For the reasons set out in the preamble, part 86 of Title 40 of the Code of Federal Regulations is amended as follows:

Part 86 - Control of Air Pollution from new motor vehicles and new motor vehicle engines: Certification and Test Procedures.

1. The authority citation for part 86 continues to read as follows:

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

2. §86.091-28 is amended by adding a new paragraph (e)

§86.091-28 Compliance with emission standards

* * * * *

(e) Unless a manufacturer develops specific cold temperature deterioration factors, 68-86◦F deterioration factors shall be used to determine compliance with cold temperature emission standards.

3. Section 86.094-2 is amended by adding the following:

§86.094-2 Definitions.

"Defeat Device" means an auxilary emission control device (AECD) that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, unless (1) such conditions are substantially included in the Federal emission test procedure, (2) the need for the AECD is justified in terms of protecting the vehicle against damage or accident, or (3) the AECD does not go beyond the requirements of engine starting.

"Element of Design" means any control system (i.e., computer software, electronic control system, emission control system, computer logic), and/or control system calibrations, and/or the results of systems interaction, and/or hardware items on a motor vehicle or motor vehicle engine.

"Intermediate Temperature Cold Testing" means testing done pursuant to the driving cycle and testing conditions contained in

40 CFR Part 86 Subpart C, at temperatures between 25◦F (-4◦C) and 68◦F (20◦C).

4. Section 86.094-7 has been revised to incorporate cold temperature CO recordkeeping requirements in paragraph (h).

§86.094-7 Maintenance of records; submittal of information; right of entry

* * * * * * *

(h)(1) The manufacturer (or contractor for the manufacturer, if applicable) of any model year 1994 through 1997 light-duty vehicle or light light-duty truck or model year 1994 through 1998 heavy light-duty truck that is certified shall establish, maintain, and retain the following adequately organized and indexed records for each such vehicle:

(i) EPA engine family;
(ii) Vehicle identification number;
(iii) Model year and production date;
(iv) Shipment date;
(v) Purchaser; and
(vi) Purchase contract.

(2) In addition, the manufacturer (or contractor for the manufacturer, if applicable) of each certified engine family shall establish, maintain, and retain adequately organized records of the actual U.S. sales volume for the model year for each engine family. The manufacturer may petition the Administrator to allow actual volume produced for U.S. sale to be used in lieu of actual U.S. sales. Such petition shall be submitted within 30 days of the end of the model year to the Manufacturer Operations Division. For the petition to be granted, the manufacturer must establish to the satisfaction of the Administrator that actual production volume is functionally equivalent to actual sales volume.

(3) The manufacturer (or contractor for the manufacturer, if applicable) shall retain all records required to be maintained under this section for a period of eight (8) years from the due date for the applicable end-of-model year report. Records may be retained as hard copy or reduced to microfilm, ADP film, etc., depending on the manufacturer's record retention procedure, provided that in every case all the information contained in the hard copy is retained.

(Approved by the Office of Management and Budget under Control Number 2060-0104.)

(4) Nothing in this section limits the Administrator's discretion in requiring the manufacturer to retain additional records or submit information not specifically required by this section.

(5) Pursuant to a request made by the Administrator, the manufacturer shall submit to him the information that is required to be retained.

(6) Voiding a certificate. (i) EPA may void ab initio a certificate for a vehicle certified to Tier 0 certification standards for which the manufacturer fails to retain the records required in this section or to provide such information to the Administrator upon request.

(ii) EPA may void ab initio a certificate for a 1994 or 1995 model year light-duty vehicle or light-duty truck that is not certified in compliance with the cold temperature CO standard for which the manufacturer fails to retain the records required in this section or to provide such information to the Administrator upon request.

(iii) Any voiding ab initio of a certificate under 86.091-7 (c) and paragraph (h) 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 for light-duty vehicles or under §86.1014 for light-duty trucks and heavy-duty engines.

6. Section 86.094-8 is amended by adding paragraph (k):

§86.094-8 Emission standards for 1994 model year light-duty vehicles

* * * * *

(b) Fuel evaporative emissions from 1994 and later model year light-duty vehicles shall not exceed (compliance with these standards is optional for l994 model year methanol-fueled engines):

(1) Hydrocarbons (for gasoline-fueled vehicles). 2.0 grams per test.

(2) Organic Material Hydrocarbon Equivalent (for methanol-fueled vehicles). 2.0 grams carbon per test.

(3) The standards set forth in paragraphs (b) (1) and (2) of this section refers 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 1994 and later model year Otto-cycle or methanol-fueled diesel light-duty vehicle.

(d) through (f) [Reserved]

(g) Any 1994 and later model year light-duty vehicle 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 1994 and later model year vehicles 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 either paragraph (h) (l) (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 BZ) For gasoline-fueled light-duty vehicles, a minimum of the percentage shown in Table A94-16 of a manufacturer's sales of the applicable model year's light-duty vehicles shall not exceed the applicable cold temperature CO standard of 10.0 grams per mile for an intermediate useful life of 50,000 miles, as measured and calculated under the provisions set forth in Subpart C. This standard applies under both low and high altitude conditions. At the manufacturer's option, the manufacturer may combine the sales of gasoline-fueled light-duty vehicles and gasoline-fueled light-duty trucks in determining compliance with the required 1994 and 1995 model year phase-in percentages as included in Table A94-16.

Table A94-16

Implementation Schedule for Combined Sales of

Light-duty Vehicles and Light-duty Trucks for Cold CO

Model Year	Sales Percentage
1994	40
1995	80
After 1995	100

(2)(i) Sales percentages for the purposes of determining compliance with paragraph (k)(1) of this section shall be based on total actual and, at the manufacturer's option, combined U.S. sales of light-duty vehicles, light light-duty trucks, and heavy light-duty trucks of the applicable model year by a manufacturer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale.

(ii) The manufacturer may petition the Administrator to allow actual volume produced for U.S. sales to be used in lieu of actual U.S. sales for purposes of determining compliance with the implementation schedule sales percentages of Table A94-16. Such petition shall be submitted within 30 days of the end of the model year the Manufacturers Operations Division. For the petition to be granted, the manufacturer must establish to the satisfaction of the Administrator that actual production volume is functionally equivalent to actual sales volume.

(iii) The manufacturer may count towards the sales percentages those light-duty vehicles, light light-duty trucks, and heavy light-duty trucks of the applicable model year sold in the state of California or in jurisdictions which have adopted

the California emission standards under section 177 of the Clean Air Act if those light-duty vehicles, light light-duty trucks, and heavy light-duty trucks certified have been to meet the federally mandated cold CO standards. If this option is taken, all light-duty vehicles, light light-duty trucks, and heavy light-duty trucks sold in California and such jurisdictions shall be counted toward the total upon which the sales percentage is based. If this option is not taken, light-duty vehicles, light light-duty trucks, and heavy light-duty trucks sold in California or such jurisdictions are to be excluded from counting toward either the total upon which the sales percentage is based or the sales percentage itself.

(iv) Small volume manufacturers, as defined in §86.092-14(b) (1) and (2), are exempt from the implementation schedules of Table A94-16 for model years 1994 and 1995. This exemption does not apply to small volume engine families as defined in §86.092-14(b)(5).

(v) The manufacturer must state at the time of applying for the Certificate, based on projected U.S. sales or projected production for U.S. sale, which engine families will be used to attain the required implementation schedule sales percentages.

7. Section 86.094-9 is amended by adding the following:

§86.094-9 Emission standards for 1994 model year light-duty trucks.

(k)Cold Temperature Carbon Monoxide (CO) Standards

(1) Light light-duty trucks. Exhaust emissions from 1994 and later model year gasoline-fueled light light-duty trucks with a loaded vehicle weight of 3,750 lbs or less shall meet a cold temperature CO standard of 10.0 grams per mile and gasoline-fueled light light-duty trucks with a loaded vehicle weight of greater than 3,750 lbs shall meet a cold temperature CO standard of 12.5 grams per mile, both for an intermediate useful life of 50,000 miles and according to the implementation schedule in Table A94-16. This standard applies under both high and low altitude conditions. At the manufacturer's option, the manufacturer may combine the sales of gasoline-fueled light-duty vehicles, light-duty trucks, and heavy light-duty trucks in determining compliance with the required 1994 and 1995 model year phase-in percentages as included in Table A94-16.

(2) Heavy light-duty trucks. Exhaust emissions from 1994 and later model year gasoline-fueled heavy light-duty trucks shall meet a cold temperature CO standard of 12.5 grams

per mile for an intermediate useful life of 50,000 miles and according to the implementation schedule in Table A94-16. This standard applies under both low and high altitude conditions. At the manufacturer's option, the manufacturer may combine the sales of gasoline-fueled light-duty vehicles, light light-duty trucks, and heavy light-duty trucks in determining compliance with the required 1994 and 1995 model year phase-in percentages as included in Table A94-16.

(3)(i) Sales percentages for the purposes of determining compliance with paragraph (k)(1) and (k)(2) of this section shall be based on total actual and, at the manufacturer's option, combined U.S. sales of light-duty vehicles, light light-duty trucks, and heavy light-duty trucks of the applicable model year by a manufacturer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale.

(ii) The manufacturer may petition the Administrator to allow actual volume produced for U.S. sales to be used in lieu of actual U.S. sales for purposes of determining compliance with the implementation schedule sales percentages of Table A94-16. 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 actual production volume is functionally equivalent to actual sales volume. Approval of the use of production data will be presumed unless otherwise notified by the Agency within 30 days of submittal of the petition.

(iii) The manufacturer may count towards the sales percentages those light-duty vehicles, light light-duty trucks, and heavy light-duty trucks of the applicable model year sold in the state of California or in jurisdictions which have adopted the California emission standards under section 177 of the Clean Air Act if those light-duty vehicles, light light-duty trucks, and heavy light-duty trucks have been certified to meet the federally mandated cold CO standards. If this option is taken, all light-duty vehicles, light light-duty trucks and heavy light-duty trucks sold in California and such jurisdictions shall be counted toward the total upon which the sales percentage is based. If this option is not taken, light-duty vehicles, light light-duty trucks, and heavy light-duty trucks sold in California or such jurisdictions are to be excluded from counting toward either the total upon which the sales percentage is based or the sales percentage itself.

(iv) Small volume manufacturers, as defined in §86.092-14(b) (1) and (2), are exempt from the implementation schedules of Table A94-16 for model years 1994 and 1995. This exemption does not apply to small volume engine families as defined in §86.092-14(b)(5).

(v) The manufacturer must state at the time of applying for the Certificate, based on projected U.S. sales or projected production for U.S. sale, which engine families will be used to attain the required implementation schedule sales percentages.

8. A new section 86.094-16 is added to read as follows:

86.094-16 Prohibition of defeat devices.

(a) No new gasoline-fueled light-duty vehicle or light-duty truck shall be equipped with a defeat device.

(b) The Administrator may test or require testing on any vehicle at a designated location, using driving cycles and conditions which may reasonably be expected to be encountered in normal operation and use, for the purposes of investigating a potential defeat device.

(c) For cold temperature CO emission control, the Administrator will use a guideline to determine the appropriateness of the CO emission control at ambient temperatures between 25 ○F (-4○C) and 68 ○F (20○C). The guideline for CO emission congruity across the intermediate temperature range is the linear interpolation between the CO standard applicable at 25 ○F (-4○C) and the CO standard applicable at 68 ○F (20○C). For vehicles that exceed this CO emissions guideline upon intermediate temperature cold testing:

(1) If the CO emission level is greater than the 20○F (-7○C) emission standard, the vehicle will automatically be considered to be equipped with a defeat device without further investigation.

(2) If the CO emission level does not exceed the 20 ○F emission standard, the Administrator may investigate the vehicle design for the presence of a defeat device under paragraph (e) of this section.

(d) For vehicle designs designated by the Administrator to be investigated for possible defeat devices:

(1) The manufacturer must show to the satisfaction of the Administrator that the vehicle design does not incorporate strategies that unnecessarily reduce emission control effectiveness exhibited during the Federal emissions test procedure when the vehicle is operated under conditions which may reasonably be expected to be encountered in normal operation and use.

(2) Information Submissions Required:

(i) The manufacturer will provide an explanation containing detailed information (including information which the Administrator may request to be submitted) regarding test programs, engineering evaluations, design specifications, calibrations, on-board computer algorithms, and design strategies incorporated for operation both during and outside of the Federal emission test procedure.

(ii) For purposes of investigations of possible cold temperature CO defeat devices under paragraph (d) of this section, the manufacturer shall provide an explanation which must show, to the satisfaction of the Administrator, that CO emissions are reasonably controlled in reference to the linear guideline, across the intermediate temperature range.

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9. Section 86.094-21 is amended by revising paragraph (b)(1)(i) and by adding paragraph (g) to read as follows:

§86.094-21 Application for certification

(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 description will include:

(A) A detailed description of each Auxiliary Emission Control Device (AECD) to be installed in or on any vehicle (or engine) covered by the application.

(B) A detailed justification of each AECD (described in (b)(1)(i)(A)) which results in a reduction in effectiveness of the emission control system. Such a justification may be disapproved by consideration of currently available technology,

whereupon the application for certification may be disapproved under §86.090-22 (b) for the incorporation of a defeat device.

(C) The manufacturer must submit a Statement of Compliance in the application for certification which attests to the fact that they have assured themselves that the engine family is designed to be within the intermediate temperature cold testing defeat device guidance as described in §86.094-16 of this subpart.

(1) This Statement of Compliance will be supported by a brief description of the vehicle's technological method of controlling CO emissions at intermediate temperatures.

(2) The manufacturer will determine a method (e.g., a test program, an engineering evaluation) which is adequate to support their Statement of Compliance. The manufacturer will support this Statement with a brief summary of the chosen method. Further details must be made available upon the Administrator's request.

(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.

* * * * *

(5) * * * * *

(i) * * * * *

(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 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) Participation in Averaging Programs. (i) Particulate Averaging. (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-hundreth of a gram per mile or one-hundreth 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 §86.090 - 2 and §86.091 - 28(b)(5)(i).

(ii)Nox Averaging.(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.

(ii) If the engine family is being certified for use in all vehicles and is being certified to the emission standards applicable to Otto-cycle engines for use only in vehicles with a Gross Vehicle Weight Rating over 14,000 pounds under the provisions of paragraph (a)(3) of §86.091 - 10, then the application must also attest that the engine family, together with all other engine families being certified under the provisions of paragraph (a)(3) of §86.091 - 10, represent no more than 5 percent of model year sales of the manufacturer of all Otto-cycle heavy-duty engines for use in vehicles with Gross Vehicle Weight Ratings of up to 14,000 pounds.

* * * * *

(g) The manufacturer shall identify those families which will not comply with cold temperature carbon monoxide standards.

(Approved by the Office of Management and Budget under the control number 2060-0104.)

10. A new section 86.094-22 is added to read as follows:

86.094-22 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 Admiistrator may approve the application and select a test fleet in accordance with §86.094-24.

(b)Disapproval of application.(1) 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; or incorporation of defeat devices in vehicles (or on engines) described by the application.

(2) The issuance of a certificate of conformity does not exempt the covered vehicles from further evaluation or testing for defeat device purposes as described in 86.094-16 of this subpart.

(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 and signed by an authorized representative of the manufacturer, and it shall include a statement specifying the manufacturer's objections to the Adminstrator'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)Approval of test procedured. (1) The Adminstrator does not 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 §86.094-21(b)(4)(i) prior to the Administrator's selection of the test fleet under §86.094-24(b)(1), and if such procedures will involve testing of durability data vehicles selected by the Adminstrator or elected by the manufacturer under §86.094-24(c)(1), prior to initiation of such testing.

(2) Light-duty trucks and 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 §86.090-21(b)(4)(iii) 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 §86.094-23(b)(3).

(e) Parameter Adjustment Requirements. 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 will then notify the manufacturer of his determinations.

(1)Determining Parameters subject to adjustment. (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 is 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 U.S. 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 U.S. 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 U.S. 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 U.S. 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) Submittal of advance information. (1) If the manufacturer submits the information specified in §86.094-21(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, and signed by an authorized representative of the manufacturer, and it 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.

9. A new section 86.094-24 is added to read as follows:

§86.094-24 Test vehicles and engines

(a)General. Paragraph (a) of this section applies to the grouping of vehicles or engines into families. (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)--(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 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 sizes 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 paragraph (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) The 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.

(8) If the manufacturer elects to participate in the Alternative Durability Program, the engine families covered by an application for certification shall be grouped based upon similar engine design and emission control system characteristics.

(i) 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 multi-displacement engine family will be included in the same engine family group).

(D) Catalytic converter usage and basic type (non-catalyst, 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 paragraph (a)(8) through (a)(10) of this section.

(12) Those vehicles covered by an application for certification which are equipped with gasoline-fueled and

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 gasoline-fueled or methanol-fueled heavy-duty vehicles to be classified 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 and methanol-fueled heavy-duty engines to be classified 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 20g 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) Light-duty truck emissions data vehicles. Paragraph (b)(1) of this section applies to 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. If more than one vehicle meets this criteria, then within that vehicle grouping 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 additional 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 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 paragraph (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 paragraphs (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 §86.094-8(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 §86.094-9(h), 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) Vehicles will be chosen to be operated and tested for evaporative emission data based upon evaporative emission family groupings as defined in (a)(12),(a)(13),(a)14), and (a)(15) of this section.

(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. This vehicle is selected from among the vehicles chosen using the exhaust emission data selection criteria for the engine family, unless evaporative testing has already been completed, as part of another engine family's testing, on the vehicle expected to exhibit the highest evaporative emissions for the evaporative family.

(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 §86.094-8(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 §86.094-9(h), are capable of being modified to meet high-altitude standards.

(ix) Vehicles selected for high altitude exhaust emission testing under paragraph (b)(1)(v)(A) of this section may be used to satisfy the evaporative emission testing 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.

(xi) For cold temperature CO exhaust emission compliance for each engine family, the Administrator will select for testing the vehicle expected to emit the highest emissions from the vehicles selected in accordance with (b)(1)(i), (ii), (iii), and (iv) of this section. This vehicle shall be tested by the manufacturer in accordance with the test procedures in Subpart C or with alternative procedures requested by the manufacturer and approved in advance by the Administrator.

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

(i) - (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 from those with 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 paragraph (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 combination, the manufacturer may alter any emission data engine (or other engine including current or previous model year emission data engines and development engines provided they meet the emission data engines' protocol) to represent more than one selection under paragraph (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 system combination shall be run for smoke emission data 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 engines and development engines provided they meet the emission data engines' protocol) to represent more than one selection under paragraph (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 Administration 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 §86.092-26 (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 §86.092-14 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) In lieu of testing an emission data or durability data vehicle (or engine) selected under paragraph (b) or (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 §86.094-23 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, may 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 of each vehicle available with that item 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 combination, will be equipped with an item (whether that item is standard equipment or an option), no weight for that item will be added in computing the 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 the curb weight.

(iv) Optional equipment weighing less than three 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 (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 (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 vehicle or durability data vehicle of that carline, within that engine-system combination, unless that item is standard equipment on that vehicle or specifically required by the Administrator.

(h) Alternative Durability Program durability data vehicles. This section applies to light-duty vehicle and light-duty truck durability data vehicles selected under the Alternative Durability Program described in §86.085 - 13.

(1) 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 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.

10. Section 86.094-35 is amended by adding paragraphs (a)(1)(iii)(K) and (a)(2)(iii)(N) to read as follows:

§86.094-35 Labeling.

(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 manufacturer 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., air 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;

* * * * *

(K) If applicable, a statement that the vehicle is exempt from cold temperature carbon monoxide standards.

(2) * * *

(iii) * * *

(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.

(N) If applicable, a statement that the vehicle is exempt from cold temperature carbon monoxide standards.

(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.''

* * * * *

(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 §86.090 - 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) Gasoline-fueled and methanol-fueled heavy-duty vehicles. (i) 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).

* * * * *

(d) * * *

(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)Incomplete Vehicle Fuel tank capacity.(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)Notification of noncomformance penalty.(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 production compliance audity (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.

11. Section 86.095-24 is amended by adding paragraph (b)(1)(xi) to read as follows:

§86.095-24 Test vehicles and engines.

(a)General.(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) -- (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) The 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.

(8)(i) If the manufacturer elects to participate in the Alternative 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 multi-displacement engine family will be included in the same engine family group).

(D) Catalytic converter usage and basic type (non-catalyst, 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 paragraph (a)(8) through (a)(10) of this section.

(12) The vehicles covered by an application for certification equipped with gasoline-fueled and 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 gasoline-fueled or methanol-fueled heavy-duty vehicles to be classified 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 and methanol-fueled heavy-duty engines to be classified 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 20g 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) Light-duty truck 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 paragraph (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.

* * * * *

(xi) For cold temperature CO exhaust emission compliance for each engine family, the Administrator will select for testing the vehicle expected to emit the highest emissions from the vehicles selected in accordance with (b)(1)(i), (ii), (iii), and (iv) of this section. This vehicle shall be tested by the manufacturer in accordance with the test procedures in Subpart C or with alternative procedures requested by the manufacturer and approved in advance by the Administrator.

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

(i) - (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 paragraph (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 combination, the manufacturer may alter any emission-data engine (or other engine including current or previous model year emission-data engines and development engines provided they meet the emission-data engines' protocol) to represent more than one selection under paragraph (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 system combination shall be run for smoke emission data 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 engines and development engines provided they meet the emission-data engines' protocol) to represent more than one selection under paragraph (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 Administration 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 §86.092 - 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 §86.092 - 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) In lieu of testing an emissiondata or durability data vehicle (or engine) selected under paragraph (b) or (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 §86.091 - 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, may 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 of each vehicle available with that item 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 combination, will be equipped with an item (whether that item is standard equipment or an option), no weight for that item will be added in computing the 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 the curb weight.

(iv) Optional equipment weighing less than three 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 (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 (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 vehicle or durability-data vehicle of that carline, within that engine-system combination, unless that item is standard equipment on that vehicle or specifically required by the Administrator.

(h) Alternative Durability Program durability-data vehicles. This section applies to light-duty vehicle and light-duty truck durability-data vehicles selected under the Alternative Durability Program described in §86.085 - 13.

(1) 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 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.

12. Section 86.095-35 is amended by adding paragraphs (a)(1)(iii)(k) and (a)(2)(iii)(N) to read as follows:

§86.095-35 Labeling

(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 - 95(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 manufacturer 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., air 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;

(L) If applicable, a statement that the vehicle is exempt from cold temperature carbon monoxide standards.

(2) * * *

(iii) * * *

(K) 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.

(N) If applicable, a statement that the vehicle is exempt from cold temperature carbon monoxide standards.

(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.''

* * * * *

(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) Gasoline-fueled and methanol-fueled heavy-duty vehicles. (i) 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).

* * * * *

(d) * * *

(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)Incomplete vehicle fuel tnak capacity. (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)Notification of nonconformance penalty. (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.

13. Section 86.096-8 is amended by adding paragraph (k):

§86.096-8 Emission standards for 1996 and later model year light-duty vehicles.

* * * * *

(b) Fuel evaporative emissions from 1994 and later model year light-duty vehicles shall not exceed (compliance with these standards is optional for l994 model year methanol-fueled engines):

(1) Hydrocarbons (for gasoine-fueled vehicles). 2.0 grams per test.

(2) Organic Material Hydrocarbon Equivalent (for methanol-fueled vehicles). 2.0 grams carbon per test.

(3) The standards set forth in paragraphs (b) (1) and (2) of this section refers 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 1994 and later model year Otto-cycle or methanol-fueled diesel light-duty vehicle.

(d) through (f) [Reserved]

(g) Any 1994 and later model year light-duty vehicle 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 1994 and later model year vehicles 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 either paragraph (h) (l) (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 equivalent vehicle test weight 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, $N/V = C(0.84\ D/W)^{-0.9}$, 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, 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 miles per hour 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 vehicle 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 paragraphs (h)(1)(iii) (A) and (B) 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 paragraph (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) of this section will be considered a violation of Section 203(a)(1) of the Clean Air Act.

* * * * *

(k) Cold Temperature Carbon Monoxide (CO) Standards. (1) Light light-duty trucks. Exhaust emissions from 1996 and later model year gasoline-fueled light-duty vehicles shall not exceed the cold temperature CO standard of 10.0 grams per mile for an intermediate useful life of 50,000 miles, as measured and calculated under the provisions set forth in Subpart C. This standard applies under both low and high altitude conditions.

14. Section 86.097-9 is amended by adding the following:

§86.097-9 Emission standards for 1997 and later model year light-duty trucks.

* * * * *

(k)(1) Cold Temperature Carbon Monoxide (CO) Standards -- Light light-duty trucks. Exhaust emissions from 1997 and later model year light light-duty trucks with a loaded vehicle weight of 3,750 lbs or less shall not exceed the cold temperature CO standard of 10.0 grams per mile and light light-duty trucks with a loaded vehicle weight of greater than 3,750 lbs shall not exceed a cold temperature CO standard of 12.5 grams per mile, both for an intermediate useful life of 50,000 miles and as measured and calculated under the provisions set forth in Subpart C. This standard applies under both low and high altitude conditions.

(2) Heavy light-duty trucks. Exhaust emissions from 1997 and later model year heavy light-duty trucks shall not exceed the cold temperature CO standard of 12.5 grams per mile for an intermediate useful life of 50,000 miles, as measured and calculated under the provisions set forth in Subpart C. This standard applies under both low and high altitude conditions.

15. A new subpart C is added to read as follows:

Subpart C--Emission Regulations for 1994 and later model year gasoline-fueled new light-duty vehicles and new light-duty trucks; cold temperature test procedures.

Sec.

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86.202-94 Definitions.
86.203-94 Abbreviations.
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86.208-94 Dynamometer.
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86.229-94 Road load force, test weight, and inertia weight class determination.
86.230-94 Test Sequence; general requirements.
86.231-94 Vehicle Preparation.
86.232-94 Vehicle Preconditioning.
86.233 [Reserved]
86.234 [Reserved]
86.235-94 Dynamometer procedure.
86.236-94 Engine starting and restarting.
86.237-94 Dynamometer test run, gaseous emissions.
86.238 [Reserved]
86.239 [Reserved]
86.240-94 Exhaust sample analysis.
86.241 [Reserved]
86.242-94 Records required.

86.243 [Reserved]
86.244-94 Calculations; exhaust emissions.
86.245 [Reserved]
86.246-94 Intermediate temperature testing.

Subpart C - Emission Regulations for 1994 and later model year gasoline-fueled new light-duty vehicles and new light-duty trucks; cold temperature test procedures.

§86.201-94 General applicability.

(a) This subpart describes procedures for determining the cold temperature carbon monoxide (CO) emission from 1994 and later model year new gasoline-fueled light-duty vehicles and light-duty trucks.

(b) All of the provisions of this subpart are applicable to testing conducted at a nominal temperature of 20◦F (-7◦C).

(c) The provisions that are specially applicable to testing at temperatures between 25◦F (-4◦C) and 68◦F (20◦C) are specified in 86.246-94 of this subpart.

§86.202-94 Definitions.

The definitions in Subpart A apply to this subpart.

§86.203-94 Abbreviations.

The abbreviations in Subpart A apply to this subpart.

§86.204-94 Section numbering; construction.

In the section number, the two digits following the hyphen designate the first model year for which a section is effective. A section remains effective until superseded.

Example. Section 86.204-94 applies to the 1994 and subsequent model years until superseded. If a §86.204-96 is promulgated it would take effect beginning with the 1996 model year; §86.204-94 would apply to model years 1994 through 1995.

§86.205-94 Introduction; structure of subpart.

(a) This subpart describes the equipment required and the procedures to follow in order to perform gaseous exhaust emission tests on gasoline-fueled light-duty vehicles and light-duty trucks. Subpart A sets forth testing requirements and test intervals necessary to comply with EPA certification procedures.

(b) Three topics are addressed in this subpart. Sections 86.206 through 86.2l5 set forth specifications and equipment requirements; §§86.2l6 through 86.226 discuss calibration methods and frequency; test procedures and data requirements are listed (in approximate order of performance) in §§86.227 through 86.245.

§86.206-94 Equipment required; overview.

(a) This subpart contains procedures for exhaust emission tests on gasoline-fueled light-duty vehicles and light-duty trucks. Equipment required and specifications are as follows:

(l) Exhaust emission tests. Exhaust from gasoline-fueled vehicles is tested for gaseous emissions using the Constant Volume Sampler (CVS) concept (§86.209). Equipment necessary and specifications appear in §§86.208 through 86.2l4.

(2) Fuel, analytical gas, and driving schedule specifications. Fuel specifications for exhaust emission testing for gasoline-fueled vehicles are specified in §86.2l3. Analytical gases are specified in §86.2l4. The EPA Urban Dynamometer Driving Schedule (UDDS) for use in gasoline-fueled emission tests is specified in §86.2l5 and Appendix I.

§86.207 [Reserved]

§86.208-94 Dynamometer.

(a) For testing that is conducted by the Administrator, the dynamometer shall have a single roll with a nominal diameter of 48 inches (1.22 meters), an electrical power absorption unit for simulation of road load power, flywheels or other means for simulating the inertia weight as specified in §86.229, and a roll or shaft revolution counter or other means for determining distance driven.

(b) For certification testing that is conducted by the manufacturer, a dynamometer with different characteristics may be used provided cold CO emissions are not decreased.

§86.209-94 Exhaust gas sampling system; gasoline-fueled vehicles.

The provisions of 86.109-90 apply to this subpart.

§86.210 [Reserved]

§86.211-94 Exhaust gas analytical system.

The provisions of §86.111 apply to this subpart, except that the NOx analyzer is optional.

§86.212 [Reserved]

§86.213-94 Fuel specifications.

Gasoline having the following specifications will be used by the Administrator. Gasoline having the following specifications, or substantially equivalent specifications approved by the Administrator, may be used by the manufacturer except that the octane specification does not apply. In lieu of using gasoline having these specifications, the manufacturer may, for certification testing, use gasoline having the specifications specified in § 86.113-90 provided the cold CO emissions are not decreased. Documentation showing that Cold CO emissions are not decreased shall be maintained by the manufacturer and shall be made available to the Administrator upon request.

Item	ASTM Test	Cold CO Low Octane Value or Range	Cold CO High Octane Value or Range
(RON + MON)/2, min.	D2699	87.8 ± .3	92.3 ± 0.5
Sensitivity, min.	D2699	7.5	7.5
Distillation Range			
IBP, °F.	D86	76 - 96	76 - 96
10 % point, °F.	D86	98 - 118	105 - 125
50 % point, °F.	D86	179 - 214	195 - 225
90 % point, °F.	D86	316 - 346	316 - 346
EP, max, °F.	D86	413	413
Sulfur, wt. %	D3120	0.035 ± 0.015	0.020 ± 0.015
Phosphorous, g/U.S gal, max.	D3231	0.005	0.005
Lead, g/gal, max		0.01	0.01
RVP, psi.	D4953	11.5 ± .3	11.5 ± .3
Hydrocarbon composition	D1319		
Olefins, vol. pct.		12.5 ± 5.0	
10.0 ± 5.0			
Aromatics, vol. pct.		26.4 ± 4.0	32.0 ± 4.0
Saturates,		Remainder	
Remainder			

*Gasoline having these specifications may be used for vehicles which are designed for the use of high-octane premium fuel.

§86.214-94 Analytical gases.

The provisions of §86.114 apply to this subpart.

§86.215-94 EPA urban dynamometer driving schedule.

The provisions of §86.115 apply to this subpart.

§86.216-94 Calibrations, frequency and overview.

The provisions of §86.116 apply to this subpart.

§86.217-94 [Reserved]

§86.218-94 Dynamometer calibration.

The provisions of §86.118 apply to this subpart.

§86.219-94 CVS calibration.

The provisions of §86.119 apply to this subpart.

§86.220-94 [Reserved]

§86.221-94 Hydrocarbon analyzer calibration.

The provisions of §86.121 apply to this subpart.

§86.222-94 Carbon monoxide analyzer calibration.

The provisions of §86.122 apply to this subpart.

§86.223-94 Oxides of nitrogen analyzer calibration.

The provisions of §86.123 apply to this subpart if NO_x measurements are optionally made.

§86.224-94 Carbon dioxide analyzer calibration.

The provisions of §86.124 apply to this subpart.

§86.225 [Reserved]

§86.226-94 Calibration of other equipment.

The provisions of §86.126 apply to this subpart.

§86.227-94 Test procedures; overview.

The provisions of §86.127 paragraphs (a), (b), and (e) apply to this subpart.

§86.228-94 Transmissions.

The provisions of §86.128 apply to this subpart.

§86.229-94 Road load force, test weight, and inertia weight class determination.

(a) Flywheels, electrical forces, or other means of simulating test weight as shown in the following table shall be used. If the equivalent test weight specified is not available on the dynamometer being used, the next higher equivalent test weight (not to exceed 250 pounds) available shall be used. Light-duty vehicles over 5750 lbs. loaded vehicle weight shall be tested at a 5,500 lb. equivalent test weight.

Loaded vehicle weight (pounds)	Equivalent test weight (pounds)	Inertia weight class (pounds)
Up to 1,062	1,000	1,000
1,063 to 1,187	1,125	1,000
1,188 to 1,312	1,250	1,250
1,313 to 1,437	1,375	1,250
1,438 to 1,562	1,500	1,500
1,563 to 1,687	1,625	1,500
1,688 to 1,812	1,750	1,750

1,813 to 1,937	1,875	1,750
1,938 to 2,062	2,000	2,000
2,063 to 2,187	2,125	2,000
2,188 to 2,312	2,250	2,250
2,313 to 2,437	2,375	2,250
2,438 to 2,562	2,500	2,500
2,563 to 2,687	2,625	2,500
2,688 to 2,812	2,750	2,750
2,813 to 2,937	2,875	2,750
2,938 to 3,062	3,000	3,000
3,063 to 3,187	3,125	3,000
3,188 to 3,312	3,250	3,000
3,313 to 3,437	3,375	3,500
3,438 to 3,562	3,500	3,500
3,563 to 3,687	3,625	3,500
3,688 to 3,812	3,750	3,500
3,813 to 3,937	3,875	4,000
3,938 to 4,125	4,000	4,000
4,126 to 4,375	4,250	4,000
4,376 to 4,625	4,500	4,500
4,626 to 4,875	4,750	4,500
4,876 to 5,125	5,000	5,000
5,126 to 5,375	5,250	5,000
5,376 to 5,750	5,500	5,500
5,751 to 6,250	6,000	6,000
6,251 to 6,750	6,500	6,500
6,751 to 7,250	7,000	7,000
7,251 to 7,750	7,500	7,500
7,751 to 8,250	8,000	8,000
8,251 to 8,750	8,500	8,500
8,751 to 9,250	9,000	9,000
9,251 to 9,750	9,500	9,500
9,751 to 10,000	10,000	10,000

(b) A dynamometer which meets the specifications of §86.208-94(a) shall be adjusted to simulate the operation of a vehicle on the road at 20○F (-7○C). Such adjustment may be based on a determination of the road load force profile at 20○F (-7○C). Alternatively, the adjustment may be based on a 10 percent decrease in the target coastdown time that is used for FTP testing.

§86.230-94 Test Sequence: general requirements.

(a) Sequence steps. Figure C94-1 shows the steps encountered as the test vehicle undergoes the procedures subsequently described, to determine conformity with the standards set forth.

(b) Driving schedule. The Urban Dynamometer Driving Schedule (UDDS) test procedure (see §86.115 and Appendix I) is used for vehicle preconditioning and testing.

(c) Ambient temperature level.

(1) Ambient temperature levels encountered by the test vehicle shall average 20°F ± 5°F (-7°C ± 2.8°C) and shall not be less than 10°F (-14°C) nor more than 30°F (-1°C) during vehicle preconditioning, except for preconditioning performed in accordance with paragraph (a)(7) of §86.232, and during all emission testing.

(2) The ambient temperature reported shall be a simple average of the test cell temperatures measured at constant intervals no more than one minute apart. Before the driving cycle may begin, the test cell temperature shall be 20°F ± 3°F (-7°C ± 1.7°C) when measured in accordance with paragraph (e)(2) of this section. The temperature may not exceed 25°F (-4°C) or fall below 15°F (-9°C) for more than three consecutive minutes during the test.

(d) Vehicle positioning. The vehicle shall be approximately level during all phases of the test sequence to prevent abnormal fuel distribution.

(e) Engine compartment cooling.

(1) Fixed speed air cooling of the engine compartment with the compartment cover open shall be utilized during testing that is conducted by the Administrator and, optionally for certification testing, by the manufacturer. If a separate movable fan is used, it shall be squarely positioned within 12 inches (30.5 centimeters) of the front of vehicles with front engine compartments. In the case of vehicles with rear engine compartments (or if special designs make the normal front engine positioning impractical), the cooling fan shall be placed in a position to provide sufficient air to maintain vehicle cooling. The fan capacity shall normally not exceed 5,300 cfm (2.50 cubic meters per second). If, however, the manufacturer showed (as provided in §86.135(b)) that additional cooling is necessary, the fan capacity may be increased or additional fans used if approved in advance by the Administrator. The cooling air temperature shall be measured at the inlet to the fan.

(2) In lieu of using a separate fan, an air handling system that is integral with the test cell may be used provided comparable air movement is obtained. The cooling air temperature shall be measured in the center of a vertical plane that is located approximately 2 feet in front of the vehicle.

(3) The manufacturer may use, for certification testing, alternative engine compartment cooling fans or systems, including those which provide a variable air flow, if the manufacturer has determined that comparable results are obtained.

(f) Heater and defroster usage. The heater and defroster may be used at any temperature and fan settings.

§86.231-94 Vehicle Preparation.

The provisions of §86.131 apply to this subpart.

§86.232-94 Vehicle Preconditioning.

a) The vehicle shall be moved to the test area and the following operations performed:

(1) The fuel tank(s) shall be filled to approximately the prescribed "tank fuel volume" with the test fuel specified §86.213. If the existing fuel in the fuel tank(s) does not meet the specifications contained in §86.213, the existing fuel must be drained prior to the fuel fill. The test fuel shall be at a temperature less than or equal to 60°F. For the above

operations, the evaporative emission control system shall neither be abnormally purged nor abnormally loaded.

(2) For operation on a 48-inch (1.22 metre) diameter single roll dynamometer, the drive wheel tires shall be inflated to the pressure recommended by the tire manufacturer. For operation on a twin-roll dynamometer, the drive wheel tires may be inflated to a gauge pressure of 40 psi (276 kPa). The drive wheel tire pressures shall be reported with the test results.

(3) The fuel in the vehicle shall be stabilized at 20°F ± 10°F (-7°C ± 5.6°C) prior to the start of the driving cycle except when vehicle peconditioning is performed in accordance with paragraph (a)(7) of this section.

(4) The vehicle shall be placed, either by being driven or pushed, on a dynamometer and operated through one UDDS cycle.

(5) For those unusual circumstances where additional preconditioning is desired by the manufacturer, such preconditioning may be allowed with the advance approval of the Administrator.

(6) The Administrator may also choose to conduct additional preconditioning. The additional preconditioning shall consist of

one or more driving cycles of the UDDS, as described in paragraph (a)(4) of this section.

(7) The manufacturer may , for certification testing, precondition vehicles at temperatures above 20○F (-7○C) and with temperature tolerances greater than those specified in §86.230(a) if the manufacturer has determined that such preconditioning does not decrease CO emissions during the testing specified in §86.237.

(b) Within five minutes of completion of preconditioning, the vehicle shall be shut off. During this five minute period, the vehicle shall not experience ambient temperatures less than 10○F (-12○C) nor more than 30○F (-1○C).

(c) One of the following two methods shall be utilized to stabilize the vehicle before the emissions test:

(1) Storing at cold temperatures. The vehicle shall be stored for not less than 12 hours nor for more than 36 hours prior to the cold start exhaust test. The ambient temperature (dry bulb) during this period shall be maintained at an average temperature of 20○F ± 5○F (-7○C ± 2.8○C) during each hour of this period and shall not be less than 10○F (-12○C) nor more than 30○F (-1○C). The ambient temperature reported shall be a simple

average of the test cell temperature measured at constant intervals no more than one minute apart. In addition, the temperature may not exceed 25°F (-4°C) or fall below 15°F (-9°C) for more than three consecutive minutes.

(2) Force-cooling or warming.

(i) The vehicle shall be stored for no more than 36 hours prior to cooling or warming for the cold start exhaust test. The vehicle shall not be stored at ambient temperatures which exceed 86°F (30°C) during this period.

(ii) Vehicle cooling may be accomplished by either force-cooling or force-warming the vehicle to the test temperature. If cooling is augmented by fans, the fans shall be placed in a vertical position for maximum drive train and engine cooling, not primarily oil pan cooling. Fans shall not be placed under the vehicle.

(iii) The ambient temperature need only be stringently controlled after the vehicle has been cooled to 20°F ± 3°F (-7°C ± 1.7°C), as determined by a representative bulk oil temperature. A representative bulk oil temperature is the temperature of the

oil measured near the middle of the oil, not at the surface or at the bottom of the oil pan. If two or more diverse locations in the oil are monitored, they must all meet the temperature requirements.

(iv) The vehicle must be stored for at least one hour after it has been cooled to 20°F ± 3°F (-7°C ± 1.7°C) prior to the cold start exhaust test. The ambient temperature (dry bulb) during this period shall average 20°F ± 5°F (-7°C ± 2.8°C) and shall not be less than 10°F (-12°C) nor more than 30°F (-1°C). In addition, the temperature may not exceed 25°F (-4°C) or fall below 15°F (-9°C) for more than three consecutive minutes.

(d) If the vehicle is stabilized at 20°F (-7°C) in a separate area and is moved through a warm area to the test cell, the vehicle must be restabilized in the test cell for at least six times the period the vehicle is exposed to warmer temperatures. The ambient temperature (dry bulb) during this period shall average 20°F ± 5°F (-7°C ± 2.8°C) and shall not be less than 10°F (-12°C) nor more than 30°F (-1°C). In addition, the temperature may not exceed 25°F (-4°C) or fall below 15°F (-9°C) for more than three consecutive minutes. The maximum time for moving a vehicle through a warm area shall be 10 minutes.

§86.233 [Reserved]

§86.234 [Reserved]

§86.235-94 Dynamometer procedure.

(a) Overview. The emission sampling is completed over two test sequences, a "cold" start test after a minimum 12-hour and a maximum 36-hour soak according to the provisions of §86.232 and a "hot" start test following the "cold" start test by 10 minutes. Engine startup, operation over the UDDS, and engine shut-down make a complete cold start test. Engine startup and operation over the first 505 seconds of the driving schedule complete the hot start test. The exhaust emissions are diluted with ambient air and a continuously proportional sample is collected for analysis during each phase. The composite samples collected in bags are analyzed for hydrocarbons, carbon monoxide, carbon dioxide, and, optionally, other pollutants. A parallel sample of the dilution air is similarly analyzed for carbon monoxide and, optionally, hydrocarbons, carbon dioxide, and oxides of nitrogen.

(b) As long as an emission sample is not taken, practice runs over the prescribed driving schedule may be performed at test point for the purpose of finding the minimum throttle action

to maintain the proper speed-time relationship or to permit sampling system adjustment.

(c) Humidity should be set low enough to prevent condensation on the dynamometer rolls.

(d) The dynamometer shall be warmed as recommended by the dynamometer manufacturer and using procedures or control methods that assure stability of the residual frictional horsepower.

(e) The time between dynamometer warming and the start of the emission test shall be no longer than 10 minutes if the dynamometer bearings are not independently heated. If the dynamometer bearings are independently heated, the emission test shall begin no longer than 20 minutes after dynamometer warming.

(f) If the dynamometer horsepower must be adjusted manually, it shall be set within one hour prior to the exhaust emission test phase. The test vehicle shall not be used to make the adjustment. Dynamometers using automatic control of preselectable power settings may be set anytime prior to the beginning of the emission test.

(g) The driving distance, as measured by counting the number of dynamometer roll or shaft revolutions, shall be determined for the transient cold start, stabilized cold start, and transient hot start phases of the test.

(h) Four-wheel drive vehicles will be tested in a two-wheel drive mode of operation. Full-time four-wheel drive vehicles will have one set of drive wheels temporarily disengaged by the vehicle manufacturer. Four-wheel drive vehicles which can be manually shifted to a two-wheel drive mode will be tested in the normal on-highway two-wheel drive mode of operation.

§86.236-94 Engine starting and restarting.

The provisions of §86.136 apply to this subpart.

§86.237-94 Dynamometer test run, gaseous emissions.

(a) The complete dynamometer test consists of a cold start drive of approximately 7.5 miles (12.1 kilometers) and a hot start drive of approximately 3.6 miles (5.8 kilometers).

(b) If the preconditioned vehicle is not already on the dynamometer, it shall be pushed into position.

(c) The vehicle is allowed to stand on the dynamometer during the ten minute time period between the cold and hot start test. The cold start test is divided into two periods. The first period, representing the cold start "transient" phase, terminates at the end of the deceleration which is scheduled to occur at 505 seconds of the driving schedule. The second period, representing the "stabilized" phase, consists of the remainder of the driving schedule, including engine shutdown. The hot start test is identical to the first part or transient phase of the cold start test. Therefore, the hot start test terminates after the first period (505 seconds) is run.

(d) The provisions of §86.137 paragraph (b) apply to this subpart.

§86.238 [Reserved]

§86.239 [Reserved]

§86.240-94 Exhaust sample analysis.

The provisions of §86.140 apply to this subpart.

§86.241 [Reserved]

§86.242-94 Records required.

The provisions of §86.142 apply to this subpart.

§86.243 [Reserved]

§86.244-94 Calculations; exhaust emissions.

The provisions of §86.144 apply to this subpart, except that NOx measurements are optional. Should NOx measurements be calculated, note that the humidity correction factor is not valid at colder temperatures.

§86.245 [Reserved]

§86.246-94 Intermediate temperature testing.

(a) This section is applicable to tests which are conducted at an intermediate temperature as defined in §86.094-2.

(b) For testing during ambient temperatures of less than 50○F (10○C), the test procedure is identical to the test procedure that is used for testing at 20○F (-7○C) contained in 40 CFR Subpart C.

(c) For testing at temperatures of 50◦F (10◦C) or higher, the FTP shall be used.

16. Section 86.608-90 is revised by amending paragraphs (a) and (a)(1) and adding a new paragraph (a)(3):

§86.608-90 Test Procedures.

(a) The prescribed test procedures are contained in Subpart B and/or Subpart C of this Part 86. For purposes of Selective Enforcement Audit testing, the manufacturer shall not perform any of the test procedures in Subpart B of this part relating to evaporative emission testing, except as specified in paragraph (a)(2) of this section.

(1) The Administrator may, on the basis of a written application by a manufacturer, prescribe test procedures other than those in Subpart B and/or Subpart C of this part for any motor vehicle which he determines is not susceptible to satisfactory testing using the procedures in Subpart B and/or Subpart C or this part. The Administrator may based on advance application by a manufacturer, approve optional test procedures for use in Selective Enforcement Audit testing.

* * * * *

(3) The following exceptions to the test procedures in Subpart C of this part are applicable to Selective Enforcement Audit testing:

(i) The manufacturer may measure the temperature of the test fuel at other than the approximate mid-volume of the fuel tank, as specified in paragraph (a) of §86.231, and may drain the test fuel from other than the lowest point of the fuel tank as specified in paragraph (b) of §86.231, provided an equivalent method is used. Equivalency documentation shall be maintained by the manufacturer and shall be made available to the Administrator upon request.

(ii) In performing exhaust sample analysis under §86.240, the manufacturer shall exercise care to prevent moisture from condensing in the sample collection bags.

(iii) The manufacturer need not comply with §86.242 since the records required therein are provided under other provisions of Subpart G of this part.

(iv) In addition to the requirements of Subpart C of this part, the manufacturer shall prepare gasoline-fueled vehicles as follows prior to exhaust emission testing:

(A) The manufacturer shall inspect the fuel system to ensure the absence of any leaks of liquid or vapor to the atmosphere by applying a pressure of 14.5±0.5 inches of water (3.6±0.1 kPa) to the fuel system allowing the pressure to stabilize and isolating the fuel system from the pressure source. Following isolation of the fuel system, pressure must not drop more than 2.0 inches of water (0.5 kPa) in five minutes. If required, the manufacturer shall perform corrective action in accordance with paragraph §86.608(d) and report this action in accordance with paragraph §86.609(d).

(B) When performing this pressure check, the manufacturer shall exercise care to neither purge nor load the evaporative emission control system.

(C) The manufacturer shall not modify the test vehicle's evaporative emission control system by component addition, deletion, or substitution, except if approved in advance by the Administrator, to comply with paragraph (a)(3)(i) of this section.

17. Section 86.701-94 is amended as follows:

§86.701-94 General Applicability

The provisions of this subpart apply to: 1994 and later model year Otto-cycle and diesel light-duty vehicles; 1994 and later model year Otto-cycle and diesel light-duty trucks; and 1994 and later model year Otto-cycle and diesel heavy-duty engines. The provisions of subpart B of this part apply to this subpart for compliance with emissions subject to FTP standards. For cold CO standards, the provisions of subpart C of this part apply to this subpart.

18. Section 86.708-94 is amended as follows:

§86.708-94 In-use emission standards for 1994 and later model year light-duty vehicles.

* * * * *

(b) The provision of §86.090-8(b) through (h) of subpart A of this part apply to this section. The provisions of §86.096-8(i) through (k) of subpart A of this part apply to this section.

19. Section 86.709-94 is amended as follows:

§86.709-94 In-use emission standards for 1994 and later model year light-duty trucks.

* * * * *

(b) The provision of §86.090-8(b) through (k) of subpart A of this part apply to this section.

20. Section 86.709-99 is amended as follows:

§86.709-99 In-use emission standards for 1999 and later model year light-duty trucks.

* * * * *

(b) The provisions of §86.097-9(b), (c), and (g) through (k) of subpart A of this part apply to this section.

21. Section 86.1005-90 is amended as follows:

§86.1005-90 Maintenance of records; submittal of information.

(a) * * *

(1) * * *

(iii) If testing gasoline-fueled or methanol-fueled Otto-cycle light-duty trucks, the equipment requirements specified in 86.106 (excluding all references to evaporative and particulate emission testing), 86.206, and 86.1506-84 of this subpart) and * * *

(2) * * *

(vi) * * *

(C) If testing gasoline-fueled or methanol-fueled Otto-cycle light-duty trucks, the record requirements specified in 86.142 (excluding all references to diesel vehicles), 86.242, and 86.1542; and * * * *

22. Section 86.1008-90 is revised by amending paragraphs (a)(2) and adding a new paragraph (a)(6):

§86.1008-90 Test Procedures.

(a) * * *

(2) For light-duty trucks, the prescribed test procedure is the Federal Test Procedure as decribed in subparts B, P, and/or C of this part. The manufacturer shall not perform the evaporative emission test procedures contained in subpart B. The Administrator may, based on advance application by a manufacturer, approve optional test procedures for use in Selective Enforcement Audit testing.

* * * * *

(5) When testing light-duty trucks, the following exceptions to the test procedures in subpart C are applicable:

(i) The manufacturer may measure the temperature of the test fuel at other than the approximate mid-volume of the fuel tank as specified in paragraph (a) of §86.231 and may drain the test fuel from other than the lowest point of the fuel tank as specified in paragraph (b) of §86.231 provided an equivalent method is used. Equivalency documentation shall be maintained by the manufacturer and shall be made available to the Administrator upon request.

(ii) In performing exhaust sample analysis under §86.240, the manufacturer shall exercise care to prevent moisture from condensing in the sample collection bags.

(iii) The manufacturer need not comply with §86.242 since the records required therein are provided under other provisions of subpart K of this part.

(iv) In addition to the requirements of subpart C of this part, the manufacturer shall prepare gasoline-fueled vehicles as follows prior to exhaust emission testing.

(A) The manufacturer shall inspect the fuel system to ensure the absence of any leaks of liquid or vapor to the atmosphere by applying a pressure of 14.5±0.5 inches of water (3.6±0.1 kPa)in the fuel system allowing the pressure to stabilize and isolating the fuel system from the pressure sources. Following isolation of the fuel system, pressure must not drop more than 2.0 inches of water (0.5 kPa) in 5 minutes. If required, the manufacturer shall perform corrective action in accordance with paragraph §86.1008(d) and report this action in accordance with paragraph §86.1009(d).

(B) When performing this pressure check, the manufacturer shall exercise care to neither purge nor load the evaporative emission control system.

(C) The manufacturer shall not modify the test vehicle's evaporative emission control system by component addition, deletion, or substitution, except if approved in advance by the Administrator to comply with paragraph (a)(6)(i) of this section.

* * * * *

23. Section 86.1009-84 is revised by amending paragraphs (a) and (c)(1).

§86.1009-84 Calculation and reporting of test results

(a) Initial test results are calculated following the Federal Test Procedure specified in paragraph (a) of 86.1008-94. Round these results, in accordance with ASTM E29-67, to the number of decimal places contained in the applicable emission standard expressed to one additional significant figure.

(b) * * *

(c) Final deteriorated test results. (1) The final deteriorated test results for each heavy-duty engine or light-duty truck tested according to Subpart B, C, D, N, or P of this part are calculated by either adding or multiplying, as specified in Subpart A for the applicable engine family control system combination, the appropriate deterioration factor to the final test results for each vehicle or engine.