

the EPA Enforcement Officer or EPA authorized representative of how the facility operates and to answer his questions, and the performance on request of emissions tests on any vehicle (or engine) which is being, has been, or will be used for certification testing. Such tests shall be nondestructive, but may require appropriate mileage (or service) accumulation. A manufacturer may be compelled to cause the personal appearance of any employee at such a facility before an EPA Enforcement Officer or EPA authorized representative by written request for his appearance, signed by the Assistant Administrator for Air and Radiation, served on the manufacturer. Any such employee who has been instructed by the manufacturer to appear will be entitled to be accompanied, represented, and advised by counsel.

(v) Any entry without 24 hour prior written or oral notification to the affected manufacturer shall be authorized in writing by the Assistant Administrator for Air and Radiation.

(8) EPA may void *ab initio* a certificate of conformity for vehicle or engine families introduced into commerce if the manufacturer (or contractor for the manufacturer, if applicable) fails to comply with any provision of this section.

(e) EPA Enforcement Officers or EPA authorized representatives are authorized to seek a warrant or court order authorizing the EPA Enforcement Officers or EPA authorized representatives to conduct activities related to entry and access as authorized in this section, as appropriate, to execute the functions specified in this section. EPA Enforcement Officers or EPA authorized representatives may proceed *ex parte* to obtain a warrant whether or not the Enforcement Officers first attempted to seek permission of the manufacturer or the party in charge of the facilities in question to conduct activities related to entry and access as authorized in this section.

(f) A manufacturer shall permit EPA Enforcement Officers or EPA authorized representatives who present a warrant or court order as described in paragraph (e) of this section to conduct activities related to entry and access as authorized in this section and as de-

scribed in the warrant or court order. The manufacturer shall cause those in charge of its facility or facility operated for its benefit to permit EPA Enforcement Officers or EPA authorized representatives to conduct activities related to entry and access as authorized in this section pursuant to a warrant or court order whether or not the manufacturer controls the facility. In the absence of such a warrant or court order, EPA Enforcement Officers or EPA authorized representatives may conduct activities related to entry and access as authorized in this section only upon the consent of the manufacturer or the party in charge of the facilities in question.

(g) It is not a violation of this part or the Clean Air Act for any person to refuse to permit EPA Enforcement Officers or EPA authorized representatives to conduct activities related to entry and access as authorized in this section without a warrant or court order.

[55 FR 30619, July 26, 1990]

§ 86.091-10 Emission standards for 1991 and later model year Otto-cycle heavy-duty engines and vehicles.

(a)(1) Exhaust emissions from new 1991 and later model year Otto-cycle heavy-duty engines shall not exceed (compliance with these standards is optional through the 1996 model year natural gas- and liquefied petroleum gas-fueled heavy-duty engines):

(i) For Otto-cycle heavy-duty engines fueled with either gasoline or liquefied petroleum gas, and intended for use in all vehicles except as provided in paragraph (a)(3) of this paragraph.

(A) *Hydrocarbons*. 1.1 grams per brake horsepower-hour (0.41 gram per megajoule), as measured under transient operating conditions.

(B) *Carbon monoxide*. (1) 14.4 grams per brake horsepower-hour (5.36 grams per megajoule), as measured under transient operating conditions.

(2) *For Otto-cycle heavy-duty engines fueled with either gasoline or liquefied petroleum gas and utilizing aftertreatment technology*. 0.50 percent of exhaust gas flow at curb idle.

(C) *Oxides of nitrogen*. (1) 5.0 grams per brake horsepower-hour (1.9 grams

per megajoule), as measured under transient operating conditions.

(2) A manufacturer may elect to include any or all of its gasoline-fueled Otto-cycle heavy-duty engine families in any or all of the NO_x averaging, trading, or banking programs for heavy-duty engines, within the restrictions described in § 86.091-15. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 6.0 grams per brake horsepower-hour (2.2 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading, or banking programs.

(3) A manufacturer may elect to include any or all of its liquefied petroleum gas-fueled Otto-cycle heavy-duty engine families in any or all of the NO_x averaging, trading, or banking programs for heavy-duty engines, within the restrictions described in § 86.091-15. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 6.0 grams per brake horsepower-hour (2.2 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading or banking programs.

(ii) For Otto-cycle heavy-duty engines fueled with either gasoline or liquefied petroleum gas, and intended for use only in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 lbs.

(A) *Hydrocarbons*. 1.9 grams per brake horsepower-hour (0.71 gram per megajoule), as measured under transient operating conditions.

(B) *Carbon monoxide*. (1) 37.1 grams per brake horsepower-hour (13.8 grams per megajoule), as measured under transient operating conditions.

(2) *For Otto-cycle heavy-duty engines fueled with either gasoline or liquefied petroleum gas and utilizing aftertreatment technology*. 0.50 percent of exhaust gas flow at curb idle.

(C) *Oxides of nitrogen*. (1) 5.0 grams per brake horsepower-hour (1.9 grams per megajoule), as measured under transient operating conditions.

(2) A manufacturer may elect to include any or all of its gasoline-fueled Otto-cycle heavy-duty engine families in any or all of the NO_x averaging,

trading, or banking programs for heavy-duty engines, within the restrictions described in § 86.091-15. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 6.0 grams per brake horsepower-hour (2.2 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading or banking programs.

(3) A manufacturer may elect to include any or all of its liquefied petroleum gas-fueled Otto-cycle heavy-duty engine families in any or all of the NO_x averaging, trading or banking programs for heavy-duty engines, within the restrictions described in § 86.091-15. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 6.0 grams per brake horsepower-hour (2.2 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading or banking programs.

(iii) For *methanol-fueled Otto-cycle heavy-duty engines* intended for use in all vehicles, except as provided in paragraph (a)(3) of this section.

(A) *Total Hydrocarbon Equivalent*. 1.1 gram per brake horsepower-hour (0.41 gram per megajoule), as measured under transient operating conditions.

(B) *Carbon monoxide*. (1) 14.4 grams per brake horsepower-hour (5.36 grams per megajoule), as measured under transient operating conditions.

(2) 0.50 percent of exhaust gas flow at curb idle.

(C) *Oxides of nitrogen*. (1) 5.0 grams per brake horsepower-hour (1.9 grams per megajoule), as measured under transient operating conditions.

(2) A manufacturer may elect to include any or all of its methanol-fueled Otto-cycle heavy-duty engine families in any or all of the NO_x averaging, trading, or banking programs for heavy-duty engines, within the restrictions described in § 86.091-15. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 6.0 grams per brake horsepower-hour (2.2 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading or banking programs.

(iv) For *methanol-fueled Otto-cycle heavy-duty engines* intended for use only in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 lbs.

(A) *Total Hydrocarbon Equivalent*. 1.9 grams per brake horsepower-hour (0.71 gram per megajoule), as measured under transient operating conditions.

(B) *Carbon monoxide*. (1) 37.1 grams per brake horsepower-hour (13.8 grams per megajoule), as measured under transient operating conditions.

(2) 0.50 percent of exhaust gas flow at curb idle.

(C) *Oxides of nitrogen*. (1) 5.0 grams per brake horsepower-hour (1.9 grams per megajoule), as measured under transient operating conditions.

(2) A manufacturer may elect to include any or all of its methanol-fueled Otto-cycle heavy-duty engine families in any or all of the NO_x averaging, trading, or banking programs for heavy-duty engines, within the restrictions described in §86.091-15. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 6.0 grams per brake horsepower-hour (2.2 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading or banking programs.

(v) For natural gas-fueled Otto-cycle heavy-duty engines intended for use in all vehicles except as provided in paragraph (a)(3) of this section.

(A) *Nonmethane hydrocarbons*. 0.9 gram per brake horsepower-hour (0.33 gram per megajoule), as measured under transient operating conditions.

(B) *Carbon monoxide*. (1) 14.4 grams per brake horsepower-hour (5.36 grams per megajoule), as measured under transient operating conditions.

(2) *For natural gas-fueled Otto-cycle heavy-duty engines utilizing aftertreatment technology*. 0.50 percent of exhaust flow at curb idle.

(C) *Oxides of nitrogen*. (1) 5.0 grams per brake horsepower-hour (1.9 grams per megajoule), as measured under transient operating conditions.

(2) A manufacturer may elect to include any or all of its natural gas-fueled Otto-cycle heavy-duty engine families in any or all of the NO_x averaging, trading or banking programs for

heavy-duty engines, within the restrictions described in §86.091-15. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 6.0 grams per brake horsepower-hour (2.2 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading or banking programs.

(vi) For natural gas-fueled Otto-cycle engines intended for use only in vehicles with a Gross Vehicle Weight Rating of greater than 14,000 lbs.

(A) *Nonmethane hydrocarbons*. 1.7 grams per brake horsepower-hour (0.63 gram per megajoule), as measured under transient operating conditions.

(B) *Carbon monoxide*. (1) 37.1 grams per brake horsepower-hour (13.8 grams per megajoule), as measured under transient operating conditions.

(2) *For natural gas-fueled Otto-cycle heavy-duty engines utilizing aftertreatment technology*. 0.50 percent of exhaust gas flow at curb idle.

(C) *Oxides of nitrogen*. (1) 5.0 grams per brake horsepower-hour (1.9 grams per megajoule), as measured under transient operating conditions.

(2) A manufacturer may elect to include any or all of its natural gas-fueled Otto-cycle heavy-duty engine families in any or all of the NO_x averaging, trading or banking programs for heavy-duty engines, within the restrictions described in §86.091-15. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 6.0 grams per brake horsepower-hour (2.2 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading or banking programs.

(2) The standards set forth in paragraph (a)(1) of this section refer to the exhaust emitted over the operating schedule set forth in paragraph (f)(1) of appendix I to this part, and measured and calculated in accordance with the procedures set forth in subpart N or P.

(3)(i) A manufacturer may certify one or more Otto-cycle heavy-duty engine configurations intended for use in all vehicles to the emission standards set forth in paragraphs (a)(1)(ii), (a)(1)(iv) or (a)(1)(vi) of this section: *Provided*, that the total model year sales of such

configuration(s), segregated by fuel type, being certified to the emission standards in paragraph (a)(1)(ii) of this section represent no more than five percent of total model year sales of each fuel type Otto-cycle heavy-duty engine intended for use in vehicles with a Gross Vehicle Weight Rating of up to 14,000 pounds by the manufacturer.

(ii) The configurations certified to the emission standards of paragraphs (a)(1) (ii), (iv) and (vi) of this section under the provisions of paragraph (a)(3)(i) of this section shall still be required to meet the evaporative emission standards set forth in paragraphs (b)(1)(i), (b)(2)(i) and (b)(3)(i) of this section.

(b) *Evaporative emissions* from 1991 and later model year heavy-duty vehicles shall not exceed:

(1) *Hydrocarbons (for vehicles equipped with gasoline-fueled engines)*. (i) For vehicles with a Gross Vehicle Weight Rating of up to 14,000 lbs, 3.0 grams per test.

(ii) For vehicles with a Gross Vehicle Weight Rating of greater than 14,000 lbs, 4.0 grams per test.

(2) *Total Hydrocarbon Equivalent (for vehicles equipped with methanol-fueled engines)*. (i) For vehicles with a Gross Vehicle Weight Rating of up to 14,000 lbs, 3.0 grams per test.

(ii) For vehicles with a Gross Vehicle Weight Rating of greater than 14,000 lbs, 4.0 grams per test.

(3)(i) For vehicles with a Gross Vehicle Weight Rating of up to 26,000 lbs, the standards set forth in paragraphs (b)(1) and (b)(2) of this section refer to a composite sample of evaporative emissions collected under the conditions set forth in subpart M and measured in accordance with those procedures.

(ii) For vehicles with a Gross Vehicle Weight Rating of greater than 26,000 lbs., the standards set forth in paragraphs (b)(1)(ii) and (b)(2)(ii) of this section refer to the manufacturer's engineering design evaluation using good engineering practice (a statement of which is required in § 86.091-23(b)(4)(ii)).

(c) No crankcase emissions shall be discharged into the ambient atmosphere from any new 1991 or later model year Otto-cycle heavy-duty engine.

(d) Every manufacturer of new motor vehicle engines subject to the standards prescribed in this section shall, prior to taking any of the actions specified in section 203(a)(1) of the Act, test or cause to be tested motor vehicle engines in accordance with applicable procedures in subpart N or P of this part to ascertain that such test engines meet the requirements of paragraphs (a) and (c) of this section.

(Secs. 202, 203, 206, 207, 208, 301a, Clean Air Act, as amended; 42 U.S.C. 7521, 7522, 7525, 7541, 7542, 7601a)

[50 FR 10652, Mar. 15, 1985, as amended at 54 FR 14464, Apr. 11, 1989; 55 FR 30622, July 26, 1990; 59 FR 48492, Sept. 21, 1994]

§ 86.091-29 Testing by the Administrator.

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

(2) The Administrator may require that any one or more of the test vehicles be submitted to him, at such place or places as he may designate, for the purposes of conducting emissions tests. The Administrator may specify that he will conduct such testing at the manufacturer's facility, in which case instrumentation and equipment specified by the Administrator shall be made available by the manufacturer for test operations. Any testing conducted at a manufacturer's facility pursuant to this paragraph shall be scheduled by the manufacturer as promptly as possible.

(3)(i) Whenever the Administrator conducts a test segment on a test vehicle, the results of that test segment, unless subsequently invalidated by the Administrator, shall comprise the official data for that test segment for the vehicle at the prescribed test point and the manufacturer's data for that test segment for that prescribed test point shall not be used in determining compliance with emission standards (or family emission limits, as appropriate). The Administrator may stop a test after any evaporative test segment and use as official data any valid results obtained up to that point in the test, as described in subpart B of this part.

(ii) Whenever the Administrator does not conduct a test on a test vehicle at a test point, the manufacturer's test