fewer than 10,000 units, the manufacturers in the aggregated relationship may certify under the provisions in this section that apply to manufacturers with sales from and including 301 through 9,999 motor vehicles and motor vehicles engines per year.

(5) If the aggregated sales, as determined in paragraph (b)(2) of this section are equal to or greater than 10,000 units, then the manufacturers involved in the aggregated relationship will be allowed to certify a number of units under the small-volume engine family certification procedures (40 CFR 86.09294 - 24(e)) in accordance with

the criteria identified below in th subparagraph.

(i) If a manufacturer purchases less than 50 percent of another manufacturer, each manufacturer retains its right to certify 9,999 units using the small-volume engine family certification procedures.

(ii) If a manufacturer purchases 50 percent or more of another manufacturer, the manufacturer with the over 50 percent interest must share, with the manufacturer it purchased, its 9,999 units under the small-volume engine family certification procedures.

(iii) In a joint venture arrangement (50/50 ownership) between two manufacturers, each manufacturer retains its eligibility for 9,999 units under the small-volume engine family certification procedures, but the joint venture must draw its maximum 9,999 units from the units allocated to its parent manufacturers.

(c) Small-volume manufacturers shall demonstrate compliance with the applicable sections of this subpart. The appropriate model year of the following applicable sections shall be determined in accordance with §86.084 - 4:

(1) Sections 86.0~~9~~294 - 1, 86.0~~9~~294 - 2, 86.0~~90~~94 - 3, 86.084 - 4, 86.090 - 5, 86.078 - 6, 86.0~~7~~894 - 7, and 86.0~~90~~94 - 8, through 86.0~~90~~94 - 11 of this subpart are applicable.

(2) Sections 86.080 - 12 of this subpart is not applicable.

(3) Section 86.0~~8~~594 - 13, 86.0~~9~~294 - 14, 86.084 - 15, and 86.085 - 20 of this subpart are applicable.

(4) Small-volume manufacturers shall include in their records all of the information that EPA requires in §86.0~~90~~94 - 21 of this subpart. This information will be considered part of the manufacturer's application for certification. However, the manufacturer is not required to submit the information to the Administrator unless the Administrator requests it.

(5) Section 86.0~~8~~594 - 22 of this subpart is applicable except as noted below.

(i) Small-volume light-duty vehicle and light-duty truck manufacturers may satisfy the requirements of paragraph (e) of §86.0~~8~~594 - 22 by including a statement of compliance on adjustable parameters in the application for certification. In the statement of compliance the manufacturer shall state that the limits, stops, seals, or other means used to inhibit adjustment have been designed to accomplish their intended purpose based on good engineering practice and past experience. If the vehicle parameter is adjustable the vehicle must meet emission standards with the parameter set any place within the adjustable range (Reference §86.0~~90~~94 - 21 of this subpart).

(ii) Reserved.

(6) Section 86.0~~90~~94 - 23 of this subpart is applicable.

(7) Section 86.0~~9~~294 - 24 of this subpart is applicable except as noted below.

(i) Small-volume manufacturers may satisfy the requirements of paragraph (b) and (c) of §86.0~~9~~294 - 24 of this subpart by:

(A) Emission-data -- Selecting one emission-data test vehicle (engine) per engine family by the worst-case emissions criteria as follows:

(1) Light-duty vehicles and light-duty trucks. The manufacturer shall select the vehicle with the heaviest equivalent test weight (including options) within the

engine family. Then within that vehicle the manufacturer shall select, in the order listed, the highest road load power, largest displacement, the transmission with the highest numerical final gear ratio (including overdrive), the highest numerical axle ratio offered in the engine family, and the maximum fuel flow calibration.

(2) Heavy-duty Otto-cycle engines. The manufacturer shall select one emission-data engine first based on the largest displacement within the engine family. Then within the largest displacement the manufacturer shall select, in the order listed, highest fuel flow at the speed of maximum rated torque, the engine with the most advanced spark timing, no EGR or lowest EGR flow, and no air pump or lowest actual flow air pump.

(3) Heavy-duty diesel engines. The manufacturer shall select one emission-data engine based on the highest fuel feed per stroke, primarily at the speed of maximum rated torque and secondarily at rated speed.

(B) Testing light-duty vehicles or light-duty truck emission-data vehicles at any service accumulation distance of at least 2,000 miles (3,219 kilometers) or, catalyst equipped heavy-duty emission-data engines at any service accumulation time of at least 62 hours, or non-catalyst equipped heavy-duty engine emission-data engines at any service accumulation time determined by the manufacturer to result in stabilized emissions. The emission performance of the emission-data vehicle or engine must be stabilized prior to emission testing.

(C) Durability data -- Satisfying the durability-data requirements by complying with the applicable procedures below:

(1) Manufacturers with aggregated sales of less than 301 motor vehicles and motor vehicle engines per year may use assigned deterioration factors that the Administrator determines and prescribes. The factors will be the Administrator's estimate, periodically updated and published in an advisory letter or advisory circular, of the 70th percentile deterioration factors calculated using the industrywide data base of previously completed durability-data vehicles or engines used for certification. However, the manufacturer may, at its option, accumulate miles (hours) on a durability-data vehicle (engine) and complete emission tests for the purpose of establishing its own deterioration factors.

(2) Manufacturers with aggregated sales from and including 301 through 9,999 motor vehicles and motor vehicle engines per year certifying light-duty vehicle exhaust emissions from vehicles equipped with proven emission control systems shall use assigned deterioration factors that the manufacturer determines based on its good engineering judgment. However, the manufacturer may not use deterioration factors less than either the average or 70th percentile of all of that manufacturer's deterioration factor data, whichever is less. These minimum deterioration factors shall be calculated according to procedures in paragraph (c)(7)(i)(C)*(2)(i)*, of this section. If the manufacturer does not have at least two data points to calculate these manufacturer specific average deterioration factors, then the deterioration factors shall be no less than the EPA supplied industrywide deterioration factors. However, the manufacturer may, at its option, accumulate miles on a durability-data vehicle and complete emission tests for the purpose of establishing its own deterioration factors.

(i) The manufacturer's minimum deterioration factors shall be calculated using the deterioration factors from all engine families,

within the same vehicle/engine-fuel usage category (e.g., gasoline-fueled light-duty vehicle, etc.) previously certified to the same emission standards. The manufacturer shall use only deterioration factors engine families previously certified by the manufacturer and the deterioration factors shall not be included in the calculation more than once. The deterioration factors for each pollutant shall be calculated separately. The manufacturer may, at its option, limit the deterioration factors used in the calculation of the manufacturer's minimum deterioration factors to those from all similar systems to the system being certified if sufficient data (i.e., from at least two certified systems) exists. All data eligible to be grouped as similar system data shall be used in calculating similar system deterioration factors. Any deterioration factors used in calculating similar system deterioration factors shall not be included in calculating the manufacturer's minimum deterioration factors used to certify any of the manufacturer's remaining vehicle systems.

(c)(7)(i)(C) *(3)* Manufacturers with aggregated sales from 301 through 9,999 motor vehicles and motor vehicle engines and certifying light-duty vehicle exhaust emissions from vehicles equipped with unproven emission control systems shall use deterioration factors that the manufacturer determines from official certification durability data generated by vehicles from engine families representing a minimum of 25 percent of the manufacturer's sales equipped with unproven emission control systems. The sales projections are to be based on total sales projected for each engine/system combination. **The durability programs applicable to such manufacturers for this purpose shall be the standard AMA, the production AMA and the alternative service accumulation durability programs of §86.094 - 13.** The durability-data vehicle (engine) mileage accumulation and emission tests are to be conducted according to ~~§86.092 - 26~~**§86.094 - 13** of this subpart. The manufacturer must develop deterioration factors by generating durability data in accordance with ~~§86.092 - 26~~ **§86.094 - 13** of this subpart on a minimum of 25 percent of the manufacturer's projected sales (by engine/system combination) that is equipped with unproven emission control systems. The manufacturer must complete the 25 percent durability requirement before the remainder of the manufacturer's sales equipped with unproven emission control systems is certified using manufacturer-determined assigned deterioration factors. Alternatively, any of these manufacturers may, at their option, accumulate miles on durability-data vehicles and complete emission tests for the purpose of establishing their own deterioration factors on the remaining sales.

(4) For light-duty vehicle, light-duty truck, and heavy-duty vehicle evaporative emissions and light-duty truck, and heavy-duty engine exhaust emissions, deterioration factors shall be determined in accordance with §86.0~~92~~**94** - 24 of this subpart.

(ii) Paragraphs (d) and (e) of §86.0~~92~~**94** - 24 of this subpart are not applicable.

(8) Section 86.0~~90~~**094** - 25 of this subpart is applicable to maintenance performed on durability-data light-duty vehicles, light-duty trucks, heavy-duty vehicles, and heavy-duty engines when the manufacturer completes durability-data vehicles or engines; section 86.087 - 38 of this subpart is applicable to the recommended maintenance the manufacturer includes in the maintenance instructions furnished the purchasers of new motor vehicles and new motor vehicle engines under §86.087 - 38 of this subpart.

(9)(i) Section 86.0~~92~~94 - 26 of this subpart is applicable if the manufacturer completes durability-data vehicles or engines.

(ii) Section 86.0~~85~~90 - 27 of this subpart is applicable.

(10) Sections 86.0~~90~~94 - 28 and 86.0~~90~~91 - 29 of this subpart are applicable.

(11)(i) Section 86.0~~90~~94 - 30 of this subpart is applicable, except for paragraph (a)(2) and (b) of that section. In the place of these paragraphs, small-volume manufacturer shall comply with paragraphs (c)(11)(ii) through (v) of this section, as shown below.

(ii) Small-volume manufacturers shall submit an application for certification containing the following:

(A) The names, addresses, and telephone numbers of the persons the manufacturer authorizes to communicate with us.

(B) A brief description of the vehicles (or engines) covered by the certificate (the manufacturers' sales data book or advertising, including specifications, may satisfy this requirement for most manufacturers). The description shall include, as a minimum, the following items as applicable:

(1) Engine evaporative family names and vehicle (or engine) configurations.

(2) Vehicle carlines or engine models to be listed on the certificate of conformity.

(3) The test weight and horsepower setting for each vehicle or engine configuration.

(4) Projected sales.

(5) Combustion cycle.

(6) Cooling mechanism.

(7) Number of cylinders.

(8) Displacement.

(9) Fuel system type.

(10) Number of catalytic converters, type, volume, composition, surface area, and total precious metal loading.

(11) Method of air aspiration.

(12) Thermal reactor characteristics.

(13) Suppliers' and/or manufacturers' name and model number of any emission related items of the above, if purchased from a supplier who uses the items in its own certified vehicles(s) or engine(s).

(14) A list of emission component part numbers.

(15) Drawings, calibration curves, and descriptions of emission related components, including those components regulated under paragraph (e) of §86.085 - 22 of this subpart, and schematics of hoses and other devices connecting these components.

(16) Vehicle adjustments or modifications necessary for light-duty trucks to assure that they conform to high-altitude standards.

(17) A description of the light-duty vehicles and light-duty trucks which are exempted from the high-altitude emission standards.

(18) Proof that the manufacturer has obtained or entered an agreement to purchase, when applicable, the insurance policy, required by §85.1510(b). The manufacturer may submit a copy of the insurance policy or purchase agreement as proof that the manufacturer has obtained or entered an agreement to purchase the insurance policy.

(C) The results of all emission tests the manufacturer performs to demonstrate compliance with the applicable standards.

(D) *(1)* The following statement signed by the authorized representative of the manufacturer: "The vehicles (or engines) described herein have been tested in accordance with (list of the applicable subparts A, B, D, I, M, N, or P) of part 86, title 40, United States Code of Federal Regulations, and on the basis of those tests are in conformance with that subpart. All of the data and records required by that subpart are on file and are available for inspection by the EPA Administrator. We project the total U.S. sales of vehicles (engines) subject to this subpart (including all vehicles and engines imported under the provisions of 40 CFR 85.1505 and 40 CFR 85.1509 to be fewer than 10,000 units."

(2) A statement as required by and contained in paragraph (c)(5) of this section signed by the authorized representative of the manufacturer.

(3) A statement that the vehicles or engines described in the manufacturer's application for certification are not equipped with auxiliary emission control devices which can be classified as a defeat device as defined in §86.0~~92~~**82** - 2 of this subpart.

(4) A statement of compliance with section 206(a)(3) of the Clean Air Act.

(5) A statement that, based on the manufacturer's engineering evaluation and/or emission testing, the light-duty vehicles comply with emission standards at high altitude unless exempt under paragraph (h) of §86.0~~90~~**94** - 8 of this subpart.

(6) A statement that, based on the manufacturer's engineering evaluation and/or emission testing, the light-duty trucks sold for principle use at designated high-altitude locations comply with the high-altitude emission requirements and that all other light-duty trucks are at least capable of being modified to meet high-altitude standards unless exempt under paragraph (g)(2) of §86.0~~90~~**94** - 9 of this subpart.

(7) A statement affirming that the manufacturer will provide a list of emission and emission-related service parts, including part number designations and sources of parts, to the vehicle purchaser for all emission and emission-related parts which might affect vehicle emission performance throughout the useful life of the vehicle. Secondly, it must state that qualified service facilities and emission-related repair parts will be conveniently available to serve its vehicles. In addition, if service facilities are not available at the point of sale or distribution, the manufacturer must indicate that the vehicle purchaser will be provided information identifying the closest authorized service facility to the point of sale, if in the United States, or the closest authorized service facility to the point of distribution to the ultimate purchaser if the vehicle was purchased outside of the United States by the ultimate purchaser. Such information should also be made available to the Administrator upon request.

(E) Manufacturers utilizing deterioration factors determined by the manufacturer based on its good engineering judgment (re: paragraph (c)(7)(i)(C) *(2)* of this section) shall provide a description of the method(s) used by the manufacturer to determine the deterioration factors.

(iii) If the manufacturer meets requirements of this subpart, the Administrator will issue a certificate of conformity for the

vehicles or engines described in the application for certification.

(iv) The certificate will be issued for such a period not to exceed one model year as the Administrator may determine and upon such terms as he may deem necessary to assure that any vehicle or engine covered by the certificate will meet the requirements of the Act and of this subpart.

(v)(A) If, after a review of the statements and descriptions submitted by the manufacturer, the Administrator determines that the manufacturer has not met the applicable requirements, the Administrator shall notify the manufacturer in writing of his intention to deny certification, setting forth the basis for his determination. The manufacturer may request a hearing on the Administrator's determination.

(B) If the manufacturer does not request a hearing or present the required information the Administrator will deny certification.

(12) Sections 86.079 - 31 and 86.079 - 32 of this subpart are not applicable.

(13) Under §86.079 - 33 of this subpart, small-volume manufacturers are covered by the following.

(i) Small-volume manufacturers may make production changes (running changes) without receiving the Administrator's prior approval. The manufacturer shall assure (by conducting emission tests as it deems necessary) that the affected vehicles (engines) remain in compliance with the requirements of this part.

(ii) The manufacturer shall notify the Administrator within seven days after implementing any production related change (running change) that would affect vehicle emissions. This notification shall include any changes to the information required under paragraph (c)(11)(ii) of this section. The manufacturer shall also amend as necessary its records required under paragraph (c)(4) of this section to confirm with the production design change.

(14) Section 86.082 - 34 of this subpart is not applicable.

(15) Sections 86.0~~92~~94 - 35, 86.079 - 36, 86.0~~82~~85 - 37, 86.087 - 38 and 86.0~~84~~79 - 39 of this subpart are applicable.

§86.094 - 21 Application for certification.

Section 86.094-21 includes text that specifies requirements that differ from §86.091-21. Where a paragraph in §86.091-21 is identical and applicable to §86.094-21, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.091-21." Where a corresponding paragraph of §86.091-21 is not applicable, this is indicated by the statement "[Reserved]."

(a) A separate application for a certificate of conformity shall be made for each set of standards (or family emission limits, as appropriate) and each class of new motor vehicles or new motor vehicle engines. Such application shall be made to the Administrator by the manufacturer and shall be updated and corrected by amendment.

(b) The application shall be in writing, signed by an authorized representative of the manufacturer, and shall include the following:

(1)(i) Identification and description of the vehicles (or engines) covered by the application and a description of their engine (vehicles only), emission control system and fuel system components. This shall include a detailed

description of each auxiliary emission control device (AECD) to be installed in or on any certification test vehicle (or certification test engine).

(ii)(A) The manufacturer shall provide to the Administrator in the application for certification:

(1) A list of those parameters which are physically capable of being adjusted (including those adjustable parameters for which access is difficult) and that, if adjusted to settings other than the manufacturer's recommended setting, may affect emissions;

(2) A specification of the manufacturer's intended physically adjustable range of each such parameter, and the production tolerances of the limits or stops used to establish the physically adjustable range;

(3) A description of the limits or stops used to establish the manufacturer's intended physically adjustable range of each adjustable parameter, or any other means used to inhibit adjustment;

(4) The nominal or recommended setting, and the associated production tolerances, for each such parameter.

(B) The manufacturer may provide, in the application for certification, information relating to why certain parameters are not expected to be adjusted in actual use and to why the physical limits or stops used to establish the physically adjustable range of each parameter, or any other means used to inhibit adjustment, are effective in preventing adjustment of parameters on in-use vehicles to settings outside the manufacturer's intended physically adjustable ranges. This may include results of any tests to determine the difficulty of gaining access to an adjustment or exceeding a limit as intended or recommended by the manufacturer.

(C) The Administrator may require to be provided detailed drawings and descriptions of the various emission related components, and/or hardware samples of such components, for the purpose of making his determination of which vehicle or engine parameter will be subject to adjustment for new certification and Selective Enforcement Audit testing and of the physically adjustable range for each such vehicle or engine parameter.

(b)(2) Projected U.S. sales data sufficient to enable the Administrator to select a test fleet representative of the vehicles (or engines) for which certification is requested, and, for model year 1994 through 1995 light-duty vehicles and light light-duty trucks and model year 1996 heavy light-duty trucks, data sufficient to determine projected compliance with the Tier 1 standards implementation schedules of §86.094-8 and §86.094-9. The data shall also include the altitude of intended sale for model year 1994 light-duty trucks certified to the Tier 0 standards of §86.094-9. Volume projected to be produced for U.S. sale may be used in lieu of projected U.S. sales.

(3) A description of the test equipment and fuel proposed to be used.

(4)(i) For light-duty vehicles and light-duty trucks, a description of the test procedures to be used to establish the evaporative emission deterioration factors required to be determined and supplied in §86.094-23(b)(2).

(ii) For heavy-duty vehicles equipped with gasoline-fueled or methanol-fueled engines, the Administrator does not assume that each evaporative emission family-evaporative emission control system combination will deteriorate in a unique manner during the useful life

of the vehicle. The manufacturer shall therefore identify those evaporative emission deterioration factors which shall be applied to the various evaporative emission family-evaporative emission control system combinations which are expected to exhibit similar deterioration characteristics during the useful life of the vehicle.

(5)(i)(A) A description of the test procedures to be used to establish the durability data or the exhaust emission deterioration factors required to be determined and supplied in §86.094 - 23(b)(1).

(B) For each light-duty truck engine family provided an optional useful life period under the provisions of paragraph (f) of this section, and for each heavy-duty engine family, a statement of the useful life.

(C) For engine families provided an alternative useful-life period under paragraph (f) of this section, a statement of that alternative period and a brief synopsis of the justification.

(ii) For heavy-duty diesel engine families, a statement of the primary intended service class (light, medium, or heavy) and an explanation as to why that service class was selected. Each diesel engine family shall be certified under one primary intended service class only. After reviewing the guidance in §86.090 - 2, the class shall be determined on the basis of which class best represents the majority of the sales of that engine family.

(iii)(A) For **each light-duty vehicle engine family**, each light-duty truck engine family and each heavy-duty engine family, a statement of recommended maintenance and procedures necessary to assure that the vehicles (or engines) covered by a certificate of conformity in operation conform to the regulations, and a description of the program for training of personnel for such maintenance, and the equipment required.

(B) A description of vehicle adjustments or modifications necessary, if any, to assure that light-duty vehicles and light-duty trucks covered by a certificate of conformity conform to the regulations while being operated at any altitude locations, and a statement of the altitude at which the adjustments or modifications apply.

(iv) At the option of the manufacturer, the proposed composition of the emission-data test fleet or (where applicable) the durability-data test fleet.

(6)(i)(A) If the manufacturer elects to participate in the particulate averaging program for diesel light-duty vehicles and/or diesel light-duty trucks, or the particulate averaging program for heavy-duty diesel engines, the application must list the family particulate emission limit and the projected U.S. production volume of the family for the model year.

(B) The manufacturer shall choose the level of the family particulate emission limits, accurate to one-hundredth of a gram per mile, or one-hundredth of a gram per brake horsepower-hour for heavy-duty engines.

(C) The manufacturer may at any time during production elect to change the level of any family particulate emission limit(s) by submitting the new limit(s) to the Administrator and by demonstrating compliance with the limit(s) as described in §86.0~~90~~**94** - 2 and §86.0~~91~~**94** - 28(b)(5)(i).

(ii)(A) If the manufacturer elects to participate in the NOx averaging program for light-duty trucks, or the NOx averaging program for heavy-duty engines, the application must list the family NOx emission limit and the projected

U.S. production volume of the family for the model year.

(B) The manufacturer shall choose the level of the family NOx emission limits, accurate to one-tenth of a gram per mile, or to one-tenth of a gram per brake horsepower-hour for heavy-duty engines.

(C) The manufacturer may at any time during production elect to change the level of any family NOx emission limit(s) by submitting the new limits to the Administrator and by demonstrating compliance with the limit(s) as described in §86.088 - 2 and 86.091 - 28(b)(5)(ii).

(7)(i) For Otto-cycle heavy-duty engines, the application must state whether the engine family is being certified for use in all vehicles regardless of their Gross Vehicle Weight Rating (see §86.091 - 10 (a)(1)(i) and (a)(3)(i)), or, only for use in vehicles with a Gross Vehicle Weight Rating greater than 14,000 pounds.

(b)(8) For each light-duty vehicle or light-duty truck engine family, the exhaust emission standards (or family emission limits, if applicable) to which the engine family is to be certified, and the corresponding exhaust emission standards (or family emission limits, if applicable) which the engine family must meet in-use.

(c) Complete copies of the application and of any amendments thereto, and all notifications under §86.079 - 32, §86.079 - 33, and §86.082 - 34 shall be submitted in such multiple copies as the Administrator may require.

(d) Incomplete light-duty trucks shall have a maximum completed curb weight and maximum completed frontal area specified by the manufacturer.

(e) For vehicles equipped with gasoline-fueled or methanol-fueled heavy-duty engines, the manufacturer shall specify a maximum nominal fuel tank capacity for each evaporative emission family-evaporative emission control system combination.

(f) Light-duty truck and heavy-duty engine manufacturers who believe that the useful life periods of §86.094 - 2 are significantly unrepresentative for one or more engine families (either too long or too short), may petition the Administrator to provide an alternative useful-life period. This petition must include the full rationale behind the request together with any supporting data and other evidence. Based on this or other information the Administrator may assign an alternative useful-life period. Any petition should be submitted in a timely manner, to allow adequate time for a thorough evaluation. For model year 1994 and later light-duty trucks not subject to the Tier 0 standards of §86.094-9, alternative useful life periods will be granted only for THC, OMHCE, and idle CO requirements.

Section 86.094-22 includes text that specifies requirements that differ from §86.090-22. Where a paragraph in §86.090-22 is identical and applicable to §86.094-22, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.090-22." Where a corresponding paragraph of §86.090-22 is not applicable, this is indicated by the statement "[Reserved]."

§86.0~~90~~94 - 22 Approval of application for certification; test fleet selections; determinations of parameters subject to adjustment for certification and Selective Enforcement Audit, adequacy of limits, and physically adjustable ranges.

(a) After a review of the application for certification and any other information which the

Administrator may require, the Administrator may approve the application and select a test fleet in accordance with §86.0~~90~~94 - 24.

(b) The Administrator may disapprove in whole or in part an application for certification for reasons including incompleteness, inaccuracy, inappropriate proposed mileage (or service) accumulation procedures, test equipment, or fuel, and incorporation of defeat devices in vehicles (or on engines) described by the application.

(c) Where any part of an application is rejected, the Administrator shall notify the manufacturer in writing and set forth the reasons for such rejection. Within 30 days following receipt of such notification, the manufacturer may request a hearing on the Administrator's determination. The request shall be in writing, signed by an authorized representative of the manufacturer and shall include a statement specifying the manufacturer's objections to the Administrator's determinations, and data in support of such objections. If, after the review of the request and supporting data, the Administrator finds that the request raises a substantial factual issue, he shall provide the manufacturer a hearing in accordance with §86.078 - 6 with respect to such issue.

(d)(1) The Administrator does not approve the test procedures for establishing the evaporative emission deterioration factors for light-duty vehicles and light-duty trucks. The manufacturer shall submit the procedures as required in §86.0~~90~~94 - 21(b)(4)(i) prior to the Administrator's selection of the test fleet under §86.0~~90~~94 - 24(b)(1) and if such procedures will involve testing of durability-data vehicles selected by the Administrator or elected by the manufacturer under §86.0~~90~~94 - 24(c)(1), prior to initiation of such testing.

(2) ~~Light-duty trucks and h~~Heavy-duty engines only. The Administrator does not approve the test procedures for establishing exhaust emission deterioration factors. The manufacturer shall submit these procedures and determinations as required in §86.0~~90~~94 - 21(b)~~(4)(iii)~~(5)(i) prior to determining the deterioration factors.

(3) Heavy-duty vehicles equipped with gasoline-fueled or methanol-fueled engines only. The Administrator does not approve the test procedures for establishing the evaporative emission deterioration factors. The test procedure will conform to the requirements in §86.0~~90~~94 - 23(b)(3).

(e) When the Administrator selects emission-data vehicles for the test fleet, he will at the same time determine those vehicle or engine parameters which will be subject to adjustment for certification, Selective Enforcement Audit and Production Compliance Audit testing, the adequacy of the limits, stops, seals, or other means used to inhibit adjustment, and the resulting physically adjustable ranges for each such parameter and notify the manufacturer of his determinations.

(1)(i) Except as noted in paragraph (e)(1)(iv) of this section, the Administrator may determine to be subject to adjustment the idle fuel-air mixture parameter on Otto-cycle vehicles (or engines) (carbureted or fuel-injected); the choke valve action parameter(s) on carbureted, Otto-cycle vehicles (or engines); or any parameter on any vehicle (or engine) (Otto-cycle or diesel) which is physically capable of being adjusted, may significantly affect emissions, and was not present on the manufacturer's vehicles (or engines) in the previous model year in the same form and function.

(ii) The Administrator may, in addition, determine to be subject to adjustment any other parameters on any vehicle or engine which is physically capable of being adjusted and which may significantly affect emissions. However, the Administrator may do so only if he has previously notified the manufacturer that he might do so and has found, at the time he gave this notice, that the intervening period would be adequate to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period. In no event will this notification be given later than September 1 of the calendar year two years prior to the model year.

(iii) In determining the parameters subject to adjustment the Administrator will consider the likelihood that, for each of the parameters listed in paragraphs (e)(1)(i) and (e)(1)(ii) of this section, settings other than the manufacturer's recommended setting will occur on in-use vehicles (or engines). In determining likelihood, the Administrator may consider such factors as, but not limited to, information contained in the preliminary application, surveillance information from similar in-use vehicles (or engines), the difficulty and cost of gaining access to an adjustment, damage to the vehicle (or engine) if an attempt is made to gain such access and the need to replace parts following such attempt, and the effect of settings other than the manufacturer's recommended setting on vehicle (or engine) performance characteristics including emission characteristics.

(iv) Manual chokes of heavy-duty engines only will not be considered a parameter subject to adjustment under the parameter adjustment requirements.

(2)(i) The Administrator shall determine a parameter to be adequately inaccessible or sealed if:

(A) In the case of an idle mixture screw, the screw is recessed within the carburetor casting and sealed with lead, thermosetting plastic, or an inverted elliptical spacer or sheared off after adjustment at the factory, and the inaccessibility is such that the screw cannot be accessed and/or adjusted with simple tools in one-half hour or for $20 (1978 dollars) or less.

(B) In the case of a choke bimetal spring, the plate covering the bimetal spring is riveted or welded in place, or held in place with nonreversible screws.

(C) In the case of a parameter which may be adjusted by elongating or bending adjustable members (e.g., the choke vacuum break), the elongation of the adjustable member is limited by design or, in the case of a bendable member, the member is constructed of a material which when bent would return to its original shape after the force is removed (plastic or spring steel materials).

(D) In the case of any parameter, the manufacturer demonstrates that adjusting the parameter to settings other than the manufacturer's recommended setting takes more than one-half hour or costs more than $20 (1978 dollars).

(ii) The Administrator shall determine a physical limit or stop to be an adequate restraint on adjustability if:

(A) In the case of a threaded adjustment, the threads are terminated, pinned or crimped so as to prevent additional travel without breakage or need for repairs which take more than one-half hour or cost more than $20 (1978 dollars).

(B) The adjustment is ineffective at the end of the limits of travel

regardless of additional forces or torques applied to the adjustment.

(C) The manufacturer demonstrates that travel or rotation limits cannot be exceeded with the use of simple and inexpensive tools (screwdriver, pliers, open-end or box wrenches, etc.) without incurring significant and costly damage to the vehicle (or engine) or control system or without taking more than one-half hour or costing more than $20 (1978 dollars).

(iii) If manufacturer service manuals or bulletins describe routine procedures for gaining access to a parameter or for removing or exceeding a physical limit, stop, seal or other means used to inhibit adjustment, or if surveillance data indicate that gaining access, removing, or exceeding is likely, paragraphs (e)(2)(i) and (e)(2)(ii) of this section shall not apply for that parameter.

(iv) In determining the adequacy of a physical limit, stop, seal, or other means used to inhibit adjustment of a parameter not covered by paragraph (e)(2)(i) or (e)(2)(ii) of this section, the Administrator will consider the likelihood that it will be circumvented, removed, or exceeded on in-use vehicles. In determining likelihood, the Administrator may consider such factors as, but not limited to, information contained in the preliminary application; surveillance information from similar in-use vehicles (or engines); the difficulty and cost of circumventing, removing, or exceeding the limit, stop, seal, or other means; damage to the vehicle (or engine) if an attempt is made to circumvent, remove, or exceed it and the need to replace parts following such attempt; and the effect of settings beyond the limit, stop, seal, or other means on vehicle (or engine) performance characteristics other than emission characteristics.

(3) The Administrator shall determine two physically adjustable ranges for each parameter subject to adjustment:

(i)(A) In the case of a parameter determined to be adequately inaccessible or sealed, the Administrator may include within the physically adjustable range applicable to testing under this subpart (certification testing) all settings within the production tolerance associated with the nominal setting for that parameter, as specified by the manufacturer in the preliminary application for certification.

(B) In the case of other parameters, the Administrator shall include within this range all settings within physical limits or stops determined to be adequate restraints on adjustability. The Administrator may also include the production tolerances on the location of these limits or stops when determining the physically adjustable range.

(ii)(A) In the case of a parameter determined to be adequately inaccessible or sealed, the Administrator shall include within the physically adjustable range applicable to testing under Subpart G or K (Selective Enforcement Audit and Production Compliance Audit) only the actual settings to which the parameter is adjusted during production.

(B) In the case of other parameters, the Administrator shall include within this range all settings within physical limits or stops determined to be adequate restraints on adjustability, as they are actually located on the test vehicle (or engine).

(f)(1) If the manufacturer submits the information specified in §86.090 - 21(b)(1)(ii) in advance of its full preliminary application for certification, the Administrator shall review the information and

make the determinations required in paragraph (e) of this section within 90 days of the manufacturer's submittal.

(2) The 90-day decision period is exclusive of the elapsed time during which EPA may request additional information from manufacturers regarding an adjustable parameter and the receipt of the manufacturers' response(s).

(g) Within 30 days following receipt of notification of the Administrator's determinations made under paragraph (e) of this section, the manufacturer may request a hearing on the Administrator's determinations. The request shall be in writing, signed by an authorized representative of the manufacturer, and shall include a statement specifying the manufacturer's objections to the Administrator's determinations, and data in support of such objections. If, after review of the request and supporting data, the Administrator finds that the request raises a substantial factual issue, he shall provide the manufacturer a hearing in accordance with §86.078 - 6 with respect to such issue.

§86.094 - 23 Required data.

Section 86.094-23 includes text that specifies requirements that differ from §86.091-23. Where a paragraph in §86.091-23 is identical and applicable to §86.094-23, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.091-23." Where a corresponding paragraph of §86.091-23 is not applicable, this is indicated by the statement "[Reserved]."

(a) The manufacturer shall perform the tests required by the applicable test procedures, and submit to the Administrator the following information: Provided, however, That if requested by the manufacturer, the Administrator may waive any requirement of this section for testing of vehicle (or engine) for which emission data are available or will be made available under the provisions of §86.091 - 29.

(b)(1)(i) Exhaust emission durability data on such light-duty vehicles tested in accordance with applicable test procedures and in such numbers as specified, which will show the performance of the systems installed on or incorporated in the vehicle for extended mileage, as well as a record of all pertinent maintenance performed on the test vehicles.

(ii) Exhaust emission deterioration factors for light-duty trucks and heavy-duty engines, and all test data that are derived from the testing described under §86.094 - 21(b)(5)(i)(A), as well as a record of all pertinent maintenance. Such testing shall be designed and conducted in accordance with good engineering practice to assure that the engines covered by a certificate issued under §86.094 - 30 will meet ~~the~~ **each** emission standards (or family emission limits, as appropriate) in §86.0~~90~~**94** - 9, §86.091 - 10, or §86.091 - 11 as appropriate, in actual use for the useful life ~~of the engine,~~ **applicable to that standard**.

(2) For light-duty vehicles and light-duty trucks, evaporative emission deterioration factors for each evaporative emission family-evaporative emission control system combination and all test data that are derived from testing described under §86.094 - 21(b)(4)(i) designed and conducted in accordance with good engineering practice to assure that the vehicles covered by a certificate issued under §86.094 - 30 will meet the evaporative emission standards in §86.094 - 8 or §86.094 - 9, as appropriate, for the useful life of the vehicle.

(3) For heavy-duty vehicles equipped with gasoline-fueled or methanol-fueled engines, evaporative emission deterioration factors for each evaporative emission family-evaporative emission control system combination identified in accordance with §86.094 - 21(b)(4)(ii). Furthermore, a statement that the test procedure(s) used to derive the deterioration factors includes, but need not be limited to, a consideration of the ambient effects of ozone and temperature fluctuations, and the service accumulation effects of vibration, time, and vapor saturation and purge cycling. The deterioration factor test procedure shall be designed and conducted in accordance with good engineering practice to assure that the vehicles covered by a certificate issued under §86.094 - 30 will meet the evaporative emission standards in §86.091 - 10 and §86.091 - 11 in actual use for the useful life of the engine. Furthermore, a statement that a description of the test procedure, as well as all data, analyses, and evaluations, is available to the Administrator upon request.

(4)(i) For heavy-duty vehicles with a Gross Vehicle Weight Rating of up to 26,000 lbs and equipped with gasoline-fueled or methanol-fueled engines, a written statement to the Administrator certifying that the manufacturer's vehicles meet the standards of §86.091 - 10 or §86.091 - 11 (as applicable) as determined by the provisions of §86.091 - 28. Furthermore, a written statement to the Administrator that all data, analyses, test procedures, evaluations, and other documents, on which the above statement is based, are available to the Administrator upon request.

(ii) For heavy-duty vehicles with a Gross Vehicle Weight Rating of greater than 26,000 lbs and equipped with gasoline-fueled or methanol-fueled engines, a written statement to the Administrator certifying that the manufacturer's evaporative emission control systems are designed, using good engineering practice, to meet the standards of §86.091 - 10 or §86.091 - 11 (as applicable) as determined by the provisions of §86.091 - 28. Furthermore, a written statement to the Administrator that all data, analyses, test procedures, evaluations, and other documents, on which the above statement is based, are available to the Administrator upon request.

(c) Emission data. (1) Emission data, including, in the case of methanol fuel, methanol, formaldehyde, and organic material hydrocarbon equivalent, on such vehicles tested in accordance with applicable test procedures and in such numbers as specified. These data shall include zero-mile data, if generated, and emission data generated for certification as required under §86.090 - 26(a)(3)(i) or §86.090 - 26(a)(3)(ii). In lieu of providing emission data the Administrator may, on request of the manufacturer, allow the manufacturer to demonstrate (on the basis of previous emission tests, development tests, or other information) that the engine will conform with certain applicable emission standards of §86.094 - 8 or §86.094 - 9. Standards eligible for such manufacturer requests are those for idle CO emissions, smoke emissions, or particulate emissions from methanol-fueled diesel-cycle certification vehicles, and those for particulate emissions from model year 1994 and later gasoline-fueled or methanol-fueled Otto-cycle certification vehicles that are not certified to the Tier 0 standards of §86.094-9 (a)(1)(i), (a)(1)(ii), or §86.094-8 (a)(1)(i). Also eligible for such requests are standards for total hydrocarbon emissions from model year 1994 and later certification vehicles that are not certified to the Tier 0 standards of §86.094-9 (a)(1)(i), (a)(1)(ii) or §86.094-8 (a)(1)(i). By separate request, including appropriate supporting test data, the

manufacturer may request that the Administrator also waive the requirement to measure particulate emissions when conducting Selective Enforcement Audit testing of Otto-cycle vehicles.

(c)(2) through (k) [Reserved]. For guidance see §86.091-23.

(l) Additionally, manufacturers certifying vehicles shall submit for each model year 1994 through 1997 light-duty vehicle and light light-duty truck engine family and each model year 1996 through 1998 heavy light-duty truck engine family:

(1) In the application for certification the projected sales volume of engine families certifying to the respective standards, and the in-use standards that each engine family will meet. Volume projected to be produced for U.S. sale may be used in lieu of projected U.S. sales.

(2) End-of-year reports for each engine family.

(i) These end-of-year reports shall be submitted within 90 days of the end of the model year to: Director, Manufacturers Operations Division (EN-340F), U.S. Environmental Protection Agency, 401 M. Street, S.W., Washington, D.C. 20460. .

(ii) These reports shall indicate the model year, engine family and the actual U.S. sales volume. The manufacturer may petition the Administrator to allow volume produced for U.S. sale to be used in lieu of U.S. sales. Such petition shall be submitted within 30 days of the end of the model year to the Manufacturers Operations Division. For the petition to be granted, the manufacturer must establish to the satisfaction of the Administrator that production volume is functionally equivalent to sales volume.

(iii) The U.S. sales volume for end-of-year reports shall be based on the location of the point of sale to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale.

(iv) Failure by a manufacturer to submit the end-of-year report within the specified time may result in certificate(s) for the engine family(ies) certified to Tier 0 certification standards being voided ab initio plus any applicable civil penalties for failure to submit the required information to the Agency.

(v) These reports shall include the information required under §86.094-7 (h)(1) of this subpart. The information shall be organized in such a way as to allow the Administrator to determine compliance with the Tier 1 standards implementation schedules of §86.094-8 and §86.094-9, and the Tier 1 and Tier 1+ implementation schedules of §86.708-94 and §86.709-94.

<u>§86.09~~2~~94 - 24 Test vehicles and engines.</u>

Section 86.094-24 includes text that specifies requirements that differ from §86.092-24. Where a paragraph in §86.092-24 is identical and applicable to §86.094-24, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.092-24." Where a corresponding paragraph of §86.092-24 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1) The vehicles or engines covered by an application for certification will be divided into groupings of engines which are expected to have similar emission characteristics throughout their useful life. Each group of engines with similar emission

characteristics shall be defined as a separate engine family.

(2) To be classed in the same engine family, engines must be identical in all the following respects:

(i) The cylinder bore center-to-center dimensions.

(ii) [Reserved]

(iii) [Reserved]

(iv) The cylinder block configuration (air cooled or water cooled; L - 6, 90° V - 8, etc.).

(v) The location of the intake and exhaust valves (or ports).

(vi) The method of air aspiration.

(vii) The combustion cycle.

(viii) Catalytic converter characteristics.

(ix) Thermal reactor characteristics.

(x) Type of air inlet cooler (e.g., intercoolers and after-coolers) for diesel heavy-duty engines.

(3)(i) Engines identical in all the respects listed in paragraph (a)(2) of this section may be further divided into different engine families if the Administrator determines that they may be expected to have different emission characteristics. This determination will be based upon a consideration of the following features of each engine:

(A) The bore and stroke.

(B) The surface-to-volume ratio of the nominally dimensioned cylinder at the top dead center positions.

(C) The intake manifold induction port size and configuration.

(D) The exhaust manifold port size and configuration.

(E) The intake and exhaust valve sizes.

(F) The fuel system.

(G) The camshaft timing and ignition or injection timing characteristics.

(ii) Light-duty trucks and heavy-duty engines produced in different model years and distinguishable in the respects listed in paragraph (a)(2) of this section shall be treated as belonging to a single engine family if the Administrator requires it, after determining that the engines may be expected to have similar emission deterioration characteristics.

(4) Where engines are of a type which cannot be divided into engine families based upon the criteria listed in paragraphs (a)(2) and (a)(3) of this section, the Administrator will establish families for those engines based upon those features most related to their emission characteristics. Engines that are eligible to be included in the same engine family based on the criteria in paragraphs (a)(2) and (a)(3)(i) of this section may be further divided into different engine families if the manufacturer determines that they may be expected to have different emission characteristics. This determination will be based upon a consideration of the following features of each engine:

(i) The dimension from the center line of the crankshaft to the center line of the camshaft.

(ii) The dimension from the center line of the crankshaft to the top of the cylinder block head face.

(iii) The size of the intake and exhaust valves (or ports).

(5) Gasoline-fueled and methanol-fueled light-duty vehicles and light-duty trucks covered by an application for certification will be divided into groupings which are expected to have similar evaporative emission characteristics throughout their useful life. Each group of vehicles with similar evaporative emission characteristics shall be defined as a separate evaporative emission family.

(6) For gasoline-fueled or methanol-fueled light-duty vehicles and light-duty trucks to be classed in the same evaporative emission family, vehicles must be similar with respect to:

(i) Type of vapor storage device (e.g., canister, air cleaner, crankcase).

(ii) Basic canister design.

(iii) Fuel system.

(7) Where vehicles are of a type which cannot be divided into evaporative emission families based on the criteria listed above, the Administrator will establish families for those vehicles based upon the features most related to their evaporative emission characteristics.

(a)(8)(i) If the manufacturer elects to participate in the ~~Alternative Durability Program~~, **Production AMA Durability Program**; the engine families covered by an application for certification shall be grouped based upon similar engine design and emission control system characteristics. Each of these groups shall constitute a separate engine family group.

(ii) To be classed in the same engine family group, engine families must contain engines identical in all of the following respects:

(A) The combustion cycle.

(B) The cylinder block configuration (air-cooled or water-cooled; L - 6, V - 8, rotary, etc.).

(C) Displacement (engines of different displacement within 50 cubic inches or 15 percent of the largest displacement and contained within a multidisplacement engine family will be included in the same engine family group).

(D) Catalytic converter usage and basic type (noncatalyst, oxidation catalyst only, three-way catalyst equipped).

(9) Engine families identical in all respects listed in paragraph (a)(8) of this section may be further divided into different engine family groups if the Administrator determines that they are expected to have significantly different exhaust emission control system deterioration characteristics.

(10) A manufacturer may request the Administrator to include in an engine family group, engine families in addition to those grouped under the provisions of paragraph (a)(8) of this section. This request must be accompanied by information the manufacturer believes supports the inclusion of these additional engine families.

(11) A manufacturer may combine into a single engine family group those light-duty vehicle and light-duty truck engine families which otherwise meet the requirements of paragraphs (a)(8) through (a)(10) of this section.

(12) The vehicles covered by an application for certification equipped with gasoline-fueled or methanol-fueled heavy-duty engines will be divided into groupings of vehicles on the basis of physical features which are expected to affect evaporative emissions. Each

group of vehicles with similar features shall be defined as a separate evaporative emission family.

(13) For vehicles equipped with gasoline-fueled or methanol-fueled heavy-duty engines to be classed in the same evaporative emission family, vehicles must be identical with respect to:

(i) Method of fuel/air metering (i.e., carburetion versus fuel injection).

(ii) Carburetor bowl fuel volume, within a 10 cc range.

(14) For vehicles equipped with gasoline-fueled or methanol-fueled heavy-duty engines to be classed in the same evaporative emission control system, vehicles must be identical with respect to:

(i) Method of vapor storage.

(ii) Method of carburetor sealing.

(iii) Method of air cleaner sealing.

(iv) Vapor storage working capacity, within a 20 g range.

(v) Number of storage devices.

(vi) Method of purging stored vapors.

(vii) Method of venting the carburetor during both engine off and engine operation.

(viii) Liquid fuel hose material.

(ix) Vapor storage material.

(15) Where vehicles equipped with gasoline-fueled or methanol-fueled heavy-duty engines are types which cannot be divided into evaporative emission family-control system combinations based on the criteria listed above, the Administrator will establish evaporative emission family-control system combinations for those vehicles based on features most related to their evaporative emission characteristics.

(b) Emission data -- (1) Emission-data vehicles. Paragraph (b)(1) of this section applies to light-duty vehicle and light-duty truck emission-data vehicles.

(i) Vehicles will be chosen to be operated and tested for emission data based upon engine family groupings. Within each engine family, one test vehicle will be selected based on the following criteria: The Administrator shall select the vehicle with the heaviest equivalent test weight (including options) within the family. Then within that vehicle the Administrator shall select, in the order listed, the highest road-load power, largest displacement, the transmission with the highest numerical final gear ratio (including overdrive), the highest numerical axle ratio offered in that engine family and the maximum fuel flow calibration.

(ii) The Administrator shall select one additional test vehicle from within each engine family. The vehicle selected shall be the vehicle expected to exhibit the highest emissions of those vehicles remaining in the engine family. If all vehicles within the engine family are similar the Administrator may waive the requirements of this paragraph.

(iii) Within an engine family and exhaust emission control system, the manufacturer may alter any emission-data vehicle (or other vehicles such as including current or previous model year emission-data vehicles, fuel economy data vehicles, and development vehicles provided they meet emission-data vehicles, protocol) to represent more than one selection under paragraphs (b)(1)(i), (ii), (iv), or (vii) of this section.

(iv) If the vehicles selected in accordance with paragraphs (b)(1)(i) and (ii) of this section do not represent each engine-system combination, then one vehicle of each engine-system combination not represented will be selected by the Administrator. The vehicle selected shall be the vehicle expected to exhibit the highest emissions of those vehicles remaining in the engine family.

(v) For high-altitude exhaust emission compliance for each engine family, the manufacturer shall follow one of the following procedures:

(A) The manufacturer will select for testing under high-altitude conditions the vehicle expected to exhibit the highest emissions from the nonexempt vehicles selected in accordance with §86.090 - 24(b)(1)(ii), (iii), and (iv) of this section or,

(B) In lieu of testing vehicles according to paragraph (b)(1)(v)(A) of this section, a manufacturer may provide a statement in its application for certification that, based on the manufacturer's engineering evaluation of such high-altitude emission testing as the manufacturer deems appropriate,

(1) That all light-duty vehicles not exempt under §86.090 - 8(h) comply with the emission standards at high-altitude, and

(2) That light-duty trucks sold for principal use at designated high-altitude locations comply with the high-altitude emission requirements, and that all light-duty trucks sold at low-altitude, which are not exempt under §86.090 - 9(g)(2), are capable of being modified to meet high-altitude standards.

(vi) If 90 percent or more of the engine family sales will be in California, a manufacturer may substitute emission-data vehicles selected by the California Air Resources Board criteria for the selections specified in paragraphs (b)(1)(i), (ii), and (iv) of this section.

(vii)(A) Vehicles of each evaporative emission family will be divided into evaporative emission control systems.

(B) The Administrator will select the vehicle expected to exhibit the highest evaporative emissions, from within each evaporative family to be certified, from among the vehicles represented by the exhaust emission-data selections for the engine family, unless evaporative testing has already been completed on the vehicle expected to exhibit the highest evaporative emissions for the evaporative family as part of another engine family's testing.

(C) If the vehicles selected in accordance with paragraph (b)(1)(vii)(B) of this section do not represent each evaporative emission control system then the Administrator will select the highest expected evaporative emission vehicle from within the unrepresented evaporative system.

(viii) For high-altitude evaporative emission compliance for each evaporative emission family, the manufacturer shall follow one of the following procedures:

(A) The manufacturer will select for testing under high-altitude conditions the one nonexempt vehicle previously selected under paragraphs (b)(1)(vii) (B) or (C) of this section which is expected to have the highest level of evaporative emissions when operated at high altitude or

(B) In lieu of testing vehicles according to paragraph (b)(1)(viii)(A) of this section, a manufacturer may provide a statement in its application for certification that based on the manufacturer's engineering evaluation of such high-

altitude emission testing as the manufacturer deems appropriate,

(1) That all light-duty vehicles not exempt under §86.090 - 8(h) comply with the emission standards at high altitude and

(2) That light-duty trucks sold for principal use at designated high-altitude locations comply with the high-altitude emission requirements, and that all light-duty trucks sold at low altitude, which are not exempt under §86.090 - 9(g)(2), are capable of being modified to meet high-altitude standards.

(ix) Vehicles selected under paragraph (b)(1)(v)(A) of this section may be used to satisfy the requirements of (b)(1)(viii)(A) of this section.

(x) Light-duty trucks only: (A) The manufacturer may reconfigure any of the low-altitude emission-data vehicles to represent the vehicle configuration required to be tested at high altitude.

(B) The manufacturer is not required to test the reconfigured vehicle at low altitude.

(2) Otto-cycle heavy-duty emission-data engines. Paragraph (b)(2) of this section applies to Otto-cycle heavy-duty engines.

(i) [Reserved]

(ii) [Reserved]

(iii) The Administrator shall select a maximum of two engines within each engine family based upon features indicating that they may have the highest emission levels of the engines in the engine family as follows:

(A) The Administrator shall select one emission-data engine first based on the largest displacement within the engine family. Then within the largest displacement the Administrator shall select, in the order listed, highest fuel flow at the speed of maximum rated torque, the engine with the most advanced spark timing, no EGR or lowest EGR flow, and no air pump or lowest actual flow air pump.

(B) The Administrator shall select one additional engine, from within each engine family. The engine selected shall be the engine expected to exhibit the highest emissions of those engines remaining in the engine family. If all engines within the engine family are similar the Administrator may waive the requirements of this paragraph.

(iv) If the engines selected in accordance with paragraphs (b)(2)(ii) and (iii) of this section do not represent each engine displacement-exhaust emission control system combination, then one engine of each engine displacement-exhaust emission control system combination not represented shall be selected by the Administrator.

(v) Within an engine family/displacement/control system, the manufacturer may alter any emission-data engine (or other engine including current or previous model year emission-data vehicles and development engines provided they meet the emission-data engines protocol) to represent more than one selection under paragraphs (b)(2)(iii) of this section.

(3) Diesel heavy-duty emission-data engines. Paragraph (b)(3) of this section applies to diesel heavy-duty emission-data vehicles.

(i) Engines will be chosen to be run for emission data based upon engine family groupings. Within each engine family, the requirements of this paragraph must be met.

(ii) Engines of each engine family will be divided into groups based upon their exhaust emission control systems. One engine of each engine system combination shall be

run for smoke emission data (diesel engines only) and gaseous emission data. Either the complete gaseous emission test or the complete smoke test may be conducted first. Within each combination, the engine that features the highest fuel feed per stroke, primarily at the speed of maximum rated torque and secondarily at rated speed, will usually be selected. If there are military engines with higher fuel rates than other engines in the same engine system combinations, then one military engine shall also be selected. The engine with the highest fuel feed per stroke will usually be selected.

(iii) The Administrator may select a maximum of one additional engine within each engine-system combination based upon features indicating that it may have the highest emission levels of the engines of that combination. In selecting this engine, the Administrator will consider such features as the injection system, fuel system, compression ratio, rated speed, rated horsepower, peak torque speed, and peak torque.

(iv) Within an engine family control system combination, the manufacturer may alter any emission-data engine (or other engine including current or previous model year emission-data vehicles and development engines provided they meet the emission-data engines' protocol) to represent more than one selection under paragraphs (b)(3)(ii) and (iii) of this section.

(c) Durability data -- (1) Light-duty vehicle durability-data vehicles. Paragraph (c)(1) of this section applies to light-duty vehicle durability-data vehicles.

(i) A durability-data vehicle will be selected by the Administrator to represent each engine-system combination. The vehicle selected shall be of the engine displacement with the largest projected sales volume of vehicles with that control-system combination in that engine family and will be designated by the Administrator as to transmission type, fuel system, inertia weight class, ~~and~~ test weight.

(ii) A manufacturer may elect to operate and test additional vehicles to represent any engine-system combination. The additional vehicles must be of the same engine displacement, transmission type, fuel system and inertia weight class as the vehicle selected for that engine-system combination in accordance with the provisions of paragraph (c)(1)(i) of this section. Notice of an intent to operate and test additional vehicles shall be given to the Administrator no later than 30 days following notification of the test fleet selection.

(2) Light-duty trucks. Paragraph (c)(2) of this section applies to vehicles, engines, subsystems, or components used to establish exhaust emission deterioration factors for light-duty trucks.

(i) The manufacturer shall select the vehicles, engines, subsystems, or components to be used to determine exhaust emission deterioration factors for each engine-family control system combination. Whether vehicles, engines, subsystems, or components are used, they shall be selected so that their emissions deterioration characteristics may be expected to represent those of in-use vehicles, based on good engineering judgment.

(ii) [Reserved]

(3) Heavy-duty engines. Paragraph (c)(3) of this section applies to engines, subsystems, or components used to establish exhaust emission deterioration factors for heavy-duty engines.

(i) The manufacturer shall select the engines, subsystems, or components to be used to determine exhaust emission deterioration

factors for each engine-family control system combination. Whether engines, subsystems, or components are used, they shall be selected so that their emissions deterioration characteristics may be expected to represent those of in-use engines, based on good engineering judgment.

(ii) [Reserved]

(d) For purposes of testing under §86.084 - 26 (a)(9) or (b)(11), the Administrator may require additional emission-data vehicles (or emission-data engines) and durability-data vehicles (light-duty vehicles only) identical in all material respects to vehicles (or engines) selected in accordance with paragraphs (b) and (c) of this section, provided that the number of vehicles (or engines) selected shall not increase the size of either the emission-data fleet or the durability-data fleet by more than 20 percent or one vehicle (or engine), whichever is greater.

(e)(1) [Reserved]

(2) Any manufacturer may request to certify engine families with combined total sales of fewer than 10,000 light-duty vehicles, light-duty trucks, heavy-duty vehicles, and heavy-duty engines utilizing the procedures contained in §86.0~~92~~94 - 14 of this subpart for emission-data vehicle selection and determination of deterioration factors. The deterioration factors shall be applied only to entire engine families.

(f) **Carryover and carry-across of durability and emission data**. In lieu of testing an emission-data or durability-data vehicle (or engine) selected under paragraph (c) of this section, and submitting data therefore, a manufacturer may, with the prior written approval of the Administrator, submit exhaust emission data and/or ~~fuel~~ evaporative emission data, as applicable on a similar vehicle (or engine) for which certification has previously been obtained or for which all applicable data required under §86.090 - 23 has previously been submitted.

(g)(1) This paragraph applies to light-duty vehicles and light-duty trucks, but does not apply to the production vehicles selected under paragraph (h) of this section.

(2)(i) Where it is expected that more than 33 percent of a carline, within an engine-system combination will be equipped with an item (whether that item is standard equipment or an option), the full estimated weight of that item shall be included in the curb weight computation for each vehicle available with that option in that carline, within that engine-system combination.

(ii) Where it is expected that 33 percent or less of the carline, within an engine-system, will be equipped with an item of (whether that item is standard equipment or an option), no weight for that item will be added in computing curb weight for any vehicle in that carline, within that engine-system combination, unless that item is standard equipment on the vehicle.

(iii) In the case of mutually exclusive options, only the weight of the heavier option will be added in computing curb weight.

(iv) Optional equipment weighing less than 3 pounds per item need not be considered.

(3)(i) Where it is expected that more than 33 percent of a carline, within an engine-system combination will be equipped with an item of (whether that item is standard equipment or an option) that can reasonably be expected to influence emissions, then such items shall actually be installed (unless excluded under paragraph (g)(3)(ii) of this section) on all emission data and durability data vehicles of that carline, within that engine-

system combination, on which the items are intended to be offered in production. Items that can reasonably be expected to influence emissions are: air conditioning, power steering, power brakes and other items determined by the Administrator.

(ii) If the manufacturer determines by test data or engineering evaluation that the actual installation of the optional equipment required by paragraph (g)(3)(i) of this section does not affect the emissions or fuel economy values, the optional equipment need not be installed on the test vehicle.

(iii) The weight of the options shall be included in the design curb weight and also be represented in the weight of the test vehicles.

(iv) The engineering evaluation, including any test data, used to support the deletion of optional equipment from test vehicles, shall be maintained by the manufacturer and shall be made available to the Administrator upon request.

(4) Where it is expected that 33 percent or less of a carline, within an engine system combination will be equipped with an item of (whether that item is standard equipment or an option) that can reasonably be expected to influence emissions, that item shall not be installed on any emission data or durability data vehicles of that carline, within that engine-system combination, unless that item is standard equipment on the vehicle.

(h) ~~Alternative Durability Program~~ **Production AMA Durability Program** durability-data vehicles. This ~~section~~ **paragraph** applies to light-duty vehicle~~ and light-duty truck~~ durability-data vehicles selected under the ~~Alternative Durability Program~~ **Production AMA Durability Program** described in §86.094-13.

(1) In order to update the durability data to be used to determine a deterioration factor for each engine family group, the Administrator will select durability-data vehicles from the manufacturer's production line. Production vehicles will be selected from each model year's production for those vehicles certified using the ~~Alternative Durability Program~~ **Production AMA Durability Program** procedures.

(i) The Administrator shall select the production durability-data vehicle designs from the designs that the manufacturer offers for sale. For each model year and for each engine family group, the Administrator may select production durability-data vehicle designs of equal number to the number of engine families within the engine family group, up to a maximum of three vehicles.

(ii) The production durability-data vehicles representing the designs selected in paragraph (h)(1)(i) of this section will be randomly selected from the manufacturer's production. The Administrator will make these random selections unless the manufacturer (with prior approval of the Administrator) elects to make the random selections.

(iii) The manufacturer may select additional production durability-data vehicle designs from within the engine family group. The production durability-data vehicles representing these designs shall be randomly selected from the manufacturer s production in accordance with paragraph (h)(1)(ii) of this section.

(iv) For each production durability-data vehicle selected under paragraph (h)(1) of this section, the manufacturer shall provide to the Administrator (before the vehicle is tested or begins service accumulation) the vehicle

identification number. Before the vehicle begins service accumulation the manufacturer shall also provide the Administrator with a description of the durability-data vehicle as specified by the Administrator.

(v) In lieu of testing a production durability-data vehicle selected under paragraph (h)(1) of this section, and submitting data therefrom, a manufacturer may, with the prior written approval of the Administrator, submit exhaust emission data from a production vehicle of the same configuration for which all applicable data has previously been submitted.

(2) If, within an existing engine family group, a manufacturer requests to certify vehicles of a new design, engine family, emission control system, or with any other durability-related design difference, the Administrator will determine if the existing engine family group deterioration factor is appropriate for the new design. If the Administrator cannot make this determination or deems the deterioration factor not appropriate, the Administrator shall select preproduction durability-data vehicles under the provisions of paragraph (c) of this section. If vehicles are then certified using the new design, the Administrator may select production vehicles with the new design under the provisions of paragraph (h)(1) of this section.

(3) If a manufacturer requests to certify vehicles of a new design that the Administrator determines are a new engine family group, the Administrator shall select preproduction durability data vehicles under the provisions of paragraph (c) of this section. If vehicles are then certified using the new design, the Administrator may select production vehicles of that design under the provisions of paragraph (h)(1) of this section.

§86.0~~90~~94 - 25 Maintenance.

Section 86.094-25 includes text that specifies requirements that differ from §86.090-25. Where a paragraph in §86.090-25 is identical and applicable to §86.094-25, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.090-25." Where a corresponding paragraph of §86.090-25 is not applicable, this is indicated by the statement "[Reserved]."

(a) Applicability. This section applies to light-duty vehicles, light-duty trucks, and heavy-duty engines.

(1) Maintenance performed on vehicles, engines, subsystems, or components used to determine exhaust or evaporative emission deterioration factors is classified as either emission-related or non-emission-related and each of these can be classified as either scheduled or unscheduled. Further, some emission-related maintenance is also classified as critical emission-related maintenance.

(b) This section specifies emission-related scheduled maintenance for purposes of obtaining durability data and for inclusion in maintenance instructions furnished to purchasers of new motor vehicles and new motor vehicles engines under §86.087 - 38.

(1) All emission-related scheduled maintenance for purposes of obtaining durability data must occur at the same mileage intervals (or equivalent intervals if engines, subsystems, or components are used) that will be specified in the manufacturer's maintenance instructions furnished to the ultimate purchaser of the motor vehicle or engine under §86.0~~88~~94 - 35. This maintenance schedule may be updated as necessary throughout the testing of the vehicle/engine provided that no maintenance

operation is deleted from the maintenance schedule after the operation has been performed on the test vehicle or engine.

(2) Any emission-related maintenance which is performed on vehicles, engines, subsystems, or components must be technologically necessary to assure in-use compliance with the emission standards. The manufacturer must submit data which demonstrate to the Administrator that all of the emission-related scheduled maintenance which is to be performed is technologically necessary. Scheduled maintenance must be approved by the Administrator prior to being performed or being included in the maintenance instructions provided to purchasers under §86.087 - 38. As provided below, EPA has determined that emission-related maintenance at shorter intervals than that outlined in paragraphs (b)(3) and (b)(4) of this section is not technologically necessary to ensure in-use compliance. However, the Administrator may determine that maintenance even more restrictive (e.g., longer intervals) than that listed in paragraphs (b)(3) and (b)(4) of this section is also not technologically necessary.

(3) For Otto-cycle light-duty vehicles, light-duty trucks and heavy duty engines, emission-related maintenance in addition to, or at shorter intervals than, the following will not be accepted as technologically necessary, except as provided in paragraph (b)(7) of this section.

(i)(A) The cleaning or replacement of light-duty vehicle or light-duty truck spark plugs at 30,000 miles of use and at 30,000 mile intervals thereafter.

(B) The cleaning or replacement of Otto-cycle heavy duty engine spark plugs at 25,000 miles (or 750 hours) of use and at 25,000 mile intervals (or 750-hour) intervals thereafter, for engines certified for use with unleaded fuel only.

(ii) ~~For light-duty vehicles, the adjustment, cleaning, repair, or replacement of the following may not be performed within the 50,000-mile useful life of the vehicle:~~

~~(A) Positive crankcase ventilation valve.~~

~~(B) Emission-related hoses and tubes.~~

~~(C) Ignition wires.~~

~~(D) Carburetors (including idle mixture).~~

~~(E) Catalytic converter.~~

~~(F) Exhaust gas recirculation system (including all related filters and control valves).~~

~~(G) Air injection system components.~~

~~(H) Fuel injectors.~~

~~(I) Electronic engine control unit and its associated sensors (including oxygen sensor) and actuators.~~

~~(J) Evaporative emission canister.~~

~~(K) Turbochargers.~~

~~(iii)~~ For ~~light-duty trucks and~~ heavy-duty engines, the adjustment, cleaning, repair, or replacement of the following at 50,000 miles (or 1,500 hours) of use and at 50,000-mile (or 1,500-hour) intervals thereafter:

(A) Positive crankcase ventilation valve.

(B) Emission-related hoses and tubes.

(C) Ignition wires.

(D) Idle mixture.

(iii) **For light-duty vehicles and light-duty trucks, the adjustment, cleaning, repair, or replacement of the following at 50,000 miles of use and at 50,000-mile intervals thereafter:**

(A) Positive crankcase ventilation valve.

(B) Emission-related hoses and tubes.

(C) Ignition wires.

(D) Idle mixture.

(iv) For ***light-duty vehicles,*** light-duty trucks and heavy-duty engines, the adjustment, cleaning, repair, or replacement of the following at 80,000-miles (or 2,400-hours) of use and at 80,000-mile (or 2,400-hour) intervals thereafter:

(A) Oxygen sensor.

(v) For ~~light-duty trucks and~~ heavy-duty engines, the adjustment, cleaning, repair, or replacement of the following at 100,000 miles (or 3,000 hours) of use and at 100,000-mile (or 3,000-hour) intervals thereafter:

(A) Catalytic converter.

(B) Air injection system components.

(C) Fuel injectors.

(D) Electronic engine control unit and its associated sensors (except oxygen sensor) and actuators.

(E) Evaporative emission canister.

(F) Turbochargers.

(G) Carburetors.

(vi) For light-duty vehicles and light-duty trucks, the adjustment, cleaning, repair, or replacement of the following at 100,000 miles of use and at 100,000-mile intervals thereafter:

(A) Catalytic converter.

(B) Air injection system components.

(C) Fuel injectors.

(D) Electronic engine control unit and its associated sensors (except oxygen sensor) and actuators.

(E) Evaporative emission canister.

(F) Turbochargers.

(G) Carburetors.

(H) Superchargers.

(I) EGR System including all related filters and control valves.

~~(vi)~~ **(vii)** (A) ~~For light-duty trucks, and~~ **For** heavy-duty engines certified for use with unleaded fuel only, the adjustment, cleaning, repair, or replacement of the EGR system (including all related filters and control valves) at 50,000 miles (or 1,500 hours) of use and at 50,000-mile (or 1,500-hour) intervals thereafter.

(4) For diesel-**cycle** ~~powered~~ light-duty vehicles, light-duty trucks, and heavy-duty engines, emission-related maintenance in addition to, or at shorter intervals than, the following will not be accepted as technologically necessary, except as provided in paragraph (b)(7) of this section.

(i) ~~For light-duty vehicles, the adjustment, cleaning, repair, or replacement of the following may not be performed within the 50,000-mile useful life of the vehicle:~~

~~(A) Exhaust gas recirculation system (including all related filters and control valves).~~

~~(B) Positive crankcase ventilation valve.~~

~~(C) Fuel injectors.~~

~~(D) Turbocharger.~~

~~(E) Electronic engine control unit and its associated sensors and actuators.~~

~~(F) Particulate trap or trap-oxidizer system (including related components).~~

~~(ii)~~ For ~~light-duty trucks and~~ heavy-duty engines, the adjustment, cleaning, repair, or replacement of the following at 50,000 miles (or 1,500 hours) of use and at 50,000-mile (or 1,500-hour) intervals thereafter:

(A) Exhaust gas recirculation system including all related filters and control valves.

(B) Positive crankcase ventilation valve.

(C) Fuel injector tips (cleaning only).

(ii) For light-duty vehicles and light-duty trucks, the adjustment, cleaning, repair, or replacement of the positive crankcase ventilation valve at 50,000 miles of use and at 50,000-mile intervals thereafter:

(iii) The following maintenance at 100,000 miles (or 3,000 hours) of use and at 100,000-mile (or 3,000-hour) intervals thereafter for ~~light-duty trucks and~~ light heavy-duty engines, or, at 150,000 miles (or 4,500 hours) of use and at 150,000-mile (or 4,500-hour) intervals thereafter for medium and heavy-duty engines: The adjustment, cleaning, repair, or replacement of:

(A) Fuel injectors.

(B) Turbocharger.

(C) Electronic engine control unit and its associated sensors and actuators.

(D) Particulate trap or trap-oxidizer system (including related components).

(iv) The following maintenance at 100,000 miles of use and at 100,000-mile intervals thereafter for light-duty vehicles and light-duty trucks. The adjustment, cleaning, repair, or replacement of:

(A) Fuel injectors.

(B) Turbocharger.

(C) Electronic engine control unit and its associated sensors and actuators.

(D) Particulate trap or trap-oxidizer system (including related components).

(E) Exhaust gas recirculation system including all related filters and control valves.

(F) Catalytic converter.

(G) Superchargers.

(5) [Reserved]

(6) (i) The Following components are currently defined as critical emission-related components:

(A) Catalytic converter.

(B) Air injection system components.

(C) Electronic engine control unit and its associated sensors (including oxygen sensor if installed) and actuators.

(D) Exhaust gas recirculation system (including all related filters and control valves).

(E) Positive crankcase ventilation valve.

(F) Evaporative emission control system components (excluding canister air filter).

(G) Particulate trap or trap-oxidizer system.

(ii) All critical emission-related scheduled maintenance must have a reasonable likelihood of being performed in-use. The manufacturer shall be required to show the reasonable likelihood of such maintenance being performed in-use, and such showing shall be made prior to the performance of the maintenance on the durability data vehicle. Critical emission-related scheduled maintenance items which satisfy one of the following conditions will be accepted as having a reasonable likelihood of the maintenance item being performed in-use:

(A) Data are presented which establish for the Administrator a connection between emissions and vehicle performance such that as emissions increase due to lack of maintenance, vehicle performance will simultaneously deteriorate to a point unacceptable for typical driving.

(B) Survey data are submitted which adequately demonstrate to the Administrator that, at an 80 percent confidence level, 80 percent of such engines already have this critical maintenance item performed in-use at the recommended interval(s).

(C) A clearly displayed visible signal system approved by the Administrator is installed to alert the vehicle driver that maintenance is due. A signal bearing the message "maintenance needed" or "check engine," or a similar message approved by the Administrator, shall be actuated at the appropriate mileage point or by component failure. This signal must be continuous while the engine is in operation, and not be easily eliminated without performance of the required maintenance. Resetting the signal shall be a required step in the maintenance operation. The method for resetting the signal system shall be approved by the Administrator.

(D) A manufacturer may desire to demonstrate through a survey that a critical maintenance item is likely to be performed without a visible signal on a maintenance item for which there is no prior in-use experience without the signal. To that end, the manufacturer may in a given model year market up to 200 randomly selected vehicles per critical emission-related maintenance item without such visible signals, and monitor the performance of the critical maintenance item by the owners to show compliance with paragraph (b)(6)(ii)(B) of this section. This option is restricted to two consecutive model years and may not be repeated until any previous survey has been completed. If the critical maintenance involves more than one engine family, the sample will be sales weighted to ensure that it is representative of all the families in question.

(E) The manufacturer provides the maintenance free of charge, and clearly informs the customer that the maintenance is free in the instructions provided under §86.087 - 38.

(F) Any other method which the Administrator approves as establishing a reasonable likelihood that the critical maintenance will be performed in-use.

(iii) Visible signal systems used under paragraph (b)(6)(ii)(C) of this section are considered an element of design of the emission control system. Therefore,

disabling, resetting, or otherwise rendering such signals inoperative without also performing the indicated maintenance procedure is a prohibited act under section 203(a)(3) of the Clean Air Act, as amended in August 1977 (42 U.S.C. 7522(a)(3)).

(7) Changes to scheduled maintenance. (i) For maintenance practices that existed prior to the 1980 model year, only the maintenance items listed in paragraphs (b)(3) and (b)(4) of this section are currently considered by EPA to be emission-related. The Administrator may, however, determine additional scheduled maintenance items that existed prior to the 1980 model year to be emission-related by announcement in a Federal Register Notice. In no event may this notification occur later than September 1 of the calendar year two years prior to the affected model year.

(ii) In the case of any new scheduled maintenance, the manufacturer must submit a request for approval to the Administrator for any maintenance that it wishes to recommend to purchasers and perform during durability determination. New scheduled maintenance is that maintenance which did not exist prior to the 1980 model year, including that which is a direct result of the implementation of new technology not found in production prior to the 1980 model year. The manufacturer must also include its recommendations as to the category (i.e., emission-related or non-emission-related, critical or non-critical) of the subject maintenance and, for suggested emission-related maintenance, the maximum feasible maintenance interval. Such requests must include detailed evidence supporting the need for the maintenance requested, and supporting data or other substantiation for the recommended maintenance category and for the interval suggested for emission-related maintenance. Requests for new scheduled maintenance must be approved prior to the introduction of the new maintenance. The Administrator will then designate the maintenance as emission-related or non-emission-related. For maintenance items established as emission-related, the Administrator will further designate the maintenance as critical if the component which receives the maintenance is a critical component under paragraph (b)(6) of this section. For each maintenance item designated as emission-related, the Administrator will also establish a technologically necessary maintenance interval, based on industry data and any other information available to EPA. Designations of emission-related maintenance items, along with their identification as critical or non-critical, and establishment of technologically necessary maintenance intervals, will be announced in the Federal Register.

(iii) Any manufacturer may request a hearing on the Administrator's determinations in paragraph (b)(7) of this section. The request shall be in writing, and shall include a statement specifying the manufacturer's objections to the Administrator's determinations, and data in support of such objections. If, after review of the request and supporting data, the Administrator finds that the request raises a substantial factual issue, he shall provide the manufacturer a hearing in accordance with §86.078 - 6 with respect to such issue.

(c) Non-emission-related scheduled maintenance which is reasonable and technologically necessary (e.g., oil change, oil filter change, fuel filter change, air filter change, cooling system maintenance, adjustment of idle speed, governor, engine bolt torque, valve lash, injector lash, timing, **adjustment of air pump drive belt tension, lubrication of the exhaust manifold heat**

control valve, lubrication of carburetor choke linkage, retorquing carburetor mounting bolts, etc.) may be performed on durability-data vehicles at the least frequent intervals recommended by the manufacturer to the ultimate purchaser, (e.g., not at the intervals recommended for severe service).

(d) Unscheduled maintenance on light-duty durability data vehicles. (1) Unscheduled maintenance may be performed during the testing used to determine deterioration factors, except as provided in paragraphs (d)(2) and (d)(3) of this section, only under the following provisions:

(i) A fuel injector or spark plug may be changed if a persistent misfire is detected.

(ii) Readjustment of an Otto-cycle vehicle cold-start enrichment system may be performed if there is a problem of stalling.

(iii) Readjustment of the engine idle speed (curb idle and fast idle) may be performed in addition to that performed as scheduled maintenance under paragraph (c) of this section, if the idle speed exceeds the manufacturer's recommended idle speed by 300 rpm or more, or if there is a problem of stalling.

(2) Any other unscheduled vehicle, emission control system, or fuel system adjustment, repair, removal, disassembly, cleaning, or replacement during testing to determine deterioration factors shall be performed only with the advance approval of the Administrator. Such approval will be given if the Administrator:

(i) Has made a preliminary determination that the part failure or system malfunction, or the repair of such failure or malfunction, does not render the vehicle or engine unrepresentative of vehicles or engines in-use, and does not require direct access to the combustion chamber, except for spark plug, fuel injection component, or removable prechamber removal or replacement; and,

(ii) Has made a determination that the need for maintenance or repairs is indicated by an overt indication of malfunction such as persistent misfiring, engine stalling, overheating, fluid leakage, loss of oil pressure, excessive fuel consumption or excessive power loss. The Administrator shall be given the opportunity to verify the existence of an overt indication of part failure and/or vehicle/engine malfunction (e.g., misfiring, stalling, black smoke), or an activation of an audible and/or visible signal, prior to the performance of any maintenance to which such overt indication or signal is relevant under the provisions of this section.

(3) Emission measurement may not be used as a means of determining the need for unscheduled maintenance under paragraph (d)(2) of this section, except under the following conditions:

(i) The Administrator may approve unscheduled maintenance on durability-data vehicles based upon a significant change in emission levels that indicates a vehicle or engine malfunction. In these cases the Administrator may first approve specific diagnostic procedures to identify the source of the problem. The Administrator may further approve of specific corrections to the problem after the problem has been identified. The Administrator may only approve the corrective action after it is determined that:

(A) The malfunction was caused by nonproduction build practices or by a previously undetected design problem,

(B) The malfunction will not occur in production vehicles or engines in-use, and

(C) The deterioration factor generated by the durability-data vehicle or engine will remain unaffected by the malfunction or by the corrective action (e.g., the malfunction was present for only a short period of time before detection, replacement parts are functionally representative of the proper mileage or hours, etc.).

(ii) Following any unscheduled maintenance approved under paragraph (d)(3)(i) of this section, the manufacturer shall perform an after-maintenance emissions test. If the Administrator determines that the after-maintenance emission levels for any pollutant indicates that the deterioration factor is no longer representative of production, the Administrator may disqualify the durability-data vehicle or engine.

(4) If the Administrator determines that part failure or system malfunction occurrence and/or repair rendered the vehicle/engine unrepresentative of vehicles in-use, the vehicle/engine shall not be used for determining deterioration factors.

(5) Repairs to vehicle components of a durability data vehicle other than the engine, emission control system, or fuel system, shall be performed only as a result of part failure, vehicle system malfunction, or with the advance approval of the Administrator.

(e) Maintenance on emission data vehicles and engines. (1) Adjustment of engine idle speed on emission data vehicles may be performed once before the low-mileage/low-hour emission test point. Any other engine, emission control system, or fuel system adjustment, repair, removal, disassembly, cleaning, or replacement on emission data vehicles shall be performed only with the advance approval of the Administrator.

(2)-(3) **[Reserved]**

~~Maintenance on light-duty truck emission-data vehicles selected under 86.090-24(b)(1)(v) or (vii), and permitted to be tested for purposes of 86.090-23(c)(1)(ii) under the provisions of 86.090-24(b)(2), may be performed in conjunction with emission control system modifications at the low-mileage test point, and shall be performed in accordance with the maintenance instructions to be provided to the ultimate purchaser required under 86.087-38.~~

~~(3) Maintenance on those light-duty truck emission-data vehicles selected under 86.090-24(b)(1)(v) which are not capable of being modified in the field for the purpose of complying with emissions standards at an altitude other than that intended by the original design, may be performed in conjunction with the emission control system modifications at the low-mileage test point, and shall be approved in advance by the Administrator.~~

(4) Repairs to vehicle components of an emission data vehicle other than the engine, emission control system, or fuel system, shall be performed only as a result of part failure, vehicle system malfunction, or with the advance approval of the Administrator.

(f) Equipment, instruments, or tools may not be used to identify malfunctioning, maladjusted, or defective engine components unless the same or equivalent equipment, instruments, or tools will be available to dealerships and other service outlets and:

(1) Are used in conjunction with scheduled maintenance on such components, or

(2) Are used subsequent to the identification of a vehicle or engine malfunction, as provided in paragraph (d)(2) of this section for durability data vehicles or in

paragraph (e)(1) of this section for emission-data vehicles, or

(3) Unless specifically authorized by the Administrator.

(g)(1) Paragraph (g) of this section applies to light-duty vehicles.

(2) Complete emission tests (see §§86.106 through 86.145) are required, unless waived by the Administrator, before and after scheduled maintenance approved for durability data vehicles. The manufacturer may perform emission tests before unscheduled maintenance. Complete emission tests are required after unscheduled maintenance which may reasonably be expected to affect emissions. The Administrator may waive the requirement to test after unscheduled maintenance. These test data may be submitted weekly to the Administrator, but shall be air posted or delivered within 7 days after completion of the tests, along with a complete record of all pertinent maintenance, including a preliminary engineering report of any malfunction diagnosis and the corrective action taken. A complete engineering report shall be delivered to the Administrator concurrently with the manufacturer's application for certification.

(h) All test data, maintenance reports, and required engineering reports shall be compiled and provided to the Administrator in accordance with §86.090 - 23.

§86.09294 - 26 Mileage and service accumulation; emission requirements.

Section 86.094-26 includes text that specifies requirements that differ from §86.092-26. Where a paragraph in §86.092-26 is identical and applicable to §86.094-26, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.092-26." Where a corresponding paragraph of §86.092-26 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1) Paragraph (a) of this section applies to light-duty vehicles. **It prescribes mileage and service accumulation requirements for durability data vehicles run under either the Standard AMA Durability Program of §86.094-13(c) or the Production AMA Durability Program of §86.094-13(d), and for emission data vehicles regardless of the durability program employed. Service accumulation requirements for durability data vehicles run under the Alternative Service Accumulation Program may be found in §86.094-13(e).**

(2)(i) ~~The procedure for mileage accumulation will be~~ **The standard method of whole-vehicle service accumulation for durability vehicles and for emission data vehicles in models ye[illegible] 1994 and 1995 shall be mil[illegible]ge accumulation using** the Durability Driving Schedule as specified in Appendix IV to this part. ~~A modified procedure may also be used if approved in advance by the Administrator.~~ Except with the advance approval of the Administrator, all vehicles will accumulate mileage at a measured curb weight which is within 100 pounds of the estimated curb weight. If the loaded vehicle weight is within 100 pounds of being included in the next higher inertia weight class as specified in §86.129, the manufacturer may elect to conduct the respective emission tests at higher loaded vehicle weight.

(ii) If approved in advance by the Administrator, a substitute whole-vehicle mileage accumulation schedule to that specified in §86.094-26(a)(2)(i) may also be used. The Administrator may approve

such a procedure if it is substantially similar to the procedure specified in §86.094-26(a)(2)(i) in its average speed, distribution of speeds, number of stops per mile, number of accelerations to the various speeds per mile. The Administrator may adopt additional or alternative criteria for evaluating substantially similar mileage schedules, consistent with good engineering practice. The Administrator may also approve a substitute schedule that is not substantially similar to the procedure specified in §86.094-26(a)(2)(i), based on a demonstration by the manufacturer that the schedule will be substantially more effective in predicting in-use emission deterioration than the AMA.

(3) Emission-data vehicles. Unless otherwise provided for in §86.091 - 23(a), emission-data vehicles shall be operated and tested as follows:

(i) Otto-cycle. (A) The manufacturer shall determine, for each engine family, the mileage at which the engine-system combination is stabilized for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested, a record of the rationale used in making this determination. The manufacturer may elect to accumulate 4,000 miles on each test vehicle within an engine family without making a determination. The manufacturer must accumulate a minimum of 2,000 miles (3,219 kilometers) on each test vehicle within an engine family. All test vehicle mileage must be accurately determined, recorded, and reported to the Administrator. Any vehicle used to represent emission-data vehicle selections under §86.0~~93~~94 - 24(b)(1) shall be equipped with an engine and emission control system that has accumulated the mileage the manufacturer chose to accumulate on the test vehicle. Fuel economy data generated from certification vehicles selected in accordance with §86.0~~93~~94 - 24(b)(1) with engine-system combinations that have accumulated more than 10,000 kilometers (6,200 miles) shall be factored in accordance with §600.006 ~~-87(e)~~. Complete exhaust and evaporative (if required) emission tests shall be conducted for each emission-data vehicle selection under §86.0~~93~~94 - 24(b)(1). The Administrator may determine under §86.0~~93~~94 - 24(f) that no testing is required.

(B) Emission tests for emission-data vehicle(s) selected for testing under §86.0~~93~~94 - 24(b)(1)(v) or (viii) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing under high-altitude conditions.

(C) Exhaust and evaporative emissions tests for emission-data vehicle(s) selected for testing under §86.0~~93~~94 - 24(b)(1) (i), (ii), (iii), (iv), or (vii)(B) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing under low-altitude conditions.

(D) For each engine family, the manufacturer will either select one vehicle previously selected under §86.0~~93~~94 - 24(b)(1) (i) through (iv) to be tested under high-altitude conditions or provide a statement in accordance with §86.0~~93~~94 - 24(b)(1)(v). Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. In addition, any emission control device used to conform with the emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4,000 feet above sea level.

(ii) Diesel. (A) The manufacturer shall determine, for each engine

family, the mileage at which the engine-system combination is stabilized for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested, a record of the rationale used in making this determination. The manufacturer may elect to accumulate 4,000 miles on each test vehicle within an engine family without making a determination. The manufacturer must accumulate a minimum of 2,000 miles (3,219 kilometers) on each test vehicle within an engine family. All test vehicle mileage must be accurately determined, recorded, and reported to the Administrator. Any vehicle used to represent emission-data vehicle selections under §86.0~~92~~94 - 24(b)(1) shall be equipped with an engine and emission control system that has accumulated the mileage the manufacturer chose to accumulate on the test vehicle. Fuel economy data generated from certification vehicles selected in accordance with §86.0~~92~~94 - 24(b)(1) with engine-system combinations that have accumulated more than 10,000 kilometers (6,200 miles) shall be factored in accordance with §600.006 ~~-87(c)~~. Complete exhaust emission tests shall be conducted for each emission-data vehicle selection under §86.0~~92~~94 - 24(b)(1). The Administrator may determine under §86.0~~92~~94 - 24(f) that no testing is required.

(B) Emission tests for emission-data vehicle(s) selected for testing under §86.0~~92~~94 - 24(b)(1)(v) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing under high-altitude conditions.

(C) Exhaust and evaporative emissions tests for emission-data vehicle(s) selected for testing under §86.0~~92~~94 - 24(b)(1) (i), (ii), (iii), (iv), or (vii)(B) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing under low-altitude conditions.

(D) For each engine family, the manufacturer will either select one vehicle previously selected under §86.0~~92~~94 - 24(b)(1) (i) through (iv) to be tested under high-altitude conditions or provide a statement in accordance with §86.0~~92~~94 - 24(b)(1)(v). Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. In addition, any emission control device used to conform with the emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4,000 feet above sea level.

(4)(i) Durability data vehicles. (A) Unless otherwise provided for in §86.094 - 23(a) **or in paragraph (a)(4)(i)(B) of this section,** each durability-data vehicle shall be driven **on the whole-vehicle mileage accumulation cycle specified in paragaph (a)(2) of this section,** with all emission control systems installed and operating, ~~for 50,000 miles~~ up to a **mileage endpoint corresponding to the vehicle's durability useful life as defined in §86.094-2** o~~r such lesser distance as the Administrator may agree to as meeting the objective of this procedure~~.

(B) **Extrapolation of durability data and changes to the mileage accumulation cycle.**

(1) Once a durability vehicle has reached the greater of 75,000 miles or three-quarters of the applicable durability useful life, the manufacturer may petition the Administrator to extrapolate the durability data obtained up to that point out to the **durability useful life or to replace the mileage accumulation cycle with an alternative that meets the**

criteria of §86.094-26(a)(2)(ii). In the petition, the manufacturer shall supplement the durability vehicle data with other information demonstrating the durability of the vehicle's emission control components and systems at or beyond the durability useful life.

(2) Factors the Administrator will consider in evaluating petitions for extrapolation of durability data or for changes to the mileage accumulation cycle include, but are not limited to, any unusual scheduled maintenance, unscheduled maintenance, the general linearity and scatter of the actual data, reasonable explanations for all outlier data, the technical validity of any substitute mileage accumulation cycle, and evidence supplied by the vehicle manufacturer of component and system durability.

(3) If a petition for extrapolation of durability data is approved, the endpoint for whole-vehicle mileage accumulation of the durability data vehicle shall be the mileage attained by the vehicle as reflected in the petition.

(4) Discontinuation of a durability-data vehicle shall be allowed only with the consent of the Administrator.

(C) Complete exhaust emission tests shall be made at test point mileage intervals that the manufacturer determines.

~~(C)~~ At a minimum, two complete exhaust emission tests shall be made. The first test shall be made at a distance not greater than 6,250 miles. The last shall be made at ~~50,000 miles~~ the mileage accumulation endpoint determined in paragraph (a)(4)(A) or (a)(4)(B), whichever is applicable.

(D) Except with advance approval of the Administrator, the mileage interval between test points must be of equal length except for the interval between zero miles and the first test, and any interval before or after testing conducted in conjunction with vehicle maintenance as specified in §86.0~~9~~094 - 25(g)(2).

(ii) The manufacturer may, at its option, alter the durability-data vehicle at the selected test point to represent emission-data vehicle(s) within the same engine-system combination and perform emission tests on the altered vehicle. Upon completion of emission testing, the manufacturer may return the test vehicle to the durability-data vehicle configuration and continue mileage accumulation.

(5)(i) All tests required by this subpart on emission-data vehicles shall be conducted at a mileage equal to or greater than the mileage the manufacturer determines under paragraph (a)(3) of this section.

(ii) All tests required by this subpart on durability-data vehicles shall be conducted within 250 miles of each of the test points.

(6)(i)(A) The manufacturer may conduct multiple tests at any test point at which the data are intended to be used in the deterioration factor. At each test point where multiple tests are conducted, the test results from all valid tests shall be averaged to determine the data point to be used in the deterioration factor calculation, except under paragraph (a)(6)(i)(B) of this section. The test results from emission tests performed before maintenance affecting emissions shall not be averaged with test results after the maintenance.

(B) The manufacturer is not required to average multiple tests if the manufacturer conducts no more than three tests at each test point and if the number of tests at each test point is equal. All test points must be treated the same for all exhaust pollutants.

(ii) The results of all emission testing shall be supplied to the Administrator. The manufacturer shall furnish to the Administrator explanation for voiding any test. The Administrator will determine if voiding the test was appropriate based upon the explanation given by the manufacturer for the voided test. Tests between test points may be conducted as required by the Administrator. Data from all tests (including voided tests) may be submitted weekly to the Administrator, but shall be air posted or delivered to the Administrator within 7 days after completion of the test. In addition, all test data shall be compiled and provided to the Administrator in accordance with §86.091 - 23. Where the Administrator conducts a test on a durability-data vehicle at a prescribed test point, the results of that test will be used in the calculation of the deterioration factor.

(iii) The results of all emission tests shall be rounded, using the "Rounding Off Method" specified in ASTM E 29 - 67, to the number of places to the right of the decimal point indicated by expressing the applicable emission standard of this subpart to one additional significant figure.

(7) Whenever a manufacturer intends to operate and test a vehicle which may be used for emission or durability data, the manufacturer shall retain in its records all information concerning all emissions tests and maintenance, including vehicle alterations to represent other vehicle selections. For emission-data vehicles, this information shall be submitted, including the vehicle description and specification information required by the Administrator, to the Administrator following the emission-data test. For durability-data vehicles, this information shall be submitted following the 5,000-mile test.

(8) ~~Once a manufacturer submits the information required in paragraphs (a)(7) of this section for a durability-data vehicle, the manufacturer shall continue to run the vehicle to 50,000 miles. and~~ The data from **emissions data vehicles and durability data vehicles obtained pursuant to the provisions of this section** ~~the vehicle~~ will be used in the calculations under §86.0994 - 28. ~~Discontinuation of a durability-data vehicle shall be allowed only with the consent of the Administrator.~~

(9)(i) The Administrator may elect to operate and test any test vehicle during all or any part of the mileage accumulation and testing procedure. In such cases, the manufacturer shall provide the vehicle(s) to the Administrator with all information necessary to conduct this testing.

(ii) The test procedures in §§86.106 through 86.145 will be followed by the Administrator. The Administrator will test the vehicles at each test point. Maintenance may be performed by the manufacturer under such conditions as the Administrator may prescribe.

(iii) The data developed by the Administrator for the engine-system combination shall be combined with any applicable data supplied by the manufacturer on other vehicles of that combination to determine the applicable deterioration factors for the combination. In the case of a significant discrepancy between data developed by the Administrator and that submitted by the manufacturer, the Administrator's data shall be used in the determination of deterioration factors.

(10) Emission testing of any type with respect to any certification vehicle other than that specified in this part is not allowed except as such testing may be specifically authorized by the Administrator.

(11) This section does not apply to testing conducted to meet the requirements of §86.091 - 23(b)(2).

(b)(1) Paragraph (b) of this section applies to light-duty trucks.

(2) There are ~~three~~ **four** types of mileage or service accumulation applicable to light-duty trucks:

(i) ~~Mileage or s~~Service accumulation **conducted under the Standard Self-Approval Durability Program of §86.094-13(f). This type of service accumulation is applicable for model years 1994 and 1995 only.** ~~on vehicles, engines, subsystems, or components selected by the manufacturer under §86.092 - 24(e)(2)(i).~~ The manufacturer determines the form and extent of this ~~mileage or~~ service accumulation, consistent with good engineering practice, and describes it in the application for certification. **Service accumulation under the Standard Self-Approval Durability Program is conducted** on vehicles, engines, subsystems, or components selected by the manufacturer under §86.0~~92~~94 - 24(c)(2)(i).

(ii) Service accumulation conducted under the Alternative Service Accumulation Durability Program of §86.094-13(e). This type of service accumulation is applicable for model years 1994 and 1995 only. The service accumulation method is developed by the manufacturer to be consistent with good engineering practice and to accurately predict the deterioration of the vehicle's emissions in actual use over its full useful life. The method is subject to advance approval by the Administrator and to verification by an in-use verification program conducted by the manufacturer under §86.094-13(e)(5).

(iii) Mileage accumulation of the duration selected by the manufacturer on emission-data vehicles selected under §86.0~~92~~94 - 24(b)(1). The procedure for mileage accumulation will be the Durability Driving Schedule as specified in Appendix IV to this part. A modified procedure may also be used if approved in advance by the Administrator. Except with the advance approval of the Administrator, all vehicles will accumulate mileage at a measured curb weight which is within 100 pounds of the estimated curb weight. If the loaded vehicle weight is within 100 pounds of being included in the next higher inertia weight class as specified in §86.129, the manufacturer may elect to conduct the respective emission tests at higher loaded vehicle weight.

(~~ii~~iv) Service or mileage accumulation which may be part of the test procedures used by the manufacturer to establish evaporative emission deterioration factors.

(3) Exhaust emission deterioration factors will be determined on the basis of the mileage or service accumulation described in paragraph (b)(2)(i) or **(ii)** of this section and related testing, according to the manufacturer's procedures.

(4) Each emission-data vehicle shall be operated and tested as follows:

(i) Otto-cycle. (A) The manufacturer shall determine, for each engine family, the mileage at which the engine-system combination is stabilized for emission-data testing. The manufacturer shall

maintain, and provide to the Administrator if requested, a record of the rationale used in making this determination. The manufacturer may elect to accumulate 4,000 miles on each test vehicle within an engine family without making a determination. The manufacturer must accumulate a minimum of 2,000 miles (3,219 kilometers) on each test vehicle within an engine family. All test vehicle mileage must be accurately determined, recorded, and reported to the Administrator. Any vehicle used to represent emission-data vehicle selections under §86.0~~93~~94 - 24(b)(1) shall be equipped with an engine and emission control system that has accumulated the mileage the manufacturer chose to accumulate on the test vehicle. Fuel economy data generated from certification vehicles selected in accordance with §86.0~~93~~94 - 24(b)(1) with engine-system combinations that have accumulated more than 10,000 kilometers (6,200 miles) shall be factored in accordance with §600.006 ~~-87(c)~~. Complete exhaust emission tests shall be conducted for each emission-data vehicle selection under §86.0~~93~~94 - 24(b)(1). The Administrator may determine under §86.0~~93~~94 - 24(f) that no testing is required.

(B) Emission tests for emission-data vehicle(s) selected for testing under §86.0~~93~~94 - 24 (b)(1)(v) or (b)(1)(viii) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing or at 6,436 kilometers (4,000 miles) under high-altitude conditions.

(C) Exhaust and evaporative emission tests for emission-data vehicle(s) selected for testing under §86.0~~93~~94 - 24(b)(1) (ii), (iii), (iv)(A), or (vii)(B) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing or at 6,436 kilometer (4,000 mile) test point under low-altitude conditions.

(D) If the manufacturer recommends adjustments or modifications in order to conform to emission standards at high altitude, such adjustments or modifications shall be made to the test vehicle selected under §86.0~~93~~94 - 24(b)(1)(v) and (viii) (in accordance with the instructions to be provided to the ultimate purchaser) before being tested under high-altitude conditions.

(ii) Diesel. (A) The manufacturer shall determine, for each engine family, the mileage at which the engine-system combination is stabilized for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested, a record of the rationale used in making this determination. The manufacturer may elect to accumulate 4,000 miles on each test vehicle within an engine family without making a determination. The manufacturer must accumulate a minimum of 2,000 miles (3,219 kilometers) on each test vehicle within an engine family. All test vehicle mileage must be accurately determined, recorded, and reported to the Administrator. Any vehicle used to represent emission-data vehicle selections under §86.0~~93~~94 - 24(b)(1) shall be equipped with an engine and emission control system that has accumulated the mileage the manufacturer chose to accumulate on the test vehicle. Fuel economy data generated from certification vehicles selected in accordance with §86.0~~93~~94 - 24(b)(1) with engine-system combinations that have accumulated more than 10,000 kilometers (6,200 miles) shall be factored in accordance with §600.006 ~~-87(c)~~. Complete exhaust emission tests shall be conducted for each emission-data vehicle selection under §86.0~~93~~94 - 24(b)(1). The administrator may determine under §86.0~~93~~94 - 24(f) that no testing is required.

(B) Emission tests for emission-data vehicle(s) selected for testing under §86.0~~93~~94 - 24 (b)(1)(v) shall

be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing or at the 6,436 kilometer (4,000 mile) test point under high-altitude conditions.

(C) Exhaust and evaporative emission tests for emission-data vehicle(s) selected for testing under §86.0~~93~~94 - 24 (b)(1) (ii), (iii), and (iv) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing or at the 6,436 kilometer (4,000 mile) test point under low-altitude conditions.

(D) If the manufacturer recommends adjustments or modifications in order to conform to emission standards at high-altitude, such adjustments or modifications shall be made to the test vehicle selected under §86.0~~93~~94 - 24(b)(1) (v) and (viii) (in accordance with the instructions to be provided to the ultimate purchaser) before being tested under high-altitude conditions.

(iii) [Reserved]

(iv) All tests required by this subpart on emission-data vehicles shall be conducted at a mileage equal to or greater than the mileage the manufacturer determines under paragraph (b)(4) of this section.

(c)(1) Paragraph (c) of this section applies to heavy-duty engines.

(2) There are two types of service accumulation applicable to heavy-duty engines:

(i) Service accumulation on engines, subsystems, or components selected by the manufacturer under §86.0~~93~~94 - 24(c)(3)(i). The manufacturer determines the form and extent of this service accumulation, consistent with good engineering practice, and describes it in the application for certification.

(ii) Dynamometer service accumulation on emission-data engines selected under §86.0~~93~~94 - 24 (b)(2) or (b)(3). The manufacturer determines the engine operating schedule to be used for dynamometer service accumulation, consistent with good engineering practice. A single engine operating schedule shall be used for all engines in an engine family-control system combination. Operating schedules may be different for different combinations.

(3) Exhaust emission deterioration factors will be determined on the basis of the service accumulation described in paragraph (b)(2)(i) of this section and related testing, according to the manufacturer's procedures.

(4) The manufacturer shall determine, for each engine family, the number of hours at which the engine system combination is stabilized (no less than 62 hours for catalyst equipped) for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested a record of the rationale used in making this determination. The manufacturer may elect to accumulate ≥125 hours on each test engine within an engine family without making a determination. Any engine used to represent emission-data engine selections under §86.0~~93~~94 - 24(b)(2) shall be equipped with an engine system combination that has accumulated at least the number of hours determined under this paragraph. Complete exhaust emission tests shall be conducted for each emission-data engine selection under §86.0~~93~~94 - 24(b)(2). Evaporative emission controls need not be connected provided normal operating conditions are maintained in the engine induction system. The Administrator may determine under §86.0~~93~~94 - 24(f) that no testing is required.

(d)(1) Paragraph (d) of this section applies to both light-duty trucks and heavy-duty engines.

(2)(i) The results of all emission testing shall be supplied to the Administrator. The manufacturer shall furnish to the Administrator explanation for voiding any test. The Administrator will determine if voiding the test was appropriate based upon the explanation given by the manufacturer for the voided test. Tests between test points may be conducted as required by the Administrator. Data from all tests (including voided tests) may be submitted weekly to the Administrator, but shall be air posted or delivered to the Administrator within 7 days after completion of the test. In addition, all test data shall be compiled and provided to the Administrator in accordance with §86.0~~92~~94 - 23. Where the Administrator conducts a test on a durability-data vehicle at a prescribed test point, the results of that test will be used in the calculation of the deterioration factor.

(ii) The results of all emission tests shall be recorded and reported to the Administrator. These test results shall be rounded, in accordance with ASTM E 29 - 67, to the number of decimal places contained in the applicable emission standard expressed to one additional significant figure.

(3) Whenever a manufacturer intends to operate and test a vehicle (or engine) which may be used for emission data, the manufacturer shall retain in its records all information concerning all emissions tests and maintenance, including vehicle (or engine) alterations to represent other vehicle (or engine) selections. This information shall be submitted, including the vehicle (or engine) description and specification information required by the Administrator, to the Administrator following the emission-data test.

(4) - (5) [Reserved]

(6) Emission testing of any type with respect to any certification vehicle or engine other than that specified in this subpart is not allowed except as such testing may be specifically authorized by the Administrator.

§86.0~~92~~94 - 28 Compliance with emission standards.

Section 86.094-28 includes text that specifies requirements that differ from §86.091-28. Where a paragraph in §86.091-28 is identical and applicable to §86.094-28, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.091-28." Where a corresponding paragraph of §86.091-28 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1) Paragraph (a) of this section applies to light-duty vehicles.

(2) ~~The applicable~~**Each** exhaust and ~~fuel~~ evaporative emissions standards (and family particulate emission limits, as appropriate) of ~~this subpart~~ §86.094-8 ~~apply~~ **applies** to the emissions of vehicles for ~~their~~ **the** useful life **defined for that standard in §86.094-2 and §86.094-8.**

(3) Since it is expected that emission control efficiency will change with mileage accumulation on the vehicle, the emission level of a vehicle which has accumulated ~~50,000 miles~~ **mileage equal to the specified useful life** will be used as the basis for determining compliance with the standards (or family particulate emission limit, as appropriate).

(4) The procedure for determining compliance of a new motor vehicle with exhaust **and evaporative** emission standards (or family particulate emission limit, as appropriate) is as follows, except where specified by paragraph (a)(7) of this section for the ~~Alternative Durability Program~~ **Production AMA Durability Program**:

(i) 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, exhaust OMHCE (methanol-fueled vehicles), exhaust CO, exhaust NOx, and exhaust particulate (diesel vehicles) 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 conducted by the manufacturer (gasoline-fueled and methanol-fueled vehicles only).

(A) The applicable results to be used unless excluded by paragraph (a)(4)(i)(A) *(4)* of this section in determining the exhaust emission deterioration factors for each engine-system combination shall be:

(1) All valid exhaust emission data from the tests required under §86.0~~84~~94 - 26(a)(4) except the zero-mile tests. This shall include the official test results, as determined in §86.091 - 29 for all tests conducted on all durability-data vehicles of the combination selected under §86.0~~85~~94 - 24(c) (including all vehicles elected to be operated by the manufacturer under §86.0~~85~~94 - 24(c)(1)(ii)).

(2) All exhaust emission data from the tests conducted before and after the scheduled maintenance provided in §86.0~~84~~94 - 25.

(3) All exhaust emission data from tests required by maintenance approved under §86.0~~84~~94 - 25, in those cases where the Administrator conditioned his approval for the performance of such maintenance on the inclusion of such data in the deterioration factor calculation.

(4) The manufacturer has the option of applying an outlier test point procedure to completed durability data within its certification testing program for a given model year. The outlier procedure will be specified by the Administrator. For any pollutant, durability-data test points that are identified as outliers shall not be included in the determination of deterioration factors if the manufacturer has elected this option. The manufacturer shall specify to the Administrator before the certification of the first engine family for that model year, if it intends to use the outlier procedure. The manufacturer may not change procedures after the first engine family of the model year is certified. Where the manufacturer chooses to apply both the outlier procedure and averaging (as allowed under §86.0~~84~~94 - 26(a)(6)(i)) to the same data set, the outlier procedure shall be completed prior to applying the averaging procedure.

(B) *(1)* **Line crossing**. **For each exhaust constituent to which a standard of §86.094-8 applies,** Aall applicable exhaust emission results shall be ~~plotted as a function of the mileage on the system,~~ rounded to the nearest mile **and plotted as a function of the mileage on the system.** ~~and t~~**T**he best fit straight lines, fitted by the method of least squares, shall be drawn through all these data points. The data for a **given exhaust constituent** will be acceptable for use in the calculation of ~~the~~ deterioration factors only if **the first official test point as determined in §86.094-26(a)(4)(i)(C),** the interpolated ~~4,000-mile and 50,000-~~ **intermediate useful life mile**

point, and the interpolated full useful life mile points on this line, as applicable, are ~~within~~ each less than or equal to the respective low-altitude standards provided in §86.0~~8~~794 - 8. An exceptione to this where data are still acceptable ~~are~~ is when a best fit straight line crosses an applicable standard but no data points exceeded the standard. This exception shall not apply when mileage accumulation has been curtailed before the durability useful life has been reached, under the provisions of §86.094-26(a)(4)(i)(B). ~~or the best fit straight line crosses an applicable standard with a negative slope (the 4,000-mile interpolated point is higher than the 50,000-mile interpolated point) but the 5,000-mile actual data point is below the standard.~~

(2) **Exhaust DF determination**. ~~An~~ mMultiplicative exhaust emission deterioration factors shall be calculated for each standard and for each engine-system combination from points on the regression line derived in paragraph (a)(4)(i)(B)(1) of this section, as follows:

(i) Factor=Exhaust emissions ~~interpolated to 50,000~~ at the useful life mileage for that standard divided by exhaust emissions ~~interpolated to~~ at 4,000 miles.

(ii) These interpolated values 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 deterioration factor. The results shall be rounded to three places to the right of the decimal point in accordance with ASTM E 29 - 67.

(iii) The calculation specified in paragraphs (a)(4)(i)(B)(2) through (2)(ii) of this section may be modified with advance approval of the Administrator for engine-system combinations which are certified under the Alternative Service Accumulation Durability Program specified in §86.094-13(e) of this subpart.

(C) **Evaporative DF determination**. An evaporative emissions deterioration factor (gasoline-fueled and methanol-fueled vehicles only) shall be determined from the testing conducted as described in §86.0~~9~~094 - 21(b)(4)(i), for each evaporative emission family-evaporative emission control system combination to indicate the evaporative emission level at the applicable useful life ~~50,000 miles~~ relative to the evaporative emission level at 4,000 miles as follows:

(1) Factor=Evaporative emission level at ~~50,000 miles~~ the useful life mileage for that standard minus the evaporative emission level at 4,000 miles.

(2) The factor shall be established to a minimum of two places to the right of the decimal.

(ii)(A)(1) The official exhaust emission test results for each applicable exhaust emission standard for each emission-data vehicle at the selected test point shall be multiplied by the appropriate deterioration factor: Provided, that if a deterioration factor as computed in paragraph(a)(4)(i)(B) of this section is less than one, that deterioration factor shall be one for the purposes of this paragraph.

(2) The calculation specified in paragraph (a)(4)(ii)(A)(1) of this section may be modified with advance approval of the Administrator for engine-system combinations which are certified under the Alternative Service Accumulation Durability Program specified in §86.094-13(e) of this subpart.

(B) The official evaporative emission test results (gasoline-fueled and methanol-fueled vehicles only) for each evaporative emission-data vehicle at the selected test point shall be adjusted by addition of the appropriate deterioration factor: Provided, that if a deterioration factor as computed in paragraph (a)(4)(i)(C) of this section is less than zero, that deterioration factor shall be zero for the purposes of this paragraph.

(iii) The emissions to compare with the standard (or the family particulate emission limit, as appropriate) shall be the adjusted emissions of paragraphs (a)(4)(ii)(A) and (B) of this section for each emission-data vehicle. Before any emission value is compared with the standard (or the family particulate emission limit, as appropriate), it shall be rounded, in accordance with ASTM E 29 - 67, to two significant figures. The rounded emission values may not exceed the standard (or the family particulate emission limit, as appropriate).

(iv) Every test vehicle of an engine family must comply with the exhaust emission standards (or the family particulate emission limit, as appropriate), as determined in paragraph (a)(4)(iii) of this section, before any vehicle in that family may be certified.

(v) Every test vehicle of an evaporative emission family must comply with the evaporative emission standard, as determined in paragraph (a)(4)(iii) of this section, before any vehicle in that family may be certified.

(5) If a manufacturer chooses to change the level of any family particulate emission limit(s) in the particulate averaging program, compliance with the new limit(s) must be based upon existing certification data.

(6) If a manufacturer chooses to participate in the diesel particulate averaging program, the production-weighted average of the family particulate emission limits of all affected engine families must comply with the particulate standards in §86.0~~85~~94 - 8(a)(1)(iv), or the composite particulate standard defined in §86.0~~85~~94 - 2, as appropriate, at the end of the production year.

(7) The procedure to determine the compliance of new motor vehicles in the ~~Alternative Durability Program~~ **Production AMA Durability Program** (described in §86.0~~85~~94 - 13) is the same as described in paragraphs (a)(4)(iii) through (a)(4)(v) of this section. For the engine families that are included in the ~~Alternative Durability Program~~ **Production AMA Durability Program**, the exhaust emission deterioration factors used to determine compliance shall be those that the Administrator has approved under §86.0~~85~~94 - 13~~(c)~~. The evaporative emission deterioration factor for each evaporative emission family shall be determined and applied according to paragraph (a)(4) of this section. The procedures to determine the minimum exhaust emissions deterioration factors required under §86.0~~85~~94 - 13(d) are as follows:

(i) Separate deterioration factors shall be determined from the exhaust emission results of the durability-data vehicles for each emission standard applicable under §86.094-8, for each engine family group. ~~A separate factor shall be established for exhaust HC, exhaust CO, and exhaust NOx, for each engine family group.~~ The evaporative emission deterioration factor for each evaporative family will be determined and applied in accordance with paragraph (a)(4) of this section.

(ii) The deterioration factors for each engine family group shall be determined by the Administrator

using historical durability data from as many as three previous model years. These data will consist of deterioration factors generated by durability-data vehicles representing certified engine families and of deterioration factors from vehicles selected under §86.0~~8~~594 - 24(h). The Administrator shall determine how these data will be combined for each engine family group.

(A) The test result to be used in the calculation of each deterioration factor to be combined for each engine family group shall be those test results specified in paragraph (a)(4)(i)(A) of this section.

(B) For each durability-data vehicles selected under §86.0~~8~~594 - 24(h), all applicable exhaust emissions 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 method of least squares, shall be drawn through all these data points. The exhaust deterioration factor for each durability-data vehicles shall be calculated as specified in paragraph (a)(4)(i)(B) of this section.

(C) Line-crossing. ~~For the purposes of paragraph (a)(5) of this section, line crossing occurs when either of the interpolated 4,000- and 50,000-mile mile point, mile interpolated point of the best fit straight line exceeds the applicable emission standard, and at least one applicable data point exceeds the standard.~~ **The linecrossing criteria of §86.094-28(a)(4)(i)(B) apply.**

(1) The Administrator will not accept for certification line-crossing data from preproduction durability-data vehicles selected under §86.0~~8~~594 - 24(c), §86.0~~8~~594 - 24(h)(2), or (h)(3).

(2) The Administrator will not accept for certification line-crossing data from production durability-data vehicles selected under §86.0~~8~~594 - 24(h)(1) unless the 4,000-mile test result multiplied by the engine family group deterioration factor does not exceed the applicable emission standards. The deterioration factors used for this purpose shall be those that were used in the certification of the production vehicle. Manufacturers may calculate this product immediately after the 4,000-mile test of the vehicle. If the product exceeds the applicable standards, the manufacturer may, with the approval of the Administrator, discontinue the vehicle and substitute a new vehicle. The manufacturer may continue the original vehicle, but the data will not be acceptable if line crossing occurs.

(b)(1) Paragraph (b) of this section applies to light-duty trucks.

(2) ~~The applicable~~**Each** exhaust and ~~fuel~~ evaporative emissions standards (and family particulate emission limits, as appropriate) of ~~this subpart~~ §86.094-9 ~~apply~~ **applies** to the emissions of vehicles for ~~their~~ **the** useful life **defined for that standard in §86.094-2 and §86.094-9.**

(3) Since emission control efficiency generally decreases with the accumulation of mileage on the vehicle, deterioration factors will be used in combination with emission-data vehicle test results as the basis for determining compliance with the standards (or family emission limits, as appropriate).

(4)(i) Paragraph (b)(4) of this section describes the procedure for determining compliance of a new vehicle with exhaust emission standards (or family emission limits, as appropriate), based on deterioration factors supplied by

the manufacturers~~, except where specified by paragraph (b)(6) of this section for the Alternative Durability Program~~.

(ii) Separate exhaust emission deterioration factors, determined from tests of vehicles, engines, subsystems, or components conducted by the manufacturer, shall be supplied for each **standard and for each** engine-system combination. ~~Separate factors shall be established for transient HC (CMHCE for methanol-fuel), CO, and NOx, idle CO (vehicles equipped with Otto-cycle or methanol-fueled diesel engines only), and exhaust particulate (diesel vehicles only).~~

(iii) ~~For transient HC (CMHCE for methanol-fuel), CO, and NOx, idle CO (vehicles equipped with Otto-cycle or methanol-fueled diesel engines only), and exhaust particulate (diesel vehicles only),~~ T~~t~~he official exhaust emission results for each **applicable exhaust emission standard for each** emission-data vehicle at the selected test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(iv) The emission values to compare with the standards (or family emission limits, as appropriate) shall be the adjusted emission values of paragraph (b)(4)(iii) of this section rounded to two significant figures in accordance with ASTM E 29 - 67 for each emission-data engine.

(5)(i) Paragraph (b)(5)(i) of this section applies only to manufacturers electing to participate in the particulate averaging program.

(A) If a manufacturer chooses to change the level of any family particulate emission limit(s), compliance with the new limit(s) must be based upon existing certification data.

(B) The production-weighted average of the family particulate emission limits of all applicable engine families, rounded to two significant figures in accordance with ASTM E 29 - 67, must comply with the particulate standards in §86.0~~88~~**94** - 9 (a)(1)(iv) or (d)(1)(iv), or the composite particulate standard as defined in §86.0~~85~~**94** - 2, as appropriate, at the end of the product year.

(ii) Paragraph (b)(5)(ii) of this section applies only to manufacturers electing to participate in the NOx averaging program.

(A) If a manufacturer chooses to change the level of any family NOx emission limit(s), compliance with the new limit(s) must be based upon existing certification data.

(B) The production-weighted average of the family NOx emission limits of all applicable engine families, rounded to two significant figures in accordance with ASTM E 29 - 67, must comply with the NOx emission standards of §86.0~~88~~**94** - 9(a)(1)(iii) (A) or (B), or of §86.0~~88~~**94** - 9(d)(1)(iii) (A) or (B), or the composite NOx standard as defined in §86.0~~88~~**94** - 2, at the end of the product year.

(6) **[Reserved]**. ~~The procedure to determine the compliance of new motor vehicles in the Alternative Durability Program (described in §86.085 - 13) is the same as described in paragraph (b)(4)(iv), (b)(7)(iv) and (b)(8) of this section. For the engine families that are included in the Alternative Durability Program the exhaust emission deterioration factors used to determine compliance shall be those that the Administrator has approved under §86.085 - 13(c). The evaporative emission deterioration factor for each evaporative emission family shall be determined and~~

~~applied according to paragraph (b)(7) of this section. The procedures to determine the minimum exhaust emissions deterioration factors required under §86.085 - 13(d) are as follows:~~

~~(i) Separate deterioration factors shall be determined from the exhaust emission results of the durability-data vehicles for each engine family group. A separate factor shall be established for exhaust HC, exhaust CO, and exhaust NOx, for each engine family group. The evaporative emission deterioration factor for each evaporative family will be determined and applied in accordance with paragraph (b)(6) of this section.~~

~~(ii) The deterioration factors for each engine family group shall be determined by the Administrator using historical durability data from as many as three previous model years. These data will consist of deterioration factors generated by durability-data vehicles representing certified engine families and of deterioration factors from vehicles selected under §86.085 - 24(h). The Administrator shall determine how these data will be combined for each engine family group.~~

~~(A) The test results to be used in the calculations of each deterioration factor to be combined for each engine family group shall be those test results specified in paragraph (a)(4)(i)(A) of this section.~~

~~(B) For each durability-data vehicle selected under §86.085 - 24(h), 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 exhaust deterioration factor for each durability-data vehicle shall be calculated as specified in paragraph (a)(4)(i)(B) of this section.~~

~~(C) Line crossing. For the purposes of paragraph (b)(5) of this section, line crossing occurs when either of the interpolated 4,000- and 120,000-mile mile point, mile interpolated point of the best fit straight line exceeds the applicable emission standard, and at least one applicable data point exceeds the standard.~~

~~(1) The Administrator will not accept for certification line-crossing data from preproduction durability-data vehicles selected under §86.085 - 24(g)(1), or §86.085 - 24 (h)(2) or (h)(3).~~

~~(2) The Administrator will not accept for certification line-crossing data from production durability-data vehicles selected under §86.085 - 24(h)(1) unless the 4,000-mile test result multiplied by the engine family group deterioration factor does not exceed the applicable emission standard. The deterioration factors used for this purpose shall be those that were used in the certification of the production vehicle. Manufacturers may calculate this product immediately after the 4,000-mile test of the vehicle. If the product exceeds the applicable standard, the manufacturer may, with the approval of the Administrator, discontinue the vehicle and substitute a new vehicle. The manufacturer may continue the original vehicle, but the data will not be acceptable if line crossing occurs.~~

(7)(i) Paragraph (b)(7) of this section describes the procedure for determining compliance of a new vehicle with ~~fuel~~ evaporative emission standards. The procedure described here shall be used for all vehicles in all model years.

(ii) The manufacturer shall determine, based on testing described in §86.091 - 21(b)(4)(i),

and supply an evaporative emission deterioration factor for each evaporative emission family-evaporative emission control system combination. The factor shall be calculated by subtracting the emission level at the selected test point from the emission level at the useful life point.

(iii) The official evaporative emission test results for each evaporative emission-data vehicle at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(iv) The emission value to compare with the standards shall be the adjusted emission value of paragraph (b)(7)(iii) of this section rounded to two significant figures in accordance with ASTM E 29 - 67 for each evaporative emission-data vehicle.

(8) Every test vehicle of an engine family must comply with all applicable standards (and family emission limits, as appropriate), as determined in paragraphs (b)(4)(iv) and (b)(7)(iv) of this section, before any vehicle in that family will be certified.

(c)(1) Paragraph (c) of this section applies to heavy-duty engines.

(2) The exhaust emission standards (or family emission limits, as appropriate) for Otto-cycle engines in §86.0~~91~~94 - 10 or for diesel engines in §86.0~~91~~94 - 11 apply to the emissions of engines for their useful life.

(3) Since emission control efficiency generally decreases with the accumulation of service on the engine, deterioration factors will be used in combination with emission-data engine test results as the basis for determining compliance with the standards.

(4)(i) Paragraph (c)(4) of this section describes the procedure for determining compliance of an engine with emission standards (or family emission limits, as appropriate), based on deterioration factors supplied by the manufacturer.

(ii) Separate exhaust emission deterioration factors, determined from tests of engines, subsystems, or components conducted by the manufacturer, shall be supplied for each engine-system combination. For Otto-cycle engines, separate factors shall be established for transient HC (OMHCE), CO, and NOx; and idle CO, for those engines utilizing aftertreatment technology (e.g., catalytic converters). For diesel engines, separate factors shall be established for transient HC (OMHCE), CO, NOx, and exhaust particulate. For diesel smoke testing, separate factors shall also be established for the acceleration mode (designated as "A"), the lugging mode (designated as "B"), and peak opacity (designated as "C").

(iii)(A) Paragraph (c)(4)(iii)(A) of this section applies to Otto-cycle heavy-duty engines.

(1) Otto-cycle heavy-duty engines not utilizing aftertreatment technology (e.g., catalytic converters). For transient HC (OMHCE), CO, and NOx, the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(2) Otto-cycle heavy-duty engines utilizing aftertreatment technology (e.g., catalytic converters). For transient HC (OMHCE), CO, and NOx, and for idle CO, the official

exhaust emission results for each emission-data engine at the selected test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(B) Paragraph (c)(4)(iii)(B) of this section applies to diesel heavy-duty engines.

(1) Diesel heavy-duty engines not utilizing aftertreatment technology (e.g., particulate traps). For transient HC (OMHCE), CO, NOx, and exhaust particulate, the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(2) Diesel heavy-duty engines utilizing aftertreatment technology (e.g., particulate traps). For transient HC (OMHCE), CO, NOx, and exhaust particulate, the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(3) Diesel heavy-duty engines only. For acceleration smoke ("A"), lugging smoke ("B"), and peak smoke ("C"), the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(iv) The emission values to compare with the standards (or family emission limits, as appropriate) shall be the adjusted emission values of paragraph (c)(4)(iii) of this section, rounded to the same number of significant figures as contained in the applicable standard in accordance with ASTM E 29 - 67, for each emission-data engine.

(5) -- (6) [Reserved]

(7) Every test engine of an engine family must comply with all applicable standards (or family emission limits, as appropriate), as determined in paragraph (c)(4)(iv) of this section, before any engine in that family will be certified.

(d)(1) Paragraph (d) of this section applies to heavy-duty vehicles equipped with gasoline-fueled or methanol-fueled engines.

(2) The applicable evaporative emission standard in §86.091 - 10 or §86.09~~1~~94 - 11 applies to the emissions of vehicles for their useful life.

(3)(i) For vehicles with a GVWR of up to 26,000 pounds, because it is expected that emission control efficiency will change during the useful life of the vehicle, an evaporative emission deterioration factor shall be determined from the testing described in §86.088 - 23(b)(3) for each evaporative emission family-evaporative emission control system combination to indicate the evaporative emission control system deterioration during the useful life of the vehicle (minimum 50,000 miles). The factor shall be established to a minimum of two places to the right of the decimal.

(ii) For vehicles with a GVWR of greater than 26,000 pounds, because it is expected that emission control efficiency will change during the useful life of the vehicle, each manufacturer's statement as required

in §86.088 - 23(b)(4)(ii) shall include, in accordance with good engineering practice, consideration of control system deterioration.

(4) The evaporative emission test results, if any, shall be adjusted by the addition of the appropriate deterioration factor: Provided, That if the deterioration factor as computed in paragraph (d)(3) of this section is less than zero, that deterioration factor shall be zero for the purposes of this paragraph.

(5) The emission level to compare with the standard shall be the adjusted emission level of paragraph (d)(4) of this section. Before any emission value is compared with the standard, it shall be rounded, in accordance with ASTM E 29 - 67, to two significant figures. The rounded emission values may not exceed the standard.

(6) Every test vehicle of an evaporative emission family must comply with the evaporative emission standard, as determined in paragraph (d)(5) of this section before any vehicle in that family may be certified.

§86.094 - 30 Certification.

Section 86.094-30 includes text that specifies requirements that differ from §86.091-30. Where a paragraph in §86.091-30 is identical and applicable to §86.094-30, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.091-30." Where a corresponding paragraph of §86.091-30 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1)(i) If, after a review of the test reports and data submitted by the manufacturer, data derived from any inspection carried out under §86.0~~78~~91-7(c) and any other pertinent data or information, the Administrator determines that a test vehicle(s) (or test engine(s)) meets the requirements of the Act and of this subpart, he will issue a certificate of conformity with respect to such vehicle(s) (or engine(s)) except in cases covered by paragraph (a)(1)(ii) of this section and §86.091-30 (c).

(ii) Gasoline-fueled and methanol-fueled heavy-duty vehicles. If, after a review of the statement(s) of compliance submitted by the manufacturer under §86.094-23(b)(4) and any other pertinent data or information, the Administrator determines that the requirements of the Act and this subpart have been met, he will issue one certificate of conformity per manufacturer with respect to the evaporative emission family(ies) covered by §86.091-30 (c).

(2) Such certificate will be issued for such period not to exceed one model year as the Administrator may determine and upon such terms as he may deem necessary or appropriate to assure that any new motor vehicle (or new motor vehicle engine) covered by the certificate will meet the requirements of the Act and of this part.

(3)(i) One such certificate will be issued for each engine family. For gasoline-fueled and methanol-fueled light-duty vehicles and light-duty trucks, one such certificate will be issued for each engine family evaporative emission family combination.

(A) Light-duty vehicles. Each certificate will certify compliance with no more than one set of in-use and certification standards (or family emission limits, as appropriate).

(B) Light-duty trucks. Each certificate will certify compliance with no more than one set of in-use and certification standards (or family emission limits, as appropriate), except where there are

both low-altitude standards and high altitude standards applicable. The certificate shall state that it covers vehicles sold or delivered to an ultimate purchaser for principal use at a designated high-altitude location only if the vehicle conforms in all material respects to the design specifications that apply to those vehicles described in the application for certification at high altitude.

(ii) For gasoline-fueled and methanol fueled heavy- duty vehicles, one such certificate will be issued for each manufacturer and will certify compliance for those vehicles previously identified in that manufacturer's statement(s) of compliance as required in §86.091 - 23(b)(4) (i) and (ii).

(iii) For diesel light-duty vehicles and light-duty trucks, or diesel heavy-duty engines, included in the applicable particulate averaging program, the manufacturer may at any time during production elect to change the level of any family particulate emission limit by demonstrating compliance with the new limit as described in §§86.091 - 28(a)(6) and 86.091 - 28(b)(5)(i). New certificates issued under this paragraph will be applicable only for vehicles (or engines) produced subsequent to the date of issuance.

(iv) For light-duty trucks or heavy-duty engines included in the applicable NOx averaging program, the manufacturer may at any time during production elect to change the level of any family NOx emission limit by demonstrating compliance with the new limit as described in §86.091 - 28(b)(5)(ii). New certificates issued under this paragraph will be applicable only for vehicles (or engines) produced subsequent to the day of issue.

(4)(i) The adjustment or modification of any light-duty truck in accordance with instructions provided by the manufacturer for the altitude where the vehicle is principally used will not be considered a violation of section 203(a)(3) of the Clean Air Act.

(ii) A violation of section 203(a)(1) of the Clean Air Act occurs when a manufacturer sells or delivers to an ultimate purchaser any light-duty vehicle or light-duty truck, subject to the regulations under the Act, under any of the conditions specified in the remainder of this paragraph.

(A) When a light-duty vehicle or light-duty truck is not configured to meet high-altitude requirements:

(1) At a designated high-altitude location, unless such manufacturer has reason to believe that such vehicle will not be sold to an ultimate purchaser for principal use at a designated high-altitude location; or

(2) At a location other than a designated high-altitude location, when such manufacturer has reason to believe that such motor vehicle will be sold to an ultimate purchaser for principal use at a designated high-altitude location.

(B) When a light-duty vehicle is not configured to meet low-altitude requirements, as provided in §86.087 - 8(i):

(1) At a designated low-altitude location, unless such manufacturer has reason to believe that such vehicle will not be sold to an ultimate purchaser for principal use at a designated low-altitude location; or

(2) At a location other than a designated low-altitude location, when such manufacturer has reason to believe that such motor vehicle will be sold to an ultimate purchaser for principal use at a designated low-altitude location.

(iii) A manufacturer shall be deemed to have reason to believe that a light-duty vehicle that has

been exempted from compliance with emission standards at high-altitude, or a light-duty truck which is not configured to meet high-altitude requirements, will not be sold to an ultimate purchaser for principal use at a designated high-altitude location if the manufacturer has informed its dealers and field representatives about the terms of these high-altitude regulations, has not caused the improper sale itself, and has taken reasonable action which shall include, but not be limited to, either paragraph (a)(4)(iii)(A) or (B), and (a)(4)(ii)(C) of this section:

(A) Requiring dealers in designated high-altitude locations to submit written statements to the manufacturer signed by the ultimate purchaser that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location; requiring dealers in counties contiguous to designated high-altitude locations to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated high-altitude location, that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location; and for each sale or delivery of fleets of ten or more such vehicles in a high-altitude location or in counties contiguous to high-altitude locations, requiring either the selling dealer or the delivering dealer to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated high-altitude location, that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location. In addition, the manufacturer will make available to EPA, upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold), sales, warranty, or other information pertaining to sales of vehicles by the dealers described above maintained by the manufacturer in the normal course of business relating to the altitude configuration of vehicles and the locations of ultimate purchasers; or

(B) Implementing a system which monitors factory orders of low-altitude vehicles by high-altitude dealers, or through other means, identifies dealers that may have sold or delivered a vehicle not configured to meet the high-altitude requirements to an ultimate purchaser for principal use at a designated high-altitude location; and making such information available to EPA upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold); and

(C) Within a reasonable time after receiving written notice from EPA or a State or local government agency that a dealer may have improperly sold or delivered a vehicle not configured to meet the high-altitude requirements to an ultimate purchaser residing in a designated high-altitude location, or based on information obtained pursuant to paragraph (a)(4)(iii) of this section that a dealer may have improperly sold or delivered a significant number of such vehicles to ultimate purchasers so residing, reminding the dealer in writing of the requirements of these regulations, and, where appropriate, warning the dealer that sale by the dealer of vehicles not configured to meet high-altitude requirements may be contrary to the terms of its franchise agreement with the manufacturer and the dealer

certification requirements of §85.2108 of this chapter.

(iv) A manufacturer shall be deemed to have reason to believe that a light-duty vehicle which has been exempted from compliance with emission standards at low-altitude, as provided in §86.087 - 8(i), will not be sold to an ultimate purchaser for principal use at a designated low-altitude location if the manufacturer has informed its dealers and field representatives about the terms of the high-altitude regulations, has not caused the improper sale itself, and has taken reasonable action which shall include, but not be limited to, either paragraph (a)(4)(iv) (A) or (B), and (a)(4)(iv)(C) of this section:

(A) Requiring dealers in designated low-altitude locations to submit written statements to the manufacturer signed by the ultimate purchaser that a vehicle which is not configured to meet low-altitude requirements will not be used principally at a designated low-altitude location; requiring dealers in counties contiguous to designated low-altitude locations to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated low-altitude location, that a vehicle which is not configured to meet low-altitude requirements will not be used principally at a designated low-altitude location; and for each sale or delivery of fleets of ten or more such vehicles in a low-altitude location or in counties contiguous to low-altitude locations, requiring either the selling dealer or the delivering dealer to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated low-altitude location, that a vehicle which is not configured to meet low-altitude requirements will not be used principally at a designated high-altitude location. In addition, the manufacturer will make available to EPA, upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold), sales, warranty, or other information pertaining to sales of vehicles by the dealers described above maintained by the manufacturer in the normal course of business relating to the altitude configuration of vehicles and the locations of ultimate purchasers; or

(B) Implementing a system which monitors factory orders of high-altitude vehicles by low-altitude dealers, or through other means, identifies dealers that may have sold or delivered a vehicle not configured to meet the low-altitude requirements to an ultimate purchaser for principal use at a designated low-altitude location; and making such information available to EPA upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold); and

(C) Within a reasonable time after receiving written notice from EPA or a state or local government agency that a dealer may have improperly sold or delivered a vehicle not configured to meet the low-altitude requirements to an ultimate purchaser residing in a designated low-altitude location, or based on information obtained pursuant to paragraph (a)(4)(iv) of this section that a dealer may have improperly sold or delivered a significant number of such vehicles to ultimate purchasers so residing, reminding the dealer in writing of the requirements of these regulations, and, where appropriate, warning the dealer that sale by the dealer of vehicles not configured to

meet low-altitude requirements may be contrary to the terms of its franchise agreement with the manufacturer and the dealer certification requirements of §85.2108 of this chapter.

(5)(i) For the purpose of paragraph (a) of this section, a "designated high-altitude location" is any county which has substantially all of its area located above 1,219 meters (4,000 feet) and:

(A) Requested and extension past the attainment date of December 31, 1982, for compliance with either the National Ambient Air Quality Standards for carbon monoxide or ozone, as indicated in Part 52 (Approval and Promulgation of Implementation Plans) of this title; or

(B) Is in the same state as a county designated as a high-altitude location according to paragraph (a)(5)(i)(A) of this section.

(ii) The designated high-altitude locations defined in paragraph (a)(5)(i) of this section are listed below:

State of Colorado

Adams
Alamosa
Arapahoe
Archuleta
Boulder
Chaffee
Cheyenne
Clear Creek
Conejos
Costilla
Crowley
Custer
Delta
Denver
Dolores
Douglas
Eagle
Elbert
El Paso
Fremont
Garfield
Gilpin
Grand
Gunnison
Hinsdale
Huerfano
Jackson
Jefferson
Kit Carson
Lake
La Plata
Larimer
Las Animas
Lincoln
Mesa
Mineral
Moffat
Montezuma
Montrose
Morgan
Otero
Ouray
Park
Pitkin
Pueblo
Rio Blanco
Rio Grande
Routt
Saguache
San Juan
San Miguel
Summit
Teller
Washington
Weld

State of Nevada

Carson City
Douglas
Elko
Esmeralda
Eureka
Humboldt
Lander
Lincoln
Lyon
Mineral
Nye
Pershing
Storey
Washoe
White Pine

State of New Mexico

Bernalillo
Catron
Colfax

Curry
De Baca
Grant
Guadalupe
Harding
Hidalgo
Lincoln
Los Alamos
Luna
McKinley
Mora
Otero
Rio Arriba
Roosevelt
Sandoval
San Juan
San Miguel
Santa Fe
Sierra
Socorro
Taos
Torrance
Union
Valencia

State of Utah

Beaver
Box Elder
Cache
Carbon
Daggett
Davis
Duchesne
Emery
Garfield
Grand
Iron
Juab
Kane
Millard
Morgan
Piute
Rich
Salt Lake
San Juan
Sanpete
Sevier
Summit
Tooele
Uintah
Utah
Wasatch
Wayne
Weber

(iii) For the purpose of paragraph (a) of this section, a "designated low-altitude location" is any county which has substantially all of its area located below 1,219 meters (4,000 feet).

(iv) The designated low-altitude locations so defined include all counties in the United States which are not listed in eithir paragraph (a)(5)(ii) of this section or in the list below:

State of Arizona

Apache
Cochise
Coconino
Navajo
Yavapai

State of Idaho

Bannock
Bear Lake
Bingham
Blaine
Bonneville
Butte
Camas
Caribou
Cassia
Clark
Custer
Franklin
Fremont
Jefferson
Lemhi
Madison
Minidoka
Oneida
Power
Treton
Valley

State of Montana

Beaverhead
Deer Lodge
Gallatin
Jefferson
Judith Basin
Madison
Meagher
Park
Powell
Silver Bow
Wheatland

State of Nebraska

Banner
Cheyenne
Kimball
Sioux

State of Oregon

Harney
Klamath
Lake

State of Texas

Jeff Davis
Hudspeth
Parmer

State of Wyoming

Albany
Campbell
Carbon
Converse
Fremont
Goshen
Hot Springs
Johnson
Laramie
Lincoln
Natrona
Niobrara
Park
Platte
Sublette
Sweetwater
Teton
Uinta
Washakie
Weston

(6) Catalyst-equipped vehicles, otherwise covered by a certificate, which are driven outside the United States, Canada, and Mexico will be presumed to have been operated on leaded gasoline resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of the certificate unless included in a catalyst control program operated by a manufacturer or a United States Government agency and approved by the Administrator.

(7) For incomplete light-duty trucks, a certificate covers only those new motor vehicles which, when completed by having the primary load-carrying device or container attached, conform to the maximum curb weight and frontal area limitations described in the application for certification as required in §86.091 - 21(d).

(8) For heavy-duty engines, a certificate covers only those new motor vehicle engines installed in heavy-duty vehicles which conform to the minimum gross vehicle weight rating, curb weight, or frontal area limitations for heavy-duty vehicles described in §86.082 - 2.

(9) For incomplete gasoline-fueled and methanol-fueled heavy-duty vehicles a certificate covers only those new motor vehicles which, when completed, conform to the nominal maximum fuel tank capacity limitations as described in the application for certification as required in §86.091 - 21(e).

(10) For diesel light-duty vehicle and diesel light-duty truck families, or diesel heavy-duty engine familes, which are included in a particulate averaging program, the manufacturer's production-weighted average of the particulate emission limits of all engine families in a participating class or classes shall not exceed the applicable diesel particulate standard, or the composite particulate standard defined in §86.085 - 2, as appropriate, at the end of the model year, as determined in accordance with 40 CFR Part 86. The certificate shall be void ab initio for those vehicles causing any exceedance of the particulate standard.

(11) For light-duty truck families, or heavy-duty engine families, which are included in a NOx averaging program, the

manufacturer's production-weighted average of the NOx emission limits of all such engine families shall not exceed the applicable NOx emission standard, or the composite NOx emission standard defined in §86.088 - 2, as appropriate, at the end of the model year, as determined in accordance with 40 CFR Part 86. The certificate shall be void ab initio for those vehicles causing any exceedance of the NOx standard.

(a)(12) For all light-duty vehicles certified to standards under §86.094-8 or to which standards under §86.708-94 are applicable:

(i) All certificates issued are conditional upon the manufacturer complying with all provisions of §86.094-8 and §86.708-94 both during and after model year production.

(ii) Failure to meet the required implementation schedule sales percentages as specified in §86.094-8 and §86.708-94 will be considered to be a failure to satisfy the conditions upon which the certificate(s) was issued and the vehicles sold in violation of the implementation schedule shall not be covered by the certificate.

(iii) The manufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied.

(13) For all light-duty trucks certified to standards under §86.094-9 and to which standards under §86.709-94 are applicable:

(i) All certificates issued are conditional upon the manufacturer complying with all provisions of §86.094-9 and §86.709-94 both during and after model year production.

(ii) Failure to meet the required implementation schedule sales percentages as specified in §86.094-9 and §86.709-94 will be considered to be a failure to satisfy the conditions upon which the certificate(s) was issued and the individual vehicles sold in violation of the implementation schedule shall not be covered by the certificate.

(iii) The manufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied.

(14) For all light-duty vehicles and light-duty trucks certified with an Alternative Service Accumulation Durability Program under §86.094-13(e):

(i) All certificates issued are conditional upon the manufacturer performing the in-use verification program pursuant to the agreement described in §86.094-13(e)(9).

(ii) Failure to fully comply with all the terms of the in-use verification program pursuant to the agreement described in §86.094-13(e)(9) will be considered a failure to satisfy the conditions upon which the certificate was issued. A vehicle or truck will be considered to be covered by the certificate only if the manufacturer fulfills the conditions upon which the certificate is issued.

(iii) The manufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied.

(b)(1) The Administrator will determine whether a vehicle (or engine) covered by the application complies with applicable standards (or family emission limits, as appropriate) by observing the following relationships:

(i) Light-duty vehicles. (A) The durability data vehicle(s) selected under §86.090 - 24(c)(1)(i) shall represent all vehicles of the same engine system combination.

(B) The emission data vehicle(s) selected under §86.090 - 24(b)(1)(ii) through (iv) shall represent all vehicles of the same engine-system combination as applicable.

(C) The emission-data vehicle(s) selected under §86.090 - 24(b)(1)(vii) (A) and (B) shall represent all vehicles of the same evaporative control system within the evaporative family.

(ii) Light-duty trucks. (A) The emission-data vehicle(s) selected under §86.090 - 24(b)(1)(ii), shall represent all vehicles of the same engine-system combination as applicable.

(B) The emission-data vehicle(s) selected under §86.090 - 24(b)(1)(vii) (A) and (B) shall represent all vehicles of the same evaporative control system within the evaporative family.

(C) The emission-data vehicle(s) selected under §86.090 - 24(b)(1)(v) shall represent all vehicles of the same engine-system combination as applicable.

(D) The emission-data vehicle(s) selected under §86.090 - 24(b)(1)(viii) shall represent all vehicles of the same evaporative control system within the evaporative emission family, as applicable.

(iii) Heavy-duty engines. (A) An Otto-cycle emission-data test engine selected under §86.090 - 24(b)(2)(iv) shall represent all engines in the same family of the same engine displacement-exhaust emission control system combination.

(B) An Otto-cycle emission-data test engine selected under §86.090 - 24(b)(2)(iii) shall represent all engines in the same engine family of the same engine displacement-exhaust emission control system combination.

(C) A diesel emission data test engine selected under §86.090 - 24(b)(3)(ii) shall represent all engines in the same engine-system combination.

(D) A diesel emission-data test engine selected under §86.090 - 24(b)(3)(iii) shall represent all engines of that emission control system at the rated fuel delivery of the test engine.

(iv) Gasoline-fueled and methanol-fueled heavy-duty vehicles. A statement of compliance submitted under §86.091 - 23(b)(4) (i) or (ii) shall represent all vehicles in the same evaporative emission family-evaporative emission control system combination.

(2) The Administrator will proceed as in paragraph (a) of this section with respect to the vehicles (or engines) belonging to an engine family or engine family-evaporative emission family combination (as applicable), all of which comply with all applicable standards (or family emission limits, as appropriate).

(3) If, after a review of the test reports and data submitted by the manufacturer, data derived from any additional testing conducted pursuant to §86.091 - 29, data or information derived from any inspection carried out under §86.078 - 7(c) or any other pertinent data or information, the Administrator determines that one or more test vehicles (or test engines) of the certification test fleet do not meet applicable standards (or family emission limits, as appropriate), he will notify the manufacturer in writing, setting forth the basis for his determination. Within 30 days following receipt of the notification, the manufacturer may request a hearing on the

Administrator's determination. The request shall be in writing, signed by an authorized representative of the manufacturer and shall include a statement specifying the manufacturer's objections to the Administrator's determination and data in support of such objections. If, after a review of the request and supporting data, the Administrator finds that the request raises a substantial factual issue, he shall provide the manufacturer a hearing in accordance with §86.078 - 6 with respect to such issue.

(4) For light-duty vehicles and light-duty trucks the manufacturer may, at its option, proceed with any of the following alternatives with respect to an emission-data vehicle determined not in compliance with all applicable standards (or family emission limits, as appropriate) for which it was tested:

(i) Request a hearing under §86.078 - 6; or

(ii) Remove the vehicle configuration (or evaporative vehicle configuration, as applicable) which failed, from his application;

(A) If the failed vehicle was tested for compliance with exhaust emission standards (or family emission limits, as appropriate) only: The Administrator may select, in place of the failed vehicle, in accordance with the selection criteria employed in selecting the failed vehicle, a new emission-data vehicle to be tested for exhaust emission compliance only.

(B) If the failed vehicle was tested for compliance with both exhaust and evaporative emission standards: The Administrator may select, in place of the failed vehicle, in accordance with the selection criteria employed in selecting the failed vehicle, a new emission-data vehicle which will be tested for compliance with both exhaust and evaporative emission standards. If one vehicle cannot be selected in accordance with the selection criteria employed in selecting the failed vehicle, then two vehicles may be selected (i.e., one vehicle to satisfy the exhaust emission vehicle selection criteria and one vehicle to satisfy the evaporative emission vehicle selection criteria). The vehicle selected to satisfy the exhaust emission vehicle selection criteria will be tested for compliance with exhaust emission standards (or family emission limits, as appropriate) only. The vehicle selected to satisfy the evaporative emission vehicle selection criteria will be tested for compliance with both exhaust and evaporative emission standards; or

(iii) Remove the vehicle configuration (or evaporative vehicle configuration, as applicable) which failed from the application and add a vehicle configuration(s) (or evaporative vehicle configuration(s), as applicable) not previously listed. The Administrator may require, if applicable, that the failed vehicle be modified to the new engine code (or evaporative emission code, as applicable) and demonstrate by testing that it meets applicable standards (or family emission limits, as appropriate) for which it was originally tested. In addition, the Administrator may select, in accordance with the vehicle selection criteria given in §86.090 - 24(b), a new emission-data vehicle or vehicles. The vehicles selected to satisfy the exhaust emission vehicle selection criteria will be tested for compliance with exhaust emission standards (or family emission limits, as appropriate) only. The vehicles selected to satisfy the evaporative emission vehicle selection criteria will be tested for compliance with both exhaust and evaporative emission standards (or family emission limits, as appropriate); or

(iv) Correct a component or system malfunction and show that with a correctly functioning system or component the failed vehicle meets applicable standards (or family emission limits, as appropriate) for which it was originally tested. The Administrator may require a new emission-data vehicle, of identical vehicle configuration (or evaporative vehicle configuration, as applicable) to the failed vehicle, to be operated and tested for compliance with the applicable standards (or family emission limits, as appropriate) for which the failed vehicle was originally tested.

(5) For heavy-duty engines the manufacturer may, at his option, proceed with any of the following alternatives with respect to any engine family represented by a test engine(s) determined not in complinace with applicable standards (or family emission limit, as appropriate):

(i) Request a hearing under §86.078 - 6; or

(ii) Delete from the application for certification the engines represented by the failing test engine. (Engines so deleted may be included in a later request for certification under §86.079 - 32.) The Administrator may then select in place of each failing engine an alternate engine chosen in accordance with selection criteria employed in selecting the engine that failed; or

(iii) Modify the test engine and demonstrate by testing that it meets applicable standards. Another engine which is in all material respect the same as the first engine, as modified, may then be operated and tested in accordance with applicable test procedures.

(6) If the manufacturer does not request a hearing or present the required data under paragraphs (b)(4) or (b)(5) of this section (as applicable) of this section, the Administrator will deny certification.

(c) (1) Notwithstanding the fact that any certification vehicle(s) (or certification engine(s)) may comply with other provisions of this subpart, the Administrator may withhold or deny the issuance of a certificate of conformity (or suspend or revoke any such certificate which has been issued) with respect to any such vehicle(s) (or engine(s)) if:

(i) The manufacturer submits false or incomplete information in his application for certification thereof;

(ii) The manufacturer renders inaccurate any test data which he submits pertaining thereto or otherwise circumvents the intent of the Act, or of this part with respect to such vehicle (or engine);

(iii) Any EPA Enforcement Officer is denied access on the terms specified in §86.078 - 7(c) to any facility or portion thereof which contains any of the following:

(A) The vehicle (or engine);

(B) Any components used or considered for use in its modification or buildup into a certification vehicle (or certification engine);

(C) Any production vehicle (or production engine) which is or will be claimed by the manufacturer to be covered by the certificate;

(D) Any step in the construction of a vehicle (or engine) described in paragraph (c)(iii)(C) of this section;

(E) Any records, documents, reports, or histories required by this part to be kept concerning any of the above;

(iv) Any EPA Enforcement Officer is denied "reasonable assistance" (as defined in §86.078 - 7(c)) in examining any of the items listed in paragraph (c)(1)(iii) of this section.

(2) The sanctions of withholding, denying, revoking, or suspending of a certificate may be imposed for the reasons in paragraphs (c)(1)(i),(ii),(iii), or (iv) of this section only when the infraction is substantial.

(3) In any case in which a manufacturer knowingly submits false or inaccurate information or knowingly renders inaccurate or invalid any test data or commits any other fraudulent acts and such acts contribute substantially to the Administrator's decision to issue a certificate of conformity, the Administrator may deem such certificate void ab initio.

(4) In any case in which certification of a vehicle (or engine) is proposed to be withheld, denied, revoked, or suspended under paragraph (c)(1)(iii) or (iv) of this section, and in which the Administrator has presented to the manufacturer involved reasonable evidence that a violation of §86.078 - 7(c) in fact occurred, the manufacturer, if he wishes to contend that, even though the violation occurred, the vehicle (or engine) in question was not involved in the violation to a degree that would warrant withholding, denial, revocation, or suspension of certification under either paragraph (c)(1)(iii) or (iv) of this section, shall have the burden of establishing that contention to the satisfaction of the Administrator.

(5) Any revocation or suspension of certification under paragraph (c)(1) of this section shall:

(i) Be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with - 6 hereof.

(ii) Extend no further tha forbid the introduction into commerce of vehicles (or engi previously covered by the certification which are still hands of the manufacturer, exc cases of such fraud or other misconduct as makes the certification invalid ab initi

(6) The manufacturer may re in the form and manner specifi paragraph (b)(3) of this secti that any determination made by Administrator under paragraph of this section to withhold or certification be reviewed in a hearing conducted in accordanc §86.078 - 6. If the Administrat finds, after a review of the re and supporting data, that the request raises a substantial fa issue, he will grant the reques with respect to such issue.

(d)(1) For light-duty vehic Notwithstanding the fact that a vehicle configuration or engine family may be covered by a vali outstanding certificate of conformity, the Administrator ma suspend such outstanding certif of conformity in whole or in pa with respect to such vehicle configuration or engine family i

(i) The manufacturer refuses comply with the provisions of a order issued by the Administrato pursuant to §86.603; or

(ii) The manufacturer refuses comply with any of the requireme of §86.603; or

(iii) The manufacturer submit false or incomplete information any report or information provide pursuant to the requirements of §86.609; or

(iv) The manufacturer renders inaccurate any test data which he submits pursuant to §86.609; or

(v) Any EPA Enforcement Officer is denied the opportunity to conduct activities related to entry and access as authorized in §86.606 of this part and in a warrant or court order presented to the manufacturer or the party in charge of a facility in question; or

(vi) EPA Enforcement Officers are unable to conduct activities related to entry and access or to obtain "reasonable assistance" as authorized in §86.606 of this part because a manufacturer has located its facility in a foreign jurisdiction where local law prohibits those activities; or

(vii) The manufacturer refuses to or in fact does not comply with §§86.604(a), 86.605, 86.607, 86.608, or 86.610.

(2) The sanction of suspending a certificate may not be imposed for the reasons in paragraph (d)(1)(i), (ii), or (vii) of this section where the refusal is caused by conditions and circumstances outside the control of the manufacturer which render it impossible to comply with those requirements.

(3) The sanction of suspending a certificate may be imposed for the reasons in paragraph (d)(1)(iii), (iv), or (v) of this section only when the infraction is substantial.

(4) In any case in which a manufacturer knowingly submitted false or inaccurate information or knowingly rendered inaccurate any test data or committed any other fraudulent acts, and such acts contributed substantially to the Administrator's original decision not to suspend or revoke a certificate of conformity in whole or in part, the Administrator may deem such certificate void from the date of such fraudulent act.

(5) In any case in which certification of a vehicle is proposed to be suspended under paragraph (d)(1)(v) of this section and in which the Administrator has presented to the manufacturer involved reasonable evidence that a violation of §86.606 in fact occurred, if the manufacturer wishes to contend that, although the violation occurred, the vehicle configuration or engine family in question was not involved in the violation to a degree that would warrant suspension of certification under paragraph (d)(1)(v) of this section, the manufacturer shall have the burden of establishing the contention to the satisfaction of the Administrator.

(6) Any suspension of certification under paragraph (d)(1) of this section shall:

(i) Be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with §86.614; and

(ii) Not apply to vehicles no longer in the hands of the manufacturer.

(7) Any voiding of a certificate of conformity under paragraph (d)(4) of this section will be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with §86.614.

(d)(8) Any voiding of the certificate under §86.091-30(a)(10) will be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with §86.614.

(e) <u>For light-duty trucks and heavy-duty engines</u>. (1) Notwithstanding the fact that any vehicle configuration or engine family may be covered by a valid outstanding certificate of conformity, the Administrator may suspend such outstanding certificate of conformity in whole or in part with respect to such vehicle or

engine configuration or engine family if:

(i) The manufacturer refuses to comply with the provisions of a test order issued by the Administrator pursuant to §86.1003; or

(ii) The manufacturer refuses to comply with any of the requirements of §86.1003; or

(iii) The manufacturer submits false or incomplete information in any report or information provided pursuant to the requirements of §86.1009; or

(iv) The manufacturer renders inaccurate any test data submitted pursuant to §86.1009; or

(v) Any EPA Enforcement Officer is denied the opportunity to conduct activities related to entry and access as authorized in §86.1006 of this part and in a warrant or court order presented to the manufacturer or the party in charge of a facility in question; or

(vi) EPA Enforcement Officers are unable to conduct activities related to entry and access as authorized in §86.1006 of this part because a manufacturer has located a facility in a foreign jurisdiction where local law prohibits those activities; or

(vii) The manufacturer refuses to or in fact does not comply with the requirements of §§86.1004(a), 86.1005, 86.1007, 86.1008, 86.1010, 86.1011, or 86.1013.

(2) The sanction of suspending a certificate may not be imposed for the reasons in paragraph (e)(1) (i), (ii), or (vii) of this section where such refusal or denial is caused by conditions and circumstances outside the control of the manufacturer which renders it impossible to comply with those requirements. Such conditions and circumstances shall include, but are not limited to, any uncontrollable factors which result in the temporary unavailability of equipment and personnel needed to conduct the required tests, such as equipment breakdown or failure or illness of personnel, but shall not include failure of the manufacturers to adequately plan for and provide the equipment and personnel needed to conduct the tests. The manufacturer will bear the burden of establishing the presence of the conditions and circumstances required by this paragraph.

(3) The sanction of suspending a certificate may be imposed for the reasons outlined in paragraph (e)(1)(iii), (iv), or (v) of this section only when the infraction is substantial.

(4) In any case in which a manufacturer knowingly submitted false or inaccurate information or knowingly rendered inaccurate any test data or committed any other fraudulent acts, and such acts contributed substantially to the Administrator's original decision not to suspend or revoke a certificate of conformity in whole or in part, the Administrator may deem such certificate void from the date of such fraudulent act.

(5) In any case in which certification of a light-duty truck or heavy-duty engine is proposed to be suspended under paragraph (e)(1)(v) of this section and in which the Administrator has presented to the manufacturer involved reasonable evidence that a violation of §86.1006 in fact occurred, if the manufacturer wishes to contend that, although the violation occurred, the vehicle or engine configuration or engine family in question was not involved in the violation to a degree that would warrant suspension of certification under paragraph (e)(1)(v) of this section, he shall have the burden of establishing that contention to the satisfaction of the Administrator.

(6) Any suspension of certification under paragraph (e)(1) of this section shall:

(i) Be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with §86.1014, and

(ii) Not apply to vehicles or engines no longer in the hands of the manufacturer.

(7) Any voiding of a certificate of conformity under paragraph (e)(4) of this section shall be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with §86.1014.

(e)(8) Any voiding of the certificate under §86.091-30(a)(10) or (a)(11) will be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with §86.1014.

§86.094 - 35 Labeling.

Section 86.094-35 includes text that specifies requirements that differ from §86.092-35. Where a paragraph in §86.092-35 is identical and applicable to §86.094-35, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.092-35." Where a corresponding paragraph of §86.092-35 is not applicable, this is indicated by the statement "[Reserved]."

(a) The manufacturer of any motor vehicle (or motor vehicle engine) subject to the applicable emission standards (and family emission limits, as appropriate) of this subpart, shall, at the time of manufacture, affix a permanent legible label, of the type and in the manner described below, containing the information hereinafter provided, to all production models of such vehicles (or engines) available for sale to the public and covered by a certificate of conformity under §86.091 - 30(a).

(1) Light-duty vehicles. (i) A permanent, legible label shall be affixed in a readily visible position in the engine compartment.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(A) The label heading: Vehicle Emission Control Information;

(B) Full corporate name and trademark of manufacturer;

(C) Engine displacement (in cubic inches or liters), engine family identification and evaporative family identification;

(D) Engine tune-up specifications and adjustments, as recommended by the manufacutrer in accordance with the applicable emission standards (or family emission limits, as applicable), including but not limited to idle speeds(s), ignition timing, the idle air-fuel mixture setting procedure and value (e.g., idle CO, idle air-fuel ratio, idle speed drop), high idle speed, initial injection timing and valve lash (as applicable), as well as other parameters deemed necessary by the manufacturer. These specifications should indicate the proper transmission position during tuneup and what accessories (e.g.,

...f conditioner), if any, should be in operation;

(E) An unconditional statement of compliance with the appropriate model year U.S. Environmental Protection Agency regulations which apply to light-duty vehicles;

(a)(1)(iii)(F) The exhaust emission standards (or family emission limits, if applicable) to which the engine family is certified, and the corresponding exhaust emission standards (or family emission limits, if applicable) which the engine family must meet in-use;

(G) For vehicles that have been exempted from compliance with the emission standards at high altitude, as specified in §86.090 - 8(h):

(1) A highlighted statement (e.g., underscored or boldface letters) that the vehicle is certified to applicable emission standards at low altitude only,

(2) A statement that the vehicle's unsatisfactory performance under high-altitude conditions makes it unsuitable for principal use at high altitude, and

(3) A statement that the emission performance warranty provisions of 40 CFR part 85, subpart V do not apply when the vehicle is tested at high altitude;

(H) For vehicles that have been exempted from compliance with the emission standards at low altitude, as specified in §86.094 - 8(i):

(1) A highlighted statement (e.g., underscored or boldface letters) that the vehicle is certified to applicable emission standards at high altitude only, and

(2) A statement that the emission performance warranty provisions of 40 CFR part 85, subpart V do not apply when the vehicle is tested at low altitude;

(I) The vacuum hose routing diagram applicable to the vehicles if the vehicles are equipped with vacuum actuated emission and emission-related components. The manufacturer may, at its option, a separate label for the vacuum routing diagram provided that the vacuum hose diagram is placed in a visible and accessible position as provided in this section;

(J) Vehicles granted final admission under §85.1505 of this chapter must comply with the labeling requirements contained in §85.1510 of this chapter.

(2) Light-duty trucks. (i) A legible permanent label shall be affixed in a readily visible position in the engine compartment.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(A) The label heading: Important Vehicle Information;

(B) Full corporate name and trademark of manufacturer;

(C) Engine displacement (in cubic inches) and engine family identification;

(D) Engine tune-up specifications and adjustments, as recommended by the manufacturer in accordance with the applicable emission standards (or family emission limits, as appropriate), including but not limited to idle speed(s), ignition

timing, the idle air-fuel mixture setting procedure and value (e.g., idle CO, idle air-fuel ratio, idle speed drop), high idle speed, initial injection timing, and valve lash (as applicable), as well as other parameters deemed necessary by the manufacturer. These specifications should indicate the proper transmission position during tune-up and what accessories (e.g., air conditioner), if any, should be in operation. If adjustments or modifications to the vehicle are necessary to insure compliance with emission standards (or family emission limits, as appropriate) at either high or low altitude, the manufacturer shall either include the instructions for such adjustments on the label, or indicate on the label where instructions for such adjustments may be found. The label shall indicate whether the engine tune-up or adjustment specifications are applicable to high altitude, low altitude or both;

(E)(1) Light-duty trucks. The prominent statement, ``This vehicle conforms to U.S. EPA regulations applicable to 19XX Model Year New Light-Duty Trucks.''

(2) Heavy-duty vehicles optionally certified in accordance with the light-duty truck provisions. The prominent statement, "This heavy-duty vehicle conforms to the U.S. EPA regulations applicable to 19XX Model Year Light-Duty Trucks under the special provision of 40 CFR 86.092 - 1(b).'';

(F) **[Reserved]** ~~If the manufacturer is provided an alternate useful life period under the provisions of §86.094 - 21(f), the prominent statement: "This vehicle has been certified to meet U.S. EPA standards for a useful life period of XXX years or XXX miles of operation, whichever occurs first. This vehicle's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than years or miles (e.g., hours, or miles only).~~

(G) A statement, if applicable, that the adjustments or modifications indicated on the label are necessary to ensure emission control compliance at the altitude specified;

(H) A statement, if applicable, that the high-altitude vehicle was designated or modified for principal use at high altitude. This statement must be affixed by the manufacturer at the time of assembly or by any dealer who performs the high-altitude modification or adjustment prior to sale to an ultimate purchaser;

(I) For vehicles that have been exempted from compliance with the high-altitude emission standards, as specified in §86.094 - 9(g)(2):

(1) A highlighted statement (e.g., underscored or boldface letters) that the vehicle is certified to applicable emission standards at low altitude only;

(2) A statement that the vehicle's unsatisfactory performance under high-altitude conditions makes it unsuitable for principal use at high altitude; and

(3) A statement that the emission performance warranty provisions of 40 CFR Part 85, Subpart V do not apply when the vehicle is tested at high altitude;

(J) The exhaust emission standards (or family emission limits, if applicable) to which the engine family is certified, and the corresponding exhaust emission standards (or family emission limits, if applicable) which the engine family must meet in-use.

(a)(2)(iii)(K) [Reserved].

(L) The vacuum hose routing diagram applicable to the vehicles if the vehicles are equipped with vacuum actuated emission and emission-related components. The manufacturer may, at its option, use a separate label for the vacuum hose routing diagram provided that the vacuum hose diagram is placed in a visible and accessible position as provided by this section.

(M) Vehicles granted final admission under §85.1505 must comply with the labeling requirements contained in §85.1510.

(3) Heavy-duty engines. (i) A permanent legible label shall be affixed to the engine in a position in which it will be readily visible after installation in the vehicle.

(ii) The label shall be attached to an engine part necessary for normal engine operation and not normally requiring replacement during engine life.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals which shall be of a color that contrasts with the background of the label:

(A) The label heading: Important Engine Information.

(B) Full corporate name and trademark of manufacturer;

(C) Engine displacement (in cubic inches or liters) and engine family and model designations;

(D) Date of engine manufacture (month and year). The manufacturer may, in lieu of including the date of manufacture on the engine label, maintain a record of the engine manufacture dates. The manufacturer shall provide the date of manufacture records to the Administrator upon request.

(E) Engine specifications and adjustments as recommended by the manufacturer. These specifications should indicate the proper transmission position during tune-up and what accessories (e.g., air conditioner), if any, should be in operation;

(F) For Otto-cycle engines the label should include the idle speed, ignition timing, and the idle air-fuel mixture setting procedure and value (e.g., idle CO, idle air-fuel ratio, idle speed drop), and valve lash;

(G) For diesel engines the label should include the advertised hp at rpm, fuel rate at advertised hp in mm\3\/stroke, valve lash, initial injection timing, and idle speed;

(H) The prominent statement: "This engine conforms to U.S. EPA regulations applicable to 19XX Model Year New Heavy-Duty Engines."

(a)(3)(iii)(I) If the manufacturer is provided with an alternate useful life period under the provisions of §86.094 - 21(f), the prominent statement: "This engine has been certified to meet U.S. EPA standards for a useful-life period of XXX miles or XXX hours of operation, whichever occurs first. This engine's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than miles or hours (e.g., years, or hours only);

(J) For diesel engines. The prominent statement: "This engine has a primary intended service application as a XXX heavy-duty engine." (The primary intended service applications are light, medium, and heavy, as defined in §86.902 - 2.)

(K) For Otto-cycle engines. One of the following statements, as applicable:

(1) For engines certified to the emission standards under §86.091 -

10 (a)(1) (i) or (iii), the statement: "This engine is certified for use in all heavy-duty vehicles."

(2) for gasoline-fueled engines certified under the provisions of §86.091 - 10(a)(3)(i), the statement: "This engine is certified for use in all heavy-duty vehicles under the special provision of 40 CFR §86.091 - 10(a)(3)(i)."

(3) For engines certified to the emission standards under §86.091 - 10 (a)(1) (ii) or (iv), the statement: "This engine is certified for use only in heavy-duty vehicles with a gross vehicle weight rating above 14,000 lbs."

(L) For diesel engines which are included in the diesel heavy-duty particulate averaging program, the family particulate emission limit to which the engine is certified.

(M) For any heavy-duty engines which are included in the heavy-duty NOx averaging program, the family NOx emission limit to which the engine is certified.

(N) Engines granted final admission under §85.1505 must comply with the labeling requirements contained in §85.1510.

(iv) The label may be made up of one or more pieces: Provided, That all pieces are permanently attached to the same engine or vehicle part as applicable.

(4)(i) Gasoline-fueled and methanol-fueled heavy-duty vehicles. A permanent, legible label shall be affixed in a readily visible position in the engine compartment. If such vehicles do not have an engine compartment, the label required in paragraphs (a)(4) and (g)(1) of this section shall be affixed in a readily visible position on the operator's enclosure or on the engine.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(A) The label heading: Vehicle Emission Control Information;

(B) Full corporate name and trademark of manufacturer;

(C) Evaporative family identification;

(D) The maximum nominal fuel tank capacity (in gallons) for which the evaporative control system is certified; and,

(E) One of the following, as appropriate:

(1) An unconditional statement of compliance with the appropriate model year U.S. Environmental Protection Agency regulations which apply to gasoline-fueled heavy-duty vehicles.

(2) An unconditional statement of compliance with the appropriate model year U.S. Environmental Protection Agency regulations which apply to methanol-fueled heavy-duty vehicles.

(F) Vehicles granted final admission under §85.1505 must comply with the labeling requirements contained in §85.1510.

(b) The provisions of this section shall not prevent a manufacturer from also reciting on the label that such vehicle (or engine) conforms to any applicable state emission standards for new motor vehicles (or new motor vehicle

engines) or any other information that such manufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the vehicle (or engine).

(c)(1) The manufacturer of any light-duty vehicle or light-duty truck subject to the emission standards (or family emission limits, as appropriate) of this subpart shall, in addition and subsequent to setting forth those statements on the label required by the Department of Transportation (DOT) pursuant to 49 CFR 567.4, set forth on the DOT label or an additional label located in proximity to the DOT label and affixed as described in 49 CFR 567.4(b), the following information in the English language, lettered in block letters and numerals not less than three thirty-seconds of an inch high, of a color that contrasts with the background of the label:

(i) The heading: ``Vehicle Emission Control Information.''

(ii)(A) For light-duty vehicles, The statement: ``This Vehicle Conforms to U.S. EPA Regulations Applicable to 19XX Model Year New Motor Vehicles.''

(B) For light-duty trucks, (1) The statement: ``This vehicle conforms to U.S. EPA regulations applicable to 19XX Model Year New Light-Duty Trucks.''

(2) **[Reserved]** ~~If the manufacturer is provided an alternate useful life period under the provisions of §86.094 - 21(f), the prominent statement: "This vehicle has been certified to meet U.S. EPA standards for a useful-life period of XX years or XX miles of operation, whichever occurs first. This vehicle's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than years or miles (e.g., hours, or miles only).~~

(iii) One of the following statements, as applicable, in letters and numerals not less than six thirty-seconds of an inch high and of a color that contrasts with the background of the label:

(A) For all vehicles certified as noncatalyst-equipped: "NON-CATALYST";

(B) For all vehicles certified as catalyst-equipped which are included in a manufacturer's catalyst control program for which approval has been given by the Administrator: "CATALYST -- APPROVED FOR IMPORT";

(C) For all vehicles certified as catalyst-equipped which are not included in a manufacturer's catalyst control program for which prior approval has been given by the Administrator: "CATALYST".

(2) In lieu of selecting either of the labeling options of paragraph (c)(1) of this section, the manufacturer may add the information required by paragraph (c)(1)(iii) of this section to the label required by paragraph (a) of this section. The required information will be set forth in the manner prescribed by paragraph (c)(1)(iii) of this section.

(d) Incomplete light-duty trucks or incomplete heavy-duty vehicles optionally certified in accordance with the light-duty truck provisions shall have one of the following prominent statements, as applicable, printed on the label required by paragraph (a)(2) of this section in lieu of the statement required by paragraph (a)(2)(iii)(E) of this section.

(1) Light-duty trucks. The statement, ``This vehicle conforms to U.S. EPA regulations applicable to 19XX Model Year New Light-Duty Trucks when it does not exceed XX pounds in curb weight, XX pounds in

gross vehicle weight rating, and XX square feet in frontal area.''

(2) Heavy-duty vehicles optionally certified in accordance with the light-duty truck provisions. "This heavy-duty vehicle conforms to the U.S. EPA regulations applicable to 19XX Model Year Light-Duty Trucks under the special provision of 40 CFR 86.085 - 1(b) when it does not exceed XXX pounds in curb weight, XXX pounds in gross vehicle weight rating, and XXX square feet in frontal area."

(e) Incomplete heavy-duty vehicles having a gross vehicle weight rating of 8,500 pounds or less shall have one of the following statements printed on the label required by paragraph (a)(3) of this section in lieu of the statement required by paragraph (a)(3)(iii)(H) of this section: "This engine conforms to U.S. EPA regulations applicable to 19XX Model Year Heavy-Duty Engines when installed in a vehicle completed at a curb weight of more than 6,000 pounds or with a frontal area of greater than 45 square feet."

(f) The manufacturer of any incomplete light-duty vehicle or light-duty truck shall notify the purchaser of such vehicle of any curb weight, frontal area, or gross vehicle weight rating limitations affecting the emission certificate applicable to that vehicle. This notification shall be transmitted in a manner consistent with National Highway Traffic Safety Administration safety notification requirements published in 49 CFR part 568.

(g)(1)(i) Incomplete gasoline-fueled heavy-duty vehicles shall have the following prominent statement printed on the label required in paragraph (a)(4) of this section: "(Manufacturer's corporate name) has determined that this vehicle conforms to U.S. EPA regulations applicable to 19XX Model Year New Gasoline-Fueled Heavy-Duty Vehicles when completed with a nominal fuel tank capacity not to exceed XXX gallons. Persons wishing to add fuel tank capacity beyond the above maximum must submit a written statement to the Administrator that the hydrocarbon storage system has been upgraded according to the requirements of 40 CFR 86.092 - 35(g)(2)."

(ii) Incomplete methanol-fueled heavy-duty vehicles shall have the following prominent statement printed on the label required in paragraph (a)(4) of this section: "(Manufacturer's corporate name) has determined that this vehicle conforms to U.S. EPA regulations applicable to 19XX Model Year New Methanol-Fueled Heavy-Duty Vehicles when completed with a nominal fuel tank capacity not to exceed XXX gallons. Persons wishing to add fuel tank capacity beyond the above maximum must submit a written statement to the Administrator that the hydrocarbon storage system has been upgraded according to the requirements of 40 CFR 86.091 - 35(g)(2)."

(2) Persons wishing to add fuel tank capacity beyond the maximum specified on the label required in paragraph (g)(1) of this section shall:

(i) Increase the amount of fuel tank vapor storage material according to the following function:

$$Cap_f = Cap_i \left(\frac{T.\ Vol.}{Max.\ Vol.} \right)$$

Where:

Cap_f = final amount of fuel tank vapor storage material, grams.

Cap_i = initial amount of fuel tank vapor storage material, grams.

T. Vol. = total fuel tank volume of completed vehicle, gallons.

Max. Vol. = maximum fuel tank volume as specified on the label required in paragraph (g)(1) of this section, gallons.

(ii) Use, if applicable, hosing for fuel vapor routing which is at least as impermeable to hydrocarbon vapors as that used by the primary manufacturer.

(iii) Use vapor storage material with the same absorptive characteristics as that used by the primary manufacturer.

(iv) Connect, if applicable, any new hydrocarbon storage device to the existing hydrocarbon storage device in series such that the original hydrocarbon storage device is situated between the fuel tank and the new hydrocarbon storage device. The original hydrocarbon storage device shall be sealed such that vapors cannot reach the atmosphere. The elevation of the original hydrocarbon storage device shall be equal to or lower than the new hydrocarbon storage device.

(v) Submit a written statement to the Administrator that paragraphs (g)(2)(i) through (g)(2)(iv) of this section have been complied with.

(3) If applicable, the Administrator will send a return letter verifying the receipt of the written statement required in paragraph (g)(2)(v) of this section.

(h)(1) Light-duty trucks and heavy-duty vehicles and engines for which nonconformance penalties are to be paid in accordance with §86.1113 - 87(b) shall have the following information printed on the label required in paragraph (a) of this section. The manufacturer shall begin labeling production engines or vehicles within 10 days after the completion of the PCA.

(i) The statement: "The manufacturer of this engine/vehicle will pay a nonconformance penalty to be allowed to introduce it into commerce at an emission level higher than the applicable emission standard. The compliance level (or new emission standard) for this engine/vehicle is XXX." (The manufacturer shall insert the applicable pollutant and compliance level calculated in accordance with §86.1112 - 87(a).)

(2) If a manufacturer introduces an engine or vehicle into commerce prior to the compliance level determination of §86.1112 - 87(a), it shall provide the engine or vehicle owner with a label as described above to be affixed in a location in proximity to the label required in paragraph (a) of this section within 30 days of the completion of the PCA.

§86.095 - 14 Small-volume manufacturers certification procedures.

Section 86.095-14 includes text that specifies requirements that differ from §86.092-14. Where a paragraph in §86.092-14 is identical and applicable to §86.095-14, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.092-14." Where a corresponding paragraph of §86.092-14 is not applicable, this is indicated by the statement "[Reserved]."

(a) thru (c)(7)(i)(C) *(2)(i)* [Reserved]. For guidance see §86.092-14.

(c)(7)(i)(C) *(3)* Manufacturers with aggregated sales from 301 through 9,999 motor vehicles and motor vehicle engines and certifying light-duty vehicle exhaust emissions from vehicles equipped with unproven emission control systems shall use deterioration factors that the manufacturer determines from official certification durability data generated by vehicles from engine families representing a

minimum of 25 percent of the manufacturer's sales equipped with unproven emission control systems. The sales projections are to be based on total sales projected for each engine/system combination. **The durability programs applicable to such manufacturers for this purpose shall be the standard AMA, the production AMA and the alternative service accumulation durability programs of §86.094 - 13.** The durability-data vehicle (engine) mileage accumulation and emission tests are to be conducted according to ~~§86.092 - 26~~ **§86.094 - 13** of this subpart. The manufacturer must develop deterioration factors by generating durability data in accordance with ~~§86.092 - 26~~ **§86.094 - 13** of this subpart on a minimum of 25 percent of the manufacturer's projected sales (by engine/system combination) that is equipped with unproven emission control systems. The manufacturer must complete the 25 percent durability requirement before the remainder of the manufacturer's sales equipped with unproven emission control systems is certified using manufacturer-determined assigned deterioration factors. Alternatively, any of these manufacturers may, at their option, accumulate miles on durability-data vehicles and complete emission tests for the purpose of establishing their own deterioration factors on the remaining sales.

(c)(7)(i)(C)*(4)* **thru** (c)(11)(ii)(B)(15) **[Reserved].** For guidance **see §86.092-14.**

(c)(11)**(ii)**(B)(16) A description of vehicle **adjustments** or **modifications required by** 86.094 - 8(j) and 86.094 - 9(j), if any, to assure that light-duty vehicles and light-duty trucks covered by a certificate of conformity conform to the regulations while being operated at any altitude locations, and a statement of the altitude at which the adjustments or modifications apply.

(17) A description of the light-duty vehicles and light-duty trucks which are exempted from the high-altitude emission standards.

(18) Proof that the manufacturer has obtained or entered an agreement to purchase, when applicable, the insurance policy, required by 85.1510(b) of this chapter. The manufacturer may submit a copy of the insurance policy or purchase agreement as proof that the manufacturer has obtained or entered an agreement to purchase the insurance policy.

(C) The results of all emission tests the manufacturer performs to demonstrate compliance with the applicable standards.

(D)(1) The following statement signed by the authorized representative of the manufacturer: "The vehicles (or engines) described herein have been tested in accordance with (list of the applicable subparts A, B, D, I, M, N, or P) of part 86, title 40, Code of Federal Regulations, and on the basis of those tests are in conformance with that subpart. All of the data and records required by that subpart are on file and are available for inspection by the EPA Administrator. We project the total U.S. sales of vehicles (engines) subject to this subpart (including all vehicles and engines imported under the provisions of 40 CFR 85.1505 and 40 CFR 85.1509) to be fewer than 10,000 units."

(2) A statement as required by and contained in 86.092 - 14(c)(5) signed by the authorized representative of the manufacturer.

(3) A statement that the vehicles or engines described in the

manufacturer's application for certification are not equipped with auxiliary emission control devices which can be classified as a defeat device as defined in 86.092 - 2 of this subpart.

(4) A statement of compliance with section 206(a)(3) of the Clean Air Act.

(5) A statement that, based on the manufacturer's engineering evaluation and/or emission testing, the light-duty vehicles and light-duty trucks comply with emission standards at high altitude unless exempt under 86.094 - 8(h) or 86.094 - 9(h) of this subpart.

(c)(11)(ii)(D)(6) [Reserved]

(c)(11)(ii)(D)(7) through (c)(15) [Reserved]. For guidance see 86.092 - 14.

§86.095 - 24 Test vehicles and engines.

Section 86.095-24 includes text that specifies requirements that differ from §86.092-24. Where a paragraph in §86.092-24 is identical and applicable to §86.095-24, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.092-24." Where a corresponding paragraph of §86.092-24 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1) thru (a)(7) [Reserved] For guidance see §86.092-24.

(a)(8)(i) If the manufacturer elects to participate in the ~~Alternative Durability Program~~ **Production AMA Durability Program**, the engine families covered by an application for certification shall be grouped based upon similar engine design and emission control system characteristics. Each of these groups shall constitute a separate engine family group.

(a)(8)(ii) thru (b)(1)(iv) [Reserved] For guidance see §86.092-24.

(b)(1)(v) For high-altitude exhaust emission compliance for each engine family, the manufacturer shall follow one of the following procedures:

(A) The manufacturer will select for testing under high-altitude conditions the vehicle expected to exhibit the highest emissions from the nonexempt vehicles selected in accordance with 86.092 - 24(b)(1)(ii), (iii), and (iv) or,

(B) In lieu of testing vehicles according to paragraph (b)(1)(v)(A) of this section, a manufacturer may provide a statement in its application for certification that, based on the manufacturer's engineering evaluation of such high-altitude emission testing as the manufacturer deems appropriate that all light-duty vehicles and light-duty trucks not exempt under 86.090 - 8 (h) or 86.094 - 9 (h) comply with the emission standards at high altitude.

(vi) If 90 percent or more of the engine family sales will be in California, a manufacturer may substitute emission-data vehicles selected by the California Air Resources Board criteria for the selections specified in paragraphs (b)(1)(i), (ii), and (iv) of this section.

(vii)(A) Vehicles of each evaporative emission family will be divided into evaporative emission control systems.

(B) The Administrator will select the vehicle expected to exhibit the

highest evaporative emissions, from within each evaporative family to be certified, from among the vehicles represented by the exhaust emission-data selections for the engine family, unless evaporative testing has already been completed on the vehicle expected to exhibit the highest evaporative emissions for the evaporative family as part of another engine family's testing.

(C) If the vehicles selected in accordance with paragraph (b)(1)(vii)(B) of this section do not represent each evaporative emission control system then the Administrator will select the highest expected evaporative emission vehicle from within the unrepresented evaporative system.

(viii) For high-altitude evaporative emission compliance for each evaporative emission family, the manufacturer shall follow one of the following procedures:

(A) The manufacturer will select for testing under high-altitude conditions the one nonexempt vehicle previously selected under paragraphs (b)(1)(vii) (B) or (C) of this section which is expected to have the highest level of evaporative emissions when operated at high altitude, or

(B) In lieu of testing vehicles according to 86.092 - 24 (b)(1)(viii)(A), a manufacturer may provide a statement in its application for certification that, based on the manufacturer's engineering evaluation of such high-altitude emission testing as the manufacturer deems appropriate, that all light-duty vehicles and light-duty trucks not exempt under 86.090 - 8 (h) or 86.094 - 9 (h) comply with the emission standards at high altitude.

(ix) Vehicles selected under paragraph (b)(1)(v)(A) of this section may be used to satisfy the requirements of paragraph (b)(1)(viii)(A) of this section.

(b)(1)(x) [Reserved].

(b)(2) through (e) [Reserved]. For guidance see 86.092 - 24.

(f) **Carryover and carry-across of durability and emission data**. In lieu of testing an emission-data or durability-data vehicle (or engine) selected under paragraph (c) of this section, and submitting data therefore, a manufacturer may, with the prior written approval of the Administrator, submit exhaust emission data and/or fuel evaporative emission data, as applicable on a similar vehicle (or engine) for which certification has previously been obtained or for which all applicable data required under §86.090 - 23 has previously been submitted.

(g)(1) thru (g)(4) [Reserved] For guidance see §86.092-24.

(h) ~~Alternative Durability Program~~ **Production AMA Durability Program** durability-data vehicles. This ~~section~~ **paragraph** applies to light-duty vehicle and light-duty truck durability-data vehicles selected under the ~~Alternative Durability Program~~ **Production AMA Durability Program** described in §86.094-13.

(1) In order to update the durability data to be used to determine a deterioration factor for each engine family group, the Administrator will select durability-data vehicles from the manufacturer's production line. Production vehicles will be selected from each model year's production for those vehicles certified using the ~~Alternative Durability Program~~

Production AMA Durability Program procedures.

(h)(1)(i) thru (h)(3) [Reserved] For guidance see §86.092-24.

§86.095 - 26 Mileage and service accumulation; emission measurements.

Section 86.095-26 includes text that specifies requirements that differ from §86.094-26. Where a paragraph in §86.094-26 is identical and applicable to §86.095-26, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.094-26." Where a corresponding paragraph of §86.094-26 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1) Paragraph (a) of this section applies to light-duty vehicles. It prescribes mileage and service accumulation requirements for durability data vehicles run under either the Standard AMA Durability Program of §86.094-13(c) or the Production AMA Durability Program of §86.094-13(d), and for emission data vehicles regardless of the durability program employed. Service accumulation requirements for durability data vehicles run under the Alternative Service Accumulation Program may be found in §86.094-13(c).

(2)(i) ~~The procedure for mileage accumulation will be~~ The standard method of whole-vehicle service accumulation for durability vehicles and for emission data vehicles in model years 1994 and 1995 shall be mileage accumulation using the Durability Driving Schedule as specified in Appendix IV to this part. ~~A modified procedure may also be used if approved in advance by the Administrator.~~ Except with the advance approval of the Administrator, all vehicles will accumulate mileage at a measured curb weight which is within 100 pounds of the estimated curb weight. If the loaded vehicle weight is within 100 pounds of being included in the next higher inertia weight class as specified in §86.129, the manufacturer may elect to conduct the respect emission tests at higher loaded vehicle weight.

(ii) If approved in advance by the Administrator, a substitute whole-vehicle mileage accumulation schedule to that specified in §86.094-26(a)(2)(i) may also be used. The Administrator may approve such a procedure if it is substantially similar to the procedure specified in §86.094-26(a)(2)(i) in its average speed, distribution of speeds, number of stops per mile, number of accelerations to the various speeds per mile. The Administrator may adopt additional or alternative criteria for evaluating substantially similar mileage schedules, consistent with good engineering practice. The Administrator may also approve a substitute schedule that is not substantially similar to the procedure specified in §86.094-26(a)(2)(i), based on a demonstration that the schedule will generate deterioration factors that reflect in-use deterioration with reasonable certainty.

(3) Emission-data vehicles. Unless otherwise provided for in §86.091 - 23(a), emission-data vehicles shall be operated and tested as follows:

(i) Otto-cycle. (A) The manufacturer shall determine, for each engine family, the mileage at which the engine-system combination is stabilized for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested, a record

of the rationale used in making this determination. The manufacturer may elect to accumulate 4,000 miles on each test vehicle within an engine family without making a determination. The manufacturer must accumulate a minimum of 2,000 miles (3,219 kilometers) on each test vehicle within an engine family. All test vehicle mileage must be accurately determined, recorded, and reported to the Administrator. Any vehicle used to represent emission-data vehicle selections under §86.0~~92~~94 - 24(b)(1) shall be equipped with an engine and emission control system that has accumulated the mileage the manufacturer chose to accumulate on the test vehicle. Fuel economy data generated from certification vehicles selected in accordance with §86.0~~92~~94 - 24(b)(1) with engine-system combinations that have accumulated more than 10,000 kilometers (6,200 miles) shall be factored in accordance with §600.006 ~~-87(c)~~. Complete exhaust and evaporative (if required) emission tests shall be conducted for each emission-data vehicle selection under §86.0~~92~~94 - 24(b)(1). The Administrator may determine under §86.0~~92~~94 - 24(f) that no testing is required.

(B) Emission tests for emission-data vehicle(s) selected for testing under §86.0~~92~~94 - 24(b)(1)(v) or (viii) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing under high-altitude conditions.

(C) Exhaust and evaporative emissions tests for emission-data vehicle(s) selected for testing under §86.0~~92~~94 - 24(b)(1) (i), (ii), (iii), (iv), or (vii)(B) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing under low-altitude conditions.

(D) For each engine family, the manufacturer will either select one vehicle previously selected under §86.0~~92~~94 - 24(b)(1) (i) through (iv) to be tested under high-altitude conditions or provide a statement in accordance with §86.0~~92~~94 - 24(b)(1)(v). Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. In addition, any emission control device used to conform with the emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4,000 feet above sea level.

(ii) Diesel. (A) The manufacturer shall determine, for each engine family, the mileage at which the engine-system combination is stabilized for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested, a record of the rationale used in making this determination. The manufacturer may elect to accumulate 4,000 miles on each test vehicle within an engine family without making a determination. The manufacturer must accumulate a minimum of 2,000 miles (3,219 kilometers) on each test vehicle within an engine family. All test vehicle mileage must be accurately determined, recorded, and reported to the Administrator. Any vehicle used to represent emission-data vehicle selections under §86.0~~92~~94 - 24(b)(1) shall be equipped with an engine and emission control system that has accumulated the mileage the manufacturer chose to accumulate on the test vehicle. Fuel economy data generated from certification vehicles selected in accordance with §86.0~~92~~94 - 24(b)(1) with engine-system combinations that have accumulated more than 10,000 kilometers (6,200 miles) shall be factored in accordance with §600.006 ~~-87(c)~~. Complete exhaust emission tests shall be conducted for each emission-data vehicle selection under §86.0~~92~~94 - 24(b)(1). The Administrator may determine under §86.0~~92~~94 - 24(f) that no testing is required.

(B) Emission tests for emission-data vehicle(s) selected for testing under §86.0~~92~~94 - 24(b)(1)(v) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing under high-altitude conditions.

(C) Exhaust and evaporative emissions tests for emission-data vehicle(s) selected for testing under §86.0~~92~~94 - 24(b)(1) (i), (ii), (iii), (iv), or (vii)(B) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing under low-altitude conditions.

(D) For each engine family, the manufacturer will either select one vehicle previously selected under §86.0~~92~~94 - 24(b)(1) (i) through (iv) to be tested under high-altitude conditions or provide a statement in accordance with §86.0~~92~~94 - 24(b)(1)(v). Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. In addition, any emission control device used to conform with the emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4,000 feet above sea level.

(4)(i) Durability data vehicles. (A) Unless otherwise provided for in §86.0914 - 23(a) or in paragraph (a)(4)(i)(B) of this section, each durability-data vehicle shall be driven on the whole-vehicle mileage accumulation cycle specified in paragraph (a)(2) of this section, with all emission control systems installed and operating, ~~for 50,000 miles~~ up to a mileage endpoint corresponding to the vehicle's durability useful life as defined in §86.094-2 ~~or such lesser distance as the Administrator may agree to as meeting the objective of this procedure~~.

(B) Extrapolation of durability data and changes to the mileage accumulation cycle.

(1) Once a durability vehicle has reached the greater of 75,000 miles or three-quarters of the applicable durability useful life, the manufacturer may petition the Administrator to extrapolate the durability data obtained up to that point out to the durability useful life or to replace the mileage accumulation cycle with an alternative that meets the criteria of §86.094-26(a)(2)(ii). In the petition, the manufacturer shall supplement the durability vehicle data with other information demonstrating the durability of the vehicle's emission control components and systems at or beyond the durability useful life.

(2) Factors the Administrator will consider in evaluating petitions for extrapolation of durability data or for changes to the mileage accumulation cycle include, but are not limited to, any unusual scheduled maintenance, unscheduled maintenance, the general linearity and scatter of the actual data, reasonable explanations for all outlier data, the technical validity of any substitute mileage accumulation cycle, and the manufacturer-supplied evidence of component and system durability.

(3) If a petition for extrapolation of durability data is approved, the endpoint for whole-vehicle mileage accumulation of the durability data vehicle shall be the mileage attained by the vehicle as reflected in the petition.

(4) Discontinuation of a durability-data vehicle shall be allowed only with the consent of the Administrator.

(C) Complete exhaust emission tests shall be made at test point mileage intervals that the manufacturer determines.

~~(C)~~ At a minimum, two complete exhaust emission tests shall be made. The first test shall be made at a distance not greater than 6,250 miles. The last shall be made at ~~50,000 miles~~ **the mileage accumulation endpoint determined in paragraph (a)(4)(A) or (a)(4)(B), whichever is applicable.**

(D) **Except with advance approval of the Administrator,** the mileage interval between test points must be of equal length except for the interval between zero miles and the first test, and any interval before or after testing conducted in conjunction with vehicle maintenance as specified in §86.0~~90~~94 - 25(g)(2).

(ii) The manufacturer may, at its option, alter the durability-data vehicle at the selected test point to represent emission-data vehicle(s) within the same engine-system combination and perform emission tests on the altered vehicle. Upon completion of emission testing, the manufacturer may return the test vehicle to the durability-data vehicle configuration and continue mileage accumulation.

(5)(i) All tests required by this subpart on emission-data vehicles shall be conducted at a mileage equal to or greater than the mileage the manufacturer determines under paragraph (a)(3) of this section.

(ii) All tests required by this subpart on durability-data vehicles shall be conducted within 250 miles of each of the test points.

(6)(i)(A) The manufacturer may conduct multiple tests at any test point at which the data are intended to be used in the deterioration factor. At each test point where multiple tests are conducted, the test results from all valid tests shall be averaged to determine the data point to be used in the deterioration factor calculation, except under paragraph (a)(6)(i)(B) of this section. The test results from emission tests performed before maintenance affecting emissions shall not be averaged with test results after the maintenance.

(B) The manufacturer is not required to average multiple tests if the manufacturer conducts no more than three tests at each test point and if the number of tests at each test point is equal. All test points must be treated the same for all exhaust pollutants.

(ii) The results of all emission testing shall be supplied to the Administrator. The manufacturer shall furnish to the Administrator explanation for voiding any test. The Administrator will determine if voiding the test was appropriate based upon the explanation given by the manufacturer for the voided test. Tests between test points may be conducted as required by the Administrator. Data from all tests (including voided tests) may be submitted weekly to the Administrator, but shall be air posted or delivered to the Administrator within 7 days after completion of the test. In addition, all test data shall be compiled and provided to the Administrator in accordance with §86.091 - 23. Where the Administrator conducts a test on a durability-data vehicle at a prescribed test point, the results of that test will be used in the calculation of the deterioration factor.

(iii) The results of all emission tests shall be rounded, using the "Rounding Off Method" specified in ASTM E 29 - 67, to the number of

places to the right of the decimal point indicated by expressing the applicable emission standard of this subpart to one additional significant figure.

(7) Whenever a manufacturer intends to operate and test a vehicle which may be used for emission or durability data, the manufacturer shall retain in its records all information concerning all emissions tests and maintenance, including vehicle alterations to represent other vehicle selections. For emission-data vehicles, this information shall be submitted, including the vehicle description and specification information required by the Administrator, to the Administrator following the emission-data test. For durability-data vehicles, this information shall be submitted following the 5,000-mile test.

(8) ~~Once a manufacturer submits the information required in paragraphs (a)(7) of this section for a durability-data vehicle, the manufacturer shall continue to run the vehicle to 50,000 miles, and~~ The data from emissions data vehicles and durability data vehicles obtained pursuant to the provisions of this section ~~the vehicle~~ will be used in the calculations under §86.0904 - 28. ~~Discontinuation of a durability-data vehicle shall be allowed only with the consent of the Administrator.~~

(9)(i) The Administrator may elect to operate and test any test vehicle during all or any part of the mileage accumulation and testing procedure. In such cases, the manufacturer shall provide the vehicle(s) to the Administrator with all information necessary to conduct this testing.

(ii) The test procedures in §§86.106 through 86.145 will be followed by the Administrator. The Administrator will test the vehicles at each test point. Maintenance may be performed by the manufacturer under such conditions as the Administrator may prescribe.

(iii) The data developed by the Administrator for the engine-system combination shall be combined with any applicable data supplied by the manufacturer on other vehicles of that combination to determine the applicable deterioration factors for the combination. In the case of a significant discrepancy between data developed by the Administrator and that submitted by the manufacturer, the Administrator's data shall be used in the determination of deterioration factors.

(10) Emission testing of any type with respect to any certification vehicle other than that specified in this part is not allowed except as such testing may be specifically authorized by the Administrator.

(11) This section does not apply to testing conducted to meet the requirements of §86.091 - 23(b)(2).

(b)(1) Paragraph (b) of this section applies to light-duty trucks.

(2) There are ~~three~~ four types of mileage or service accumulation applicable to light-duty trucks:

(i) ~~Mileage or s~~Service accumulation conducted under the Standard Self-Approval Durability Program of §86.094-13(f). This type of service accumulation is applicable for model years 1994 and 1995 only. ~~on vehicles, engines, subsystems, or components selected by the manufacturer under §86.093-24(c)(3)(i).~~ The manufacturer determines the form and extent of this ~~mileage or~~ service accumulation, consistent with good engineering practice, and describes it in the application for certification. Service accumulation under the Standard Self-Approval Durability Program is conducted on vehicles, engines, subsystems, or components

selected by the manufacturer under §86.0~~9~~294 - 24(c)(2)(i).

(ii) Service accumulation conducted under the Alternative Service Accumulation Durability Program of §86.094-13(e). This type of service accumulation is applicable for model years 1994 and 1995 only. The service accumulation method is developed by the manufacturer to be consistent with good engineering practice and to accurately predict the deterioration of the vehicle's emissions in actual use over its full useful life. The method is subject to advance approval by the Administrator and to verification by an in-use verification program conducted by the manufacturer under §86.094-13(e)(5).

(iii) Mileage accumulation of the duration selected by the manufacturer on emission-data vehicles selected under §86.0~~9~~294 - 24(b)(1). The procedure for mileage accumulation will be the Durability Driving Schedule as specified in Appendix IV to this part. A modified procedure may also be used if approved in advance by the Administrator. Except with the advance approval of the Administrator, all vehicles will accumulate mileage at a measured curb weight which is within 100 pounds of the estimated curb weight. If the loaded vehicle weight is within 100 pounds of being included in the next higher inertia weight class as specified in §86.129, the manufacturer may elect to conduct the respective emission tests at higher loaded vehicle weight.

(~~iii~~iv) Service or mileage accumulation which may be part of the test procedures used by the manufacturer to establish evaporative emission deterioration factors.

(3) Exhaust emission deterioration factors will be determined on the basis of the mileage or service accumulation described in paragraph (b)(2)(i) or (ii) of this section and related testing, according to the manufacturer's procedures.

(b)(4) thru (b)(4)(i)(C) [Reserved]. For guidance see §86.092-26.

(D) For each engine family, the manufacturer will either select one vehicle previously selected under 86.092 - 24(b)(1)(i) through (iv) to be tested under high altitude conditions or provide a statement in accordance with 86.095 - 24(b)(1)(v). Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. In addition, any emission control device used to conform with the emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4000 feet above sea level.

(ii) Diesel. (A) The manufacturer shall determine, for each engine family, the mileage at which the engine-system combination is stabilized for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested, a record of the rationale used in making this determination. The manufacturer may elect to accumulate 4,000 miles on each test vehicle within an engine family without making a determination. The manufacturer must accumulate a minimum of 2,000 miles (3,219 kilometers) on each test vehicle within an engine family. All test vehicle mileage must be accurately determined, recorded, and reported to the Administrator. Any vehicle used to represent emission-data vehicle selections under 86.092 - 24(b)(1) shall be equipped with an engine and emission control system that has accumulated the mileage the

manufacturer chose to accumulate on the test vehicle. Fuel economy data generated from certification vehicles selected in accordance with 86.092 - 24(b)(1) with engine-system combinations that have accumulated more than 10,000 kilometers (6,200 miles) shall be factored in accordance with 600.006 - 87(c) of this chapter. Complete exhaust emission tests shall be conducted for each emission-data vehicle selection under 86.092 - 24(b)(1). The Administrator may determine under 86.092 - 24(f) that no testing is required.

(B) Emission tests for emission-data vehicle(s) selected for testing under 86.092 - 24 (b)(1)(v) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing or at the 6,436 kilometer (4,000 mile) test point under high-altitude conditions.

(C) Exhaust and evaporative emission tests for emission-data vehicle(s) selected for testing under 86.092 - 24 (b)(1) (ii), (iii), and (iv) shall be conducted at the mileage (2,000 mile minimum) at which the engine-system combination is stabilized for emission testing or at the 6,436 kilometer (4,000 mile) test point under low-altitude conditions.

(D) For each engine family, the manufacturer will either select one vehicle previously selected under 86.092 - 24(b)(1)(i) through (iv) to be tested under high altitude conditions or provide a statement in accordance with 86.095 - 24(b)(1)(v). Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. In addition, any emission control device used to conform with the emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4,000 feet above sea level.

(b)(4)(iii) through (d) [Reserved]. For guidance see 86.092 - 26.

§86.095 - 30 Certification.

Section 86.095-30 includes text that specifies requirements that differ from §86.091-30. Where a paragraph in §86.091-30 is identical and applicable to §86.095-30, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.091-30." Where a corresponding paragraph of §86.095-30 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1)(i) If, after a review of the test reports and data submitted by the manufacturer, data derived from any inspection carried out under 86.078 - 7(c) and any other pertinent data or information, the Administrator determines that a test vehicle(s) (or test engine(s)) meets the requirements of the Act and of this subpart, he will issue a certificate of conformity with respect to such vehicle(s) (or engine(s)) except in cases covered by paragraph (a)(1)(ii) of this section and 86.091 - 30 (c).

(ii) Gasoline-fueled and methanol-fueled heavy-duty vehicles. If, after a review of the statement(s) of compliance submitted by the manufacturer under 86.094 - 23(b)(4) and any other pertinent data or information, the Administrator determines that the requirements of the Act and this subpart have been met, he will issue one certificate of conformity per manufacturer with respect to the evaporative emission family(ies) covered by 86.091 - 30 (c).

(2) Such certificate will be issued for such period not to exceed one model year as the Administrator may determine and upon such terms as he may deem necessary or appropriate to assure that any new motor vehicle (or new motor vehicle engine) covered by the certificate will meet the requirements of the Act and of this part.

(3)(i) One such certificate will be issued for each engine family. For gasoline-fueled and methanol-fueled light-duty vehicles and light-duty trucks, one such certificate will be issued for each engine family evaporative emission family combination. Each certificate will certify compliance with no more than one set of in-use and certification standards (or family emission limits, as appropriate).

(ii) For gasoline-fueled and methanol fueled heavy-duty vehicles, one such certificate will be issued for each manufacturer and will certify compliance for those vehicles previously identified in that manufacturer's statement(s) of compliance as required in 86.094 - 23(b)(4) (i) and (ii).

(iii) For diesel light-duty vehicles and light-duty trucks, or diesel heavy-duty engines, included in the applicable particulate averaging program, the manufacturer may at any time during production elect to change the level of any family particulate emission limit by demonstrating compliance with the new limit as described in 86.091 - 28(a)(6) and 86.091 - 28(b)(5)(i). New certificates issued under this paragraph will be applicable only for vehicles (or engines) produced subsequent to the date of issuance.

(iv) For light-duty trucks or heavy-duty engines included in the applicable NOx averaging program, the manufacturer may at any time during production elect to change the level of any family NOx emission limit by demonstrating compliance with the new limit as described in 86.091 - 28(b)(5)(ii). New certificates issued under this paragraph will be applicable only for vehicles (or engines) produced subsequent to the day of issue.

(4)(i) For exempt light-duty vehicles and light-duty trucks under the provisions of 86.094 - 8(j) or 86.094 - 9(j), an adjustment or modification performed in accordance with instructions provided by the manufacturer for the altitude where the vehicle is principally used will not be considered a violation of section 203(a)(3) of the Clean Air Act.

(ii) A violation of section 203(a)(1) of the Clean Air Act occurs when a manufacturer sells or delivers to an ultimate purchaser any light-duty vehicle or light-duty truck, subject to the regulations under the Act, under any of the conditions specified in paragraph (a)(4)(ii) of this section.

(A) When a light-duty vehicle or light-duty truck is exempted from meeting high altitude requirements as provided in 86.090 - 8(h) or 86.094 - 9(h):

(1) At a designated high altitude location, unless such manufacturer has reason to believe that such vehicle will not be sold to an ultimate purchaser for principal use at a designated high-altitude location; or

(2) At a location other than a designated high altitude location, when such manufacturer has reason to believe that such motor vehicle will be sold to an ultimate purchaser for principal use at a designated high altitude location.

(B) When a light-duty vehicle or light-duty truck is exempted from meeting low-altitude requirements, as provided in 86.094 - 8(i) or 86.094 - 9(i):

(1) At a designated low-altitude location, unless such manufacturer has reason to believe that such vehicle will not be sold to an ultimate purchaser for principal use at a designated low-altitude location.

(2) At a location other than a designated low-altitude location, when such manufacturer has reason to believe that such motor vehicle will be sold to an ultimate purchaser for principal use at a designated low-altitude location.

(iii) A manufacturer shall be deemed to have reason to believe that a light-duty vehicle or light-duty truck that has been exempted from compliance with emission standards at high altitude, will not be sold to an ultimate purchaser for principal use at a designated high altitude location if the manufacturer has informed its dealers and field representatives about the terms of those high altitude regulations, has not caused the improper sale itself, and has taken reasonable action which shall include, but shall not be limited to, either paragraph (a)(4)(iii)(A) or (B) and paragraph (a)(4)(iii)(C) of this section:

(A) Requiring dealers in designated high-altitude locations to submit written statements to the manufacturer signed by the ultimate purchaser that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location; requiring dealers in counties contiguous to designated high-altitude locations to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated high-altitude location, that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location; and for each sale or delivery of fleets of ten or more such vehicles in a high-altitude location or in counties contiguous to high-altitude locations, requiring either the selling dealer or the delivering dealer to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated high-altitude location, that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location. In addition, the manufacturer will make available to EPA, upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold), sales, warranty, or other information pertaining to sales of vehicles by the dealers described above maintained by the manufacturer in the normal course of business relating to the altitude configuration of vehicles and the locations of ultimate purchasers; or

(B) Implementing a system which monitors factory orders of low-altitude vehicles by high-altitude dealers, or through other means, identifies dealers that may have sold or delivered a vehicle not configured to meet the high-altitude requirements to an ultimate purchaser for principal use at a designated high-altitude location; and making such information

available to EPA upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold); and

(C) Within a reasonable time after receiving written notice from EPA or a State or local government agency that a dealer may have improperly sold or delivered a vehicle not configured to meet the high-altitude requirements to an ultimate purchaser residing in a designated high-altitude location, or based on information obtained pursuant to paragraph (a)(4)(iii) of this section that a dealer may have improperly sold or delivered a significant number of such vehicles to ultimate purchasers so residing, reminding the dealer in writing of the requirements of these regulations, and, where appropriate, warning the dealer that sale by the dealer of vehicles not configured to meet high-altitude requirements may be contrary to the terms of its franchise agreement with the manufacturer and the dealer certification requirements of 85.2108 of this chapter.

(iv) A manufacturer shall be deemed to have reason to believe that a light-duty vehicle or light-duty truck which has been exempted from compliance with emission standards at low altitude, as provided in 86.094 - 8(i) or 86.094 - 9(i), will not be sold to an ultimate purchaser for principal use at a designated low-altitude location if the manufacturer has informed its dealers and field representatives about the terms of the high-altitude regulations, has not caused the improper sale itself, and has taken reasonable action which shall include, but not be limited to either 86.091 - 30(a)(4)(iv) (A) or (B) and 86.091 - 30(a)(4)(iv)(C):

(a)(4)(iv)(A) through (a)(11) [Reserved]. For guidance see 86.091 - 30.

(a)(12) For all light-duty vehicles certified to standards under 86.094 - 8 or to which standards under 86.708 - 94 are applicable:

(i) All certificates issued are conditional upon the manufacturer complying with all provisions of 86.094 - 8 and 86.708 - 94 both during and after model year production.

(ii) Failure to meet the required implementation schedule sales percentages as specified in 86.094 - 8 and 86.708 - 94 will be considered to be a failure to satisfy the conditions upon which the certificate(s) was issued and the vehicles sold in violation of the implementation schedule shall not be covered by the certificate.

(iii) The manufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied.

(13) For all light-duty trucks certified to Tier 0 standards under 86.094 - 9 and to which standards under 86.709 - 94 are applicable:

(i) All certificates issued are conditional upon the manufacturer complying with all provisions of 86.094 - 9 and 86.709 - 94 both during and after model year production.

(ii) Failure to meet the required implementation schedule sales percentages as specified in 86.094 - 9 and 86.709 - 94 will be considered

to be a failure to satisfy the conditions upon which the certificate(s) was issued and the individual vehicles sold in violation of the implementation schedule shall not be covered by the certificate.

(iii) The manufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied.

(14) For all light-duty vehicles and light-duty trucks certified with an Alternative Service Accumulation Durability Program under §86.094-13(e):

(i) All certificates issued are conditional upon the manufacturer performing the in-use verification program pursuant to the agreement described in §86.094-13(e)(9).

(ii) Failure to fully comply with all the terms of the in-use verification program pursuant to the agreement described in §86.094-13(e)(9) will be considered a failure to satisfy the conditions upon which the certificate was issued. A vehicle will be considered to be covered by the certificate only if the manufacturer fulfills the conditions upon which the certificate is issued.

(iii) The manufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied.

(b) through (d)(7) [Reserved]. For guidance see 86.091 - 30.

(d)(8) Any voiding of the certificate under 86.091 - 30(a)(10) will be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with 86.614.

(e) introductory text through (e)(7) [Reserved]. For guidance see 86.091 - 30.

(e)(8) Any voiding of the certificate under 86.091 - 30 (a)(10) or (a)(11) will be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with 86.1014.

§86.095 - 35 Labeling.

Section 86.095-35 includes text that specifies requirements that differ from §86.092-35. Where a paragraph in §86.094-35 is identical and applicable to §86.095-35, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.094-35." Where a corresponding paragraph of §86.094-35 is not applicable, this is indicated by the statement "[Reserved]."

(a) introductory text through (a)(1)(iii)(E) [Reserved]. For guidance see 86.092 - 35.

(F) **[Reserved]** ~~If the manufacturer is provided an alternate useful life period under the provisions of §86.094 - 21(f), the prominent statement: "This vehicle has been certified to meet U.S. EPA standards for a useful life period of XXX years or XXX miles of operation, whichever occurs first. This vehicle's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than years or miles (e.g., hours, or miles only).~~

(G) For vehicles that have been exempted from compliance with the emission standards at high altitude, as specified in 86.090 - 8(h):

(1) A highlighted statement (e.g., underscored or boldface letters) that the vehicle is certified to applicable emission standards at low altitude only;

(2) A statement that the vehicle's unsatisfactory performance under high-altitude conditions makes it unsuitable for principal use at high altitude; and

(3) A statement that the emission performance warranty provisions of 40 CFR part 85, subpart V do not apply when the vehicle is tested at high altitude;

(H) For vehicles that have been exempted from compliance with the emission standards at low altitude, as specified in 86.094 - 8(i):

(1) A highlighted statement (e.g., underscore or boldface letters) that the vehicle is certified to applicable emission standards at high altitude only; and

(2) A statement that the emission performance warranty provisions of 40 CFR part 85, subpart V do not apply when the vehicle is tested at low altitude;

(I) The vacuum hose routing diagram applicable to the vehicles if the vehicles are equipped with vacuum actuated emission and emission-related components. The manufacturer may, at its option, use a separate label for the vacuum hose routing diagram provided that the vacuum hose diagram is placed in a visible and accessible position as provided in this section;

(J) Vehicles granted final admission under 85.1505 of this chapter must comply with the labeling requirements contained in 85.1505 of this chapter;

(K) Vehicles which have been certified under the provisions of 86.094 - 8(j) must comply with the labeling requirements contained in 86.1606.

(2) Light-duty truck and heavy-duty vehicles optionally certified in accordance with the light-duty truck provisions. (i) A legible, permanent label shall be affixed in a readily visible position in the engine compartment.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label.

(A) The label heading: Important Vehicle Information;

(B) Full corporate name and trademark of the manufacturer;

(C) Engine displacement (in cubic inches or liters) and engine family identification;

(D) Engine tune-up specifications and adjustments, as recommended by the manufacturer in accordance with the applicable emission standards (or family emission limits, as appropriate), including but not limited to idle speed(s), ignition timing, the idle air-fuel mixture setting procedure and value (e.g.,

idle CO, idle air-fuel ratio, idle speed drop), high idle speed, initial injection timing, as well as other parameters deemed necessary by the manufacturer. These specifications should indicate the proper transmission position during tune-up and what accessories (e.g., air conditioner), if any, should be in operation;

(E)(1) Light-duty trucks. The prominent statement, "This vehicle conforms to U.S. EPA regulations applicable to 19XX Model Year New Light-Duty Trucks."

(E)(2) Heavy-duty vehicles optionally certified in accordance with the light-duty truck provisions. The prominent statement, "This heavy-duty vehicle conforms to the U.S. EPA regulations applicable to 19XX Model Year Light-Duty Trucks under the special provision of 40 CFR 86.092 - 1(b).";

(F) If the manufacturer is provided an alternate useful life period under the provisions of 86.094 - 21(f), the prominent statement: "This vehicle has been certified to meet U.S. EPA standards for a useful life period of XXX years or XXX miles of operation, whichever occurs first. This vehicle's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than years or miles (e.g., hours, or miles only);

(G) For light-duty trucks that have been exempted from compliance with the emission standards at high altitude, as specified in 86.094 - 9(h):

(1) A highlighted statement (e.g., underscored or boldface letters) that the vehicle is certified to applicable emission standards at low altitude only;

(2) A statement that the vehicle's unsatisfactory performance under high-altitude conditions makes it unsuitable for principal use at high altitude; and

(3) A statement that the emission performance warranty provisions of 40 CFR part 85, subpart V do not apply when the vehicle is tested at high altitude;

(H) For light-duty trucks that have been exempted from compliance with the emission standards at low altitude, as specified in 86.094 - 9(i):

(1) A highlighted statement (e.g., underscored or boldface letters) that the vehicle is certified to applicable emission standards at high altitude only; and

(2) A statement that the emission performance warranty provisions of 40 CFR part 85, subpart V do not apply when the vehicle is tested at low altitude;

(I) Light-duty trucks which have been certified under the provisions of 86.094 - 9(j) must comply with the labeling requirements contained in 86.1606;

(J) The exhaust emission standards (or family emission limits, if applicable) to which the engine family is certified, and the corresponding exhaust emission standards (or family emission limits, if applicable) which the engine family must meet in-use.

(a)(2)(iii)(K) [Reserved].

(a)(2)(iii)(L) through (a)(3)(iii)(H) [Reserved]. For guidance see 86.092 - 35.

(a)(3)(iii)(I) If the manufacturer is provided with an alternate useful life period under the provisions of 86.094 - 21(f), the prominent statement: "This engine has been certified to meet U.S. EPA standards for a useful-life period of XXX miles or XXX hours of operation, whichever occurs first. This engine's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than miles or hours (e.g., years, or hours only);

(a)(3)(iii)(J) through (b) [Reserved]. For guidance see 86.092-35.

(c)(1) The manufacturer of any light-duty vehicle or light-duty truck subject to the emission standards (or family emission limits, as appropriate) of this subpart shall, in addition and subsequent to setting forth those statements on the label required by the Department of Transportation (DOT) pursuant to 49 CFR 567.4, set forth on the DOT label or an additional label located in proximity to the DOT label and affixed as described in 49 CFR 567.4(b), the following information in the English language, lettered in block letters and numerals not less than three thirty-seconds of an inch high, of a color that contrasts with the background of the label:

(i) The heading: "Vehicle Emission Control Information."

(ii)(A) For light-duty vehicles, The statement: "This Vehicle Conforms to U.S. EPA Regulations Applicable to 19XX Model Year New Motor Vehicles."

(B) For light-duty trucks, (1) The statement: "This vehicle conforms to U.S. EPA regulations applicable to 19XX Model Year New Light-Duty Trucks."

(2) **[Reserved]** ~~If the manufacturer is provided an alternate useful life period under the provisions of §86.094 - 21(f), the prominent statement: "This vehicle has been certified to meet U.S. EPA standards for a useful-life period of XX years or XX miles of operation, whichever occurs first. This vehicle's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than years or miles (e.g., hours, or miles only).~~

(iii) One of the following statements, as applicable, in letters and numerals not less than six thirty-seconds of an inch high and of a color that contrasts with the background of the label:

(A) For all vehicles certified as noncatalyst-equipped: "NON-CATALYST";

(B) For all vehicles certified as catalyst-equipped which are included in a manufacturer's catalyst control program for which approval has been given by the Administrator: "CATALYST -- APPROVED FOR IMPORT";

(C) For all vehicles certified as catalyst-equipped which are not included in a manufacturer's catalyst control program for which prior approval has been given by the Administrator: "CATALYST".

(2) In lieu of selecting either of the labeling options of paragraph (c)(1) of this section, the manufacturer may add the information required by paragraph (c)(1)(iii) of this section to the label required by paragraph (a) of this section. The required information will be set forth in the manner prescribed by

paragraph (c)(1)(iii) of this section.

(d) Incomplete light-duty trucks or incomplete heavy-duty vehicles optionally certified in accordance with the light-duty truck provisions shall have one of the following prominent statements, as applicable, printed on the label required by paragraph (a)(2) of this section in lieu of the statement required by paragraph (a)(2)(iii)(E) of this section.

(1) Light-duty trucks. The statement, "This vehicle conforms to U.S. EPA regulations applicable to 19XX Model Year New Light-Duty Trucks when it does not exceed XX pounds in curb weight, XX pounds in gross vehicle weight rating, and XX square feet in frontal area."

(d)(2) through (h) [Reserved]. For guidance see 86.092 - 35.

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[56 FR 25755, June 5, 1991]

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§ 86.096 - 8 Emission standards for 1996 and later model year light-duty vehicles.

Section 86.096 - 8 includes text that specifies requirements that differ from 86.090 - 8. Where a paragraph in 86.090 - 8 is identical and applicable to 86.096 - 8, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see 86.090 - 8." Where a corresponding paragraph of 86.090 - 8 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1) Standards. (i) Exhaust emissions from 1996 and later model year light-duty vehicles shall meet all standards in Tables A96 - 1 and A96 - 2 in the rows designated with the applicable fuel type. Light-duty vehicles shall not exceed the applicable standards in Table A96 - 1 and shall not exceed the applicable standards in Table A96 - 2.

Refer to Table A96 - 1 -- Intermediate Useful Life Standards (g/mi) for Light-Duty Vehicles

Refer to Table A96 - 2 -- Full Useful Life Standards (g/mi) for Light-Duty Vehicles

(ii)(A) Vehicles subject to the standards of paragraph (a)(1)(i) of this section shall be all actual U.S. sales of light-duty vehicles of the applicable model year by a manufacturer.

(B) A manufacturer can not use one set of engine families to meet its intermediate useful life standards and another to meet its full useful life standards. The same families which are used to meet the intermediate useful life standards will be required without deviation to meet the corresponding full useful life standards.

(2) The standards set forth in paragraph (a)(1)(i) of this section refer to the exhaust emitted over a driving schedule as set forth in subpart B of this part and measured and calculated in accordance with those procedures. The test weight basis for light-duty vehicles, for the purposes of determining equivalent test weight as prescribed in 86.129 - 94, shall be loaded vehicle weight.

(b) through (h) [Reserved]. For guidance see 86.090 - 8.

(i)(1) The manufacturers may exempt 1996 and later model year vehicles from compliance at low altitude with the emission standards set forth in paragraph (a) of this section and 86.090 - 8(b) if the vehicles:

(i) Are not intended for sale at low altitude; and

(ii) Are equipped with a unique, high-altitude axle ratio (rear-wheel drive vehicles) or a unique, high-altitude drivetrain (front-wheel drive vehicles) with a higher N/V ratio than other configurations of that model type which are certified in compliance with the emission standards of paragraph (a) of this section and 86.090 - 8(b) under low-altitude conditions.

(2) The sale of a vehicle for principal use at low altitude that has been exempted as set forth in paragraph (i)(1) of this section will be considered a violation of section 203(a)(1) of the Clean Air Act.

(j) Any exempted light-duty vehicle that a manufacturer wishes to certify for sale under the provisions of 86.090 - 8 (h) or paragraph (i) of this section is subject to the provisions of subpart Q of this part.

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[56 FR 25756, June 5, 1991]

Effective Date Note: At 56 FR 25756, June 5, 1991, 86.096 - 8 was added, effective July 5, 1991.

§ 86.097 - 9 Emission standards for 1997 and later model year light-duty trucks.

(a)(1) Standards -- (i) Light light-duty trucks. (A) Exhaust emissions from 1997 and later model year light light-duty trucks shall meet all standards in Tables A97 - 1 and A97 - 2 in the rows designated with the applicable fuel type and loaded vehicle weight. Light light-duty trucks shall not exceed the applicable standards in Table A97 - 1 and shall not exceed the applicable standards in Table A97 - 2.

Refer to Table A97 - 1 -- Intermediate Useful Life Standards (g/mi) for Light Light-Duty Trucks

Refer to Table A97 - 2 -- Full Useful Life Standards (g/mi) for Light Light-Duty Trucks

(B)(1) Vehicles subject to the standards of paragraph (a)(1)(i)(A) of this section shall be all actual U.S. sales of light-duty vehicles of the applicable model year by a manufacturer.

(2) A manufacturer can not use one set of engine families to meet its intermediate useful life standards and another to meet its full useful life standards. The same families which are used to meet the intermediate useful life standards will be required without deviation to meet the corresponding full useful life standards.

(ii) Heavy light-duty trucks. (A) Exhaust emissions from 1997 and later model year heavy light-duty trucks shall meet all standards in Tables A97 - 3 and A97 - 4 in the rows designated with the applicable fuel type and adjusted loaded vehicle weight. Heavy light-duty trucks shall not exceed the

applicable standards in Table A97 - 3 and shall not exceed the applicable standards in Table A97 - 4.

Refer to Table A97 - 3 -- Intermediate Useful Life Standards (g/mi) for Heavy Light-Duty Trucks

Refer to Table A97 - 4 -- Full Useful Life Standards (g/mi) for Heavy Light-Duty Trucks

(B)(1) Vehicles subject to the standards of paragraph (a)(1)(ii)(A) of this section shall be all actual U.S. sales of light-duty vehicles of the applicable model year by a manufacturer.

(2) A manufacturer can not use one set of engine families to meet its intermediate useful life standards and another to meet its full useful life standards. The same families which are used to meet the intermediate useful life standards will be required without deviation to meet the corresponding full useful life standards.

(iii) Exhaust emissions of carbon monoxide from 1997 and later model year light-duty trucks shall not exceed 0.50 percent of exhaust gas flow at curb idle at a useful life of 11 years or 120,000 miles, whichever first occurs (for Otto-cycle and methanol-fueled diesel-cycle light-duty trucks only)

(2) The standards set forth in paragraphs (a)(1)(i) and (a)(1)(ii) of this section refer to the exhaust emitted over a driving schedule as set forth in subpart B of this part and measured and calculated in accordance with those procedures. The test weight basis for light light-duty trucks, for the purposes of determining equivalent test weight as prescribed in 86.129 - 94, shall be loaded vehicle weight. The test weight basis for heavy light-duty trucks, for the purposes of determining equivalent test weight as prescribed in 86.129 - 94, shall be adjusted loaded vehicle weight. The standard set forth in paragraph (a)(1)(iii) of this section refers to the exhaust emitted at curb idle and measured and calculated in accordance with the procedures set forth in subpart P of this part.

(b) Fuel evaporative emissions from 1997 and later model year light-duty trucks shall not exceed:

(1) Hydrocarbons (for gasoline-fueled light-duty trucks). 2.0 grams per test.

(2) Organic Material Hydrocarbon Equivalent (for methanol-fueled light-duty trucks). 2.0 grams per test.

(3) The standards set forth in paragraphs (b) (1) and (2) of this section refer to a composite sample of the fuel evaporative emissions collected under the conditions set forth in Subpart B of this part and measured in accordance with those procedures.

(c) No crankcase emissions shall be discharged into the ambient atmosphere from any 1997 and later model year light-duty truck.

(d) through (f) [Reserved]

(g) Any model year 1997 and later light-duty truck that a manufacturer wishes to certify for sale shall meet the emission standards under both low- and high-altitude conditions as specified in 86.082 - 2, except as provided in paragraphs (h) and (i) of this section. Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. Any emission control device used to meet

emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4,000 feet above sea level.

(h) The manufacturer may exempt 1997 and later model year light-duty trucks from compliance at high altitude with the emission standards set forth in paragraphs (a) and (b) of this section, if the vehicles are not intended for sale at high altitude and if the requirements of paragraphs (h) (1) and (2) of this section are met.

(1) A vehicle configuration shall only be considered eligible for exemption under paragraph (h) of this section if the requirements of any of paragraphs (h)(1) (i), (ii), (iii), or (iv) of this section are met.

(i) Its design parameters (displacement-to-weight ratio (D/W) and engine speed-to-vehicle-speed ratio (N/V)) fall within the exempted range for that manufacturer for that year. The exempted range is determined according to the following procedure:

(A) The manufacturer shall graphically display the D/W and N/V data of all vehicle configurations it will offer for the model year in question. The axis of the abscissa shall be D/W (where (D) is the engine displacement expressed in cubic centimeters and (W) is the gross vehicle weight (GVW) expressed in pounds), and the axis of the ordinate shall be N/V (where (N) is the crankshaft speed expressed in revolutions per minute and (V) is the vehicle speed expressed in miles per hour). At the manufacturer's option, either the 1:1 transmission gear ratio or the lowest numerical gear ratio available in the transmission will be used to determine N/V. The gear selection must be the same for all N/V data points on the manufacturer's graph. For each transmission/axle ratio combination, only the lowest N/V value shall be used in the graphical display.

(B) The product line is then defined by the equation, $N/V=C(D/W)^{0.9}$ where the constant, C, is determined by the requirement that all the vehicle data points either fall on the line or lie to the upper right of the line as displayed on the graphs.

(C) The exemption line is then defined by the equation, $N/V=C(0.94\ D/W)^{0.9}$ where the constant, C, is the same as that found in paragraph (h)(1)(i)(B) of this section.

(D) The exempted range includes all values of N/V and D/W which simultaneously fall to the lower left of the exemption line as drawn on the graph.

(ii) Its design parameters fall within the alternate exempted range for that manufacturer that year. The alternate exempted range is determined by substituting rated horsepower (hp) for displacement (D) in the exemption procedure described in paragraph (h)(1)(i) of this section and by using the product line $N/V=C(hp/W)^{0.9}$.

(A) Rated horsepower shall be determined by using the Society of Automotive Engineers Test Procedure J 1349 (copies may be obtained from SAE, 400 Commonwealth Dr., Warrendale, PA 15096), or any subsequent version of that test procedure. Any of the horsepower determinants within that test procedure may be used, as long as it is used consistently throughout the manufacturer's product line in any model year.

(B) No exemptions will be allowed under paragraph (h)(1)(ii) of this

section to any manufacturer that has exempted vehicle configurations as set forth in paragraph (h)(1)(i) of this section.

(iii) Its acceleration time (the time it takes a vehicle to accelerate from 0 to a speed not less than 40 miles per hour and not greater than 50 miles per hour) under high-altitude conditions is greater than the largest acceleration time under low-altitude conditions for that manufacturer for that year. The procedure to be followed in making this determination is:

(A) The manufacturer shall list the vehicle configuration and acceleration time under low-altitude conditions of that vehicle configuration which has the highest acceleration time under low-altitude conditions of all the vehicle configurations it will offer for the model year in question. The manufacturer shall also submit a description of the methodology used to make this determination.

(B) The manufacturer shall then list the vehicle configurations and acceleration times under high-altitude conditions of all those vehicles configurations which have higher acceleration times under high-altitude conditions than the highest acceleration time at low altitude identified in paragraph (h)(1)(iii)(A) of this section.

(iv) In lieu of performing the test procedure of paragraph (h)(1)(iii) of this section, its acceleration time can be estimated based on the manufacturer's engineering evaluation, in accordance with good engineering practice, to meet the exemption criteria of paragraph (h)(1)(iii) of this section.

(2) A vehicle shall only be considered eligible for exemption under this paragraph if at least one configuration of its model type (and transmission configuration in the case of vehicles equipped with manual transmissions, excluding differences due to the presence of overdrive) is certified to meet emission standards under high-altitude conditions as specified in paragraphs (a) through (g) of this section. The Certificate of Conformity (the Certificate) covering any exempted configuration(s) will also apply to the corresponding non-exempt configuration(s) required under this subparagraph. As a condition to the exemption, any suspension, revocation, voiding, or withdrawal of the Certificate as it applies to a non-exempt configuration for any reason will result in a suspension of the Certificate as it applies to the corresponding exempted configuration(s) of that model type, unless there is at least one other corresponding non-exempt configuration of the same model type still covered by the Certificate. The suspension of the Certificate as it applies to the exempted configuration(s) will be terminated when any one of the following occurs:

(i) Another corresponding non-exempt configuration(s) receive(s) coverage under the Certificate; or

(ii) Suspension of the Certificate as it applies to the corresponding non-exempt configuration(s) is terminated; or

(iii) The Agency's action(s), with respect to suspension, revocation, voiding or withdrawal of the Certificate as it applies to the corresponding non-exempt configuration(s), is reversed.

(3) The sale of a vehicle for principal use at a designated high-altitude location that has been exempted as set forth in paragraph (h)(1) of this section will be considered a violation of section 203(a)(1) of the Clean Air Act.

(i)(1) The manufacturers may exempt 1997 and later model year light-duty trucks from compliance at low altitude with the emission standards set forth in paragraphs (a) and (b) of this section if the vehicles:

(i) Are not intended for sale at low altitude; and

(ii) Are equipped with a unique, high-altitude axle ratio (rear-wheel drive vehicles) or a unique, high-altitude drivetrain (front-wheel drive vehicles) with a higher N/V ratio than other configurations of that model type which are certified in compliance with the emission standards of paragraphs (a) and (b) of this section under low-altitude conditions.

2) The sale of a vehicle for principal use at low altitude that has been exempted as set forth in paragraph (i)(1) of this section will be considered a violation of section 203(a)(1) of the Clean Air Act.

(j) Any light-duty truck that a manufacturer wishes to certify for sale under the provisions of paragraphs (h) or (i) of this section is subject to the provisions of subpart Q of this part.