

Environmental Protection Agency

§ 86.098-8

(h)(6) *Voiding a certificate.* (i) EPA may void ab initio a certificate for a vehicle certified to Tier 0 certification standards or to the respective evaporative and/or refueling test procedure and accompanying evaporative and/or refueling standards as set forth or otherwise referenced in §§ 86.098-8, 86.098-9, or 86.098-10 for which the manufacturer fails to retain the records required in this section or to provide such information to the Administrator upon request.

(h)(6)(ii) to (h)(7)(vi) [Reserved]. For guidance see § 86.096-7.

(h)(6)(vii) EPA evaporative/refueling family.

[59 FR 16288, Apr. 6, 1994, as amended at 60 FR 43888, Aug. 23, 1995]

§ 86.098-8 Emission standards for 1998 and later model year light-duty vehicles.

Section 86.098-8 includes text that specifies requirements that differ from § 86.096-8. Where a paragraph in § 86.096-8 is identical and applicable to § 86.098-8, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.096-8.”

(a)-(b)(5) [Reserved]. For guidance see § 86.096-8.

(b)(6) Vehicles certified to the refueling standards set forth in paragraph (d) of this section are not required to demonstrate compliance with the fuel dispensing spitback standards contained in § 86.096-8 (b)(1)(iii) and (b)(2)(iii): *Provided*, that they meet the requirements of § 86.098-28(f).

(c) [Reserved]. For guidance see § 86.096-8.

(d) Refueling emissions from 1998 and later model year gasoline-fueled and methanol-fueled Otto-cycle and petroleum-fueled and methanol-fueled diesel-cycle light-duty vehicles shall not exceed the following standards. The standards apply equally to certification and in-use vehicles.

(1) *Standards*—(i) *Hydrocarbons (for gasoline-fueled Otto-cycle and petroleum-fueled diesel-cycle vehicles).* 0.20 gram per gallon (0.053 gram per liter) of fuel dispensed.

(ii) *Total hydrocarbon equivalent (for methanol-fueled vehicles).* 0.20 gram per

gallon (0.053 gram per liter) of fuel dispensed.

(iii) *Hydrocarbons (for liquefied petroleum gas-fueled vehicles).* 0.15 gram per gallon (0.04 gram per liter) of fuel dispensed.

(iv) *Refueling receptacle (for natural gas-fueled vehicles).* Refueling receptacles on natural gas-fueled vehicles shall comply with the receptacle provisions of the ANSI/AGA NGV1 standard-1994 (as incorporated by reference in § 86.1).

(2)(i) The standards set forth in paragraphs (d)(1) (i) and (ii) of this section refer to a sample of refueling emissions collected under the conditions set forth in subpart B of this part and measured in accordance with those procedures.

(ii) For vehicles powered by petroleum-fueled diesel-cycle engines, the provisions set forth in paragraph (d)(1) of this section may be waived: *Provided*, that the manufacturer complies with the provisions of § 86.098-28(g).

(3)(i) A minimum of the percentage shown in table A98-08 of a manufacturer's sales of the applicable model year's gasoline- and methanol-fueled Otto-cycle and petroleum-fueled and methanol-fueled diesel-cycle light-duty vehicles shall be tested under the procedures in subpart B of this part indicated for 1998 and later model years, and shall not exceed the standards described in paragraph (d)(1) of this section. Vehicles certified in accordance with paragraph (d)(2)(ii) of this section, as determined by the provisions of § 86.098-28(g), shall not be counted in the calculation of the percentage of compliance.

TABLE A98-08—IMPLEMENTATION SCHEDULE FOR LIGHT-DUTY VEHICLE REFUELING EMISSION TESTING

Model year	Sales percentage
1998	40
1999	80
2000 and subsequent	100

(ii) Small volume manufacturers, as defined in § 86.094-14(b) (1) and (2), are exempt from the implementation schedule of table A98-08 of this section for model years 1998 and 1999. For small volume manufacturers, the standards of paragraph (d) of this section, and the

associated test procedures, shall not apply until model year 2000, when 100 percent compliance with the standards of this section is required. This exemption does not apply to small volume engine families as defined in § 86.094-14(b)(5).

(e)-(f) [Reserved]

(g)-(k) [Reserved]. For guidance see § 86.096-8.

[59 FR 16289, Apr. 6, 1994, as amended at 59 FR 48501, Sept. 21, 1994]

§ 86.098-10 Emission standards for 1998 and later model year Otto-cycle heavy-duty engines and vehicles.

Section 86.098-10 includes text that specifies requirements that differ from § 86.096-10. Where a paragraph in § 86.096-10 is identical and applicable to § 86.098-10, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.096-10.”

(a)(1) Except as provided for 2003 and 2004 model years in §§ 86.005-10(f) and 86.1816-05, exhaust emissions from new 1998 and later model year Otto-cycle heavy-duty engines shall not exceed:

(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) 4.0 grams per brake horsepower-hour (1.49 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 HDE families in any or all of the NO_x or NO_x plus NMHC ABT programs for HDEs, within the restrictions described in § 86.098-15 as applicable. If the manufacturer elects to in-

clude engine families in any of these programs, the NO_x FELs may not exceed 5.0 grams per brake horsepower-hour (1.9 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 liquified petroleum gas-fueled Otto-cycle HDE families in any or all of the NO_x or NO_x plus NMHC ABT programs for HDEs, within the restrictions described in § 86.098-15 as applicable. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 5.0 grams per brake horsepower-hour (1.9 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 pounds.

(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) 4.0 grams per brake horsepower-hour (1.49 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 HDE families in any or all of the NO_x or NO_x plus NMHC ABT programs for HDEs, within the restrictions described in § 86.098-15 as applicable. If the manufacturer elects to include engine families in any of these programs, the NO_x FELs may not exceed 5.0 grams per brake horsepower-hour (1.9 grams per megajoule). This ceiling value applies whether credits for the family are derived from averaging, trading or banking programs.