hour ozone associated with use of the direct ozone reducing device divided by the reduction in peak one hour ozone associated with the more stringent exhaust NMOG emission standard multiplied by the reduction the exhaust NMOG standard (in g/mi) modeled in paragraph (r)(3)(ix) of this section; and

(xv) The NMOG credit applicable to the generic direct ozone reducing device modeled in paragraph (r)(3)(vii) of this section must be determined by arithmetically averaging the NMOG credit determined in paragraph (r)(3)(xiv) of this section for each of the four local areas.

(4) The manufacturer must submit data, using procedures which have been approved by the Administrator in advance, that demonstrate the following aspects of the device being certified:

(i) The air flowrate through the device as a function of vehicle speed;

(ii) The ozone reduction efficiency of the device over the useful life of the vehicle for a range of vehicle speeds and ozone levels;

(iii) The method through which the onboard diagnostic system will detect improper performance.

(5) The NMOG credit for the specific application of this technology tested under the provisions of paragraph (r)(4) of this section is the four-area NMOG credit determined in paragraph (r)(3)(xv) of this section scaled based on the performance of the specific application tested under the provisions of paragraph (r)(4) of this section relative to those assumed in paragraph (r)(3)(vii) of this section. This scaling must assume a linear relationship between the NMOG credit and three aspects of the direct ozone reducing device: radiator area, average air flow through the radiator relative to vehicle speed, and ozone reduction efficiency and the NMOG credit. The NMOG credit must be rounded to the nearest 0.001 g/mi. For example, if the NMOG credit determined in paragraph (r)(3)(xv) of this section was 0.01 g/mi and the specific direct ozone reducing device being certified had an area of 0.20 square meters, an air flow velocity of 30% of vehicle speed and an ozone reducing efficiency of 70%, and the generic ozone reducing device simulated in the ozone model under paragraph (r)(3)(vii) of this section had an area of 0.29 square meters, an air flow velocity of 40% of vehicle speed and an ozone reducing efficiency of 80%, the NMOG credit applicable to the specific device being certified would be:

0.01 g/mi * (0.20/0.29) * (30%/40%) * 70%/80%) = 0.005

[65 FR 6854, Feb. 10, 2000; 65 FR 10598, Feb. 28, 2000]

§ 86.1812–01 Emission standards for light-duty trucks 1.

This section applies to 2001 and later model year light-duty truck 1's 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) [Reserved]

(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 have a 1.0 gram per mile standard.

(v) Particulate matter: 0.08 grams per mile.

(2) Exhaust emissions from 2001 and later model year light-duty truck 1's shall not exceed the following standards at full useful life:

(i) Total hydrocarbons: 0.80 grams per mile, except natural gas, which has no standard. For purposes of this section, the full useful life total hydrocarbon standard is for 11 years or 120,000 miles whichever occurs first.

(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 have 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 truck 1's 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 have 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 fuel 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 truck 1's with a loaded vehicle weight of 3,750 lbs or less 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 emissions.* Evaporative emissions from gasoline-fueled, natural gas-fueled, liquefied petroleum gas-fueled, and methanol-fueled light-duty truck 1's 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 fuel only.* For the supplemental two-diurnal test sequence, diurnal plus hot soak measurements: 2.5 grams per test.

(iii) *Gasoline and methanol fuel only.* Running loss test: 0.05 grams per mile.

(iv) *Gasoline and methanol fuel only.* Fuel dispensing spitback test: 1.0 grams per test.

(2) [Reserved]

(e) *Refueling emissions.* Refueling emissions from light-duty truck 1's shall be phased in, in accordance with the schedule in table S01–4 of §86.1810–01 not to exceed the following emission 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 trucks shall not exceed the following standards:

(1) Hydrocarbons: 100 ppm as hexane.

(2) Carbon monoxide: 0.5%.

(g) *Idle exhaust emission standards.* Exhaust emissions of carbon monoxide from gasoline, methanol, natural gas- and liquefied petroleum gas-fueled light-duty trucks shall not exceed 0.50 percent of exhaust gas flow at curb idle for a useful life of 11 years or 120,000 miles, whichever first occurs.

[64 FR 23925, May 4, 1999, as amended at 65 FR 6863, Feb. 10, 2000]

§86.1813–01 Emission standards for light-duty trucks 2.

This section applies to 2001 and later model year light-duty truck 2's fueled by gasoline, diesel, methanol, natural gas and liquefied petroleum gas fuels