

receptacle provisions of the ANSI/AGA NGV1-1994 standard (as incorporated by reference in § 86.1(b)(3)). This requirement is subject to the phase-in schedules in Tables S01-3 and S01-4 of paragraph (k)(1)(i) of this section.

(l) *Fuel dispensing spitback testing waiver.* (1) Vehicles certified to the refueling emission standards set forth in §§ 86.1811(e), 86.1812(e) and 86.1813(e) are not required to demonstrate compliance with the fuel dispensing spitback standard contained in that section provided that:

(i) The manufacturer certifies that the vehicle inherently meets the fuel dispensing spitback standard as part of compliance with the refueling emission standard; and

(ii) This certification is provided in writing and applies to the full useful life of the vehicle.

(2) EPA retains the authority to require testing to enforce compliance and to prevent noncompliance with the fuel dispensing spitback standard.

(i) This provision is only available for petroleum diesel fuel. It is only available if the Reid Vapor Pressure of in-use diesel fuel is equal to or less than 1 psi (7 kPa) and for diesel vehicles whose fuel tank temperatures do not exceed 130 deg.F (54 deg. C); and

(ii) To certify using this provision the manufacturer must attest to the following evaluation: "Due to the low vapor pressure of diesel fuel and the vehicle tank temperatures, hydrocarbon vapor concentrations are low and the vehicle meets the 0.20 grams/gallon refueling emission standard without a control system."

(2) The certification required in paragraph (m)(1)(ii) of this section must be provided in writing and must apply for the full useful life of the vehicle.

(3) EPA reserves the authority to require testing to enforce compliance and to prevent noncompliance with the refueling emission standard.

(n) *Fixed liquid level gauge waiver.* Liquefied petroleum gas-fueled vehicles which contain fixed liquid level gauges or other gauges or valves which can be opened to release fuel or fuel vapor during refueling, and which are being tested for refueling emissions, are not required to be tested with such gauges or valves open, as outlined in § 86.157-

98(d)(2), provided the manufacturer can demonstrate, to the satisfaction of the Administrator, that such gauges or valves would not be opened during refueling in-use due to inaccessibility or other design features that would prevent or make it very unlikely that such gauges or valves could be opened.

(o) Unless otherwise approved by the Administrator, manufacturers must measure NMOG emissions in accordance with the California Non-Methane Organic Gas Test Procedures. These procedures are incorporated by reference (see § 86.1).

(p) For gasoline and diesel-fueled Tier 2 and interim non-Tier 2 vehicles, manufacturers may measure non-methane hydrocarbons (NMHC) in lieu of NMOG. Manufacturers must multiply NMHC measurements from gasoline vehicles by an adjustment factor of 1.04 before comparing with the NMOG standard to determine compliance with that standard. Manufacturers may use other factors to adjust NMHC results to more properly represent NMOG results. Such factors must be based upon comparative testing of NMOG and NMHC emissions and be approved in advance by the Administrator.

[64 FR 23925, May 4, 1999, as amended at 65 FR 6853, Feb. 10, 2000; 65 FR 59969, Oct. 6, 2000; 66 FR 5190, Jan. 18, 2001; 66 FR 19309, Apr. 13, 2001]

§ 86.1811-01 Emission standards for light-duty vehicles.

This section applies to 2001 and later model year light-duty vehicles fueled by gasoline, diesel, methanol, natural gas and liquefied petroleum gas fuels except as noted. Multi-fueled vehicles shall comply with all requirements established for each consumed fuel. For methanol fueled vehicles, references in this section to total hydrocarbons shall mean total hydrocarbon equivalents and references to non-methane hydrocarbons shall mean non-methane hydrocarbon equivalents. This section does not apply to 2004 and later model year vehicles, except as specifically referenced by § 86.1811-04.

(a) *Exhaust emission standards.* (1) Exhaust emissions shall not exceed the following standards at intermediate useful life:

(i) Total hydrocarbons: 0.41 grams per mile, except natural gas, which has no standard.

(ii) Non-methane hydrocarbons: 0.25 grams per mile.

(iii) Carbon monoxide: 3.4 grams per mile.

(iv) Oxides of nitrogen: 0.4 grams per mile except diesel fuel which has a 1.0 gram per mile standard.

(v) Particulate matter: 0.08 grams per mile.

(2) Exhaust emissions shall not exceed the following standards at full useful life:

(i) [Reserved]

(ii) Non-methane hydrocarbons: 0.31 grams per mile.

(iii) Carbon monoxide: 4.2 grams per mile.

(iv) Oxides of nitrogen: 0.6 grams per mile except diesel fuel which has a 1.25 gram per mile standard.

(v) Particulate matter: 0.10 grams per mile.

(b) *Supplemental exhaust emission standards.* (1) Supplemental exhaust emissions from gasoline-fueled and diesel-fueled light-duty vehicles shall not exceed the following standards at intermediate useful life:

(i) Nonmethane hydrocarbon and oxides of nitrogen composite: 0.65 grams per mile except diesel fuel which has a 1.48 gram per mile standard.

(ii) Carbon monoxide. Regulated vehicles shall meet at least one of the following two sets of standards:

(A) *Individual US06 and SC03 Air Conditioning compliance.* Comply with both the following standards:

(1) 3.0 grams per mile on the A/C test, not applicable to diesel fueled vehicles; and

(2) 9.0 grams per mile on the US06 test; or

(B) *Composite Carbon Monoxide Standard:* 3.4 grams per mile.

(2) Supplemental exhaust emissions from gasoline-fueled and diesel-fueled light-duty vehicles shall not exceed the following standards at full useful life:

(i) Nonmethane hydrocarbon and oxides of nitrogen composite: 0.91 grams per mile except diesel-fueled which have a 2.07 gram per mile standard.

(ii) *Carbon monoxide.* Regulated vehicles shall meet at least one of the following two sets of standards:

(A) *Individual US06 and SC03 Air Conditioning compliance.* Comply with both the following standards:

(1) 3.7 grams per mile on the A/C test, not applicable to diesel fueled vehicles; and

(2) 11.1 grams per mile on the US06 test; or

(B) *Composite Carbon Monoxide Standard:* 4.2 grams per mile.

(c) *Cold temperature emission standards.* Exhaust emissions from gasoline-fueled light-duty vehicles shall not exceed the cold temperature CO standard of 10.0 grams carbon monoxide per mile for an intermediate useful life of 50,000 miles.

(d) *Evaporative emission standards.* Evaporative emissions from gasoline-fueled, natural gas-fueled, liquefied petroleum gas-fueled, and methanol-fueled light-duty vehicles shall not exceed the following standards. The standards apply equally to certification and in-use vehicles. The spitback standard also applies to newly assembled vehicles.

(1) *Hydrocarbons.* (i) For the full three-diurnal test sequence, diurnal plus hot soak measurements: 2.0 grams per test.

(ii) *Gasoline and methanol-fueled only.* For the supplemental two-diurnal test sequence, diurnal plus hot soak measurements: 2.5 grams per test.

(iii) *Gasoline and methanol-fueled only.* For the running loss test: 0.05 grams per mile.

(iv) *Gasoline and methanol-fueled only.* For the fuel dispensing spitback test: 1.0 gram hydrocarbon (carbon for methanol-fueled) per test.

(2) [Reserved]

(e) *Refueling emissions.* Refueling emissions from 2001 and later model year light-duty vehicles shall not exceed the following standards:

(1) For gasoline-fueled, diesel fueled, and methanol-fueled vehicles: 0.20 grams hydrocarbon per gallon (0.053 gram per liter) of fuel dispensed.

(2) For liquefied petroleum gas-fueled vehicles: 0.15 grams hydrocarbon per gallon (0.04 gram per liter) of fuel dispensed.

(f) *Certification short test.* Certification short test emissions from gasoline-fueled Otto-cycle light-duty vehicles shall not exceed the following standards:

- (1) Hydrocarbons: 100 ppm as hexane.
- (2) Carbon monoxide: 0.5%.

(g) Manufacturers may request to group light-duty vehicles into the same test group as vehicles subject to more stringent standards, so long as those light-duty vehicles meet the most stringent standards applicable to any vehicle within that test group, as provided at § 86.1827(a)(5) and (d)(4).

[64 FR 23925, May 4, 1999, as amended at 65 FR 6854, Feb. 10, 2000; 65 FR 59970, Oct. 6, 2000]

§ 86.1811-04 Emission standards for light-duty vehicles, light-duty trucks and medium-duty passenger vehicles.

(a) *Applicability.* (1) This section contains regulations implementing emission standards for all LDVs, LDTs and MDPVs. This section applies to 2004 and later model year LDVs, LDTs and MDPVs fueled by gasoline, diesel, methanol, ethanol, natural gas and liquefied petroleum gas fuels, except as noted. Additionally, this section contains provisions applicable to hybrid electric vehicles (HEVs) and zero emission vehicles (ZEVs). Multi-fueled vehicles must comply with all requirements established for each consumed fuel.

(2) This section also applies to LDVs, LDTs and MDPVs of model years prior to 2004, when manufacturers certify such vehicles to Tier 2 exhaust emission requirements to utilize alternate phase-in schedules, as allowed under paragraph (k)(6) of this section, and/or to earn early NO_x credits for use in complying with the Tier 2 fleet average NO_x standard which takes effect in the 2004 model year for LDV/LLDTs and 2008 for HLDT/MDPVs.

(3) Except where otherwise specified, this section applies instead of §§ 86.1811-01, 86.1812-01, 86.1813-01, 86.1814-01, 86.1814-02, 86.1815-01, and 86.1815-02.

(4) Except where otherwise specified, the provisions of this section apply equally to LDVs and all categories of LDTs, and to all MDPVs. Numerous provisions are applicable equally to

HLDTs and MDPVs, as reflected by the term HLDT/MDPV. Numerous provisions apply equally to LDVs and LLDTs as reflected by the term LDV/LLDT.

(5) The exhaust emission standards and evaporative emission standards of this section apply equally to certification and in-use LDVs, LDTs and MDPVs, unless otherwise specified.

(b) *Test weight.* (1) Except as required in paragraphs (b)(2) and (b)(4) of this section, or permitted under paragraph (b)(3) of this section, emission testing of all LDVs, LDTs and MDPVs to determine compliance with any exhaust or evaporative emission standard set forth in this Part must be on a loaded vehicle weight (LVW) basis, as that term is defined in this subpart.

(2) Interim non-Tier 2 HLDTs tested to Tier 1 SFTP standards, must be tested on an adjusted loaded vehicle weight (ALVW) basis, as that term is defined in this subpart, during the SC03 element of the SFTP.

(3) Except as required in paragraphs (b)(2) and (b)(4) of this section, interim non-Tier 2 HLDT/MDPVs may be tested on an ALVW basis or an LVW basis to demonstrate compliance with any exhaust or evaporative emission standard set forth in this Part.

(4) MDPVs certified to bin 11 standards from Tables S04-1 and -2 must be tested on an ALVW basis to demonstrate compliance with any exhaust emission standard set forth in this part.

(c) *Tier 2 FTP exhaust emission standards.* Exhaust emissions from Tier 2 vehicles must not exceed the standards in Table S04-1 of this section at full useful life when tested over the Federal Test Procedure (FTP) described in subpart B of this part. Exhaust emissions from Tier 2 vehicles must not exceed the standards in Table S04-2 of this section at intermediate useful life, if applicable, when tested over the FTP.

(1) For a given test group a manufacturer desires to certify to operate only on one fuel, the manufacturer must select a set of standards from the same bin (line or row) in Table S04-1 of this section for non-methane organic gases (NMOG), carbon monoxide (CO), oxides of nitrogen (NO_x), formaldehyde (HCHO) and particulate matter (PM).