



APPENDIX A

**ONBOARD REFUELING VAPOR RECOVERY REQUIREMENTS
EXCERPTS FROM THE CODE OF FEDERAL REGULATIONS**

40 CFR 86.1810-01(k)

(k) *Refueling emissions general provisions* —(1) *Implementation schedules.* (i) Tables S01–3, S01–4, and S01–5 in this paragraph (k)(1)(i) give the minimum percentage 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, light-duty trucks and complete heavy-duty vehicles which shall be tested under the applicable procedures in subpart B of this part, and shall not exceed the standards described in §§86.1811–01(e), 86.1811–04(e)(3), 86.1812–01(e), 86.1813–01(e), and 86.1816–04(e). Vehicles waived from the emission standards under the provisions of paragraphs (m) and (n) of this section shall not be counted in the calculation of the percentage of compliance. Either manufacturer sales or actual production intended for sale in the United States may be used to determine combined volume, at the manufacturer's option. Tables S01–3, S01–4, and S01–5 follow:

Table S01–3—Light-Duty Vehicles

Model Year	Percentage
1998 ^a	40
1999 ^a	80
2000 ^a	100

^aNote: This subpart prescribes standards for 2001 and later MY vehicles. However, the implementation phase-in periods prior to this date are included for ease of reference.

Table S01–4—Light Light-Duty Trucks

Model Year	Percentage
2001	40
2002	80
2003	100

Table S01–5—Heavy Light-Duty Trucks

Model Year	Percentage
2004	40
2005	80
2006	100

40 CFR 86.1811-04(e)

(3) *Refueling emission standards.* Refueling emissions must not exceed the following standards:

(i) For gasoline-fueled, diesel-fueled and methanol-fueled LDVs, LDTs and MDPVs: 0.20 grams hydrocarbon per gallon (0.053 grams per liter) of fuel dispensed.

(ii) For liquefied petroleum gas-fueled LDV, LDTs and MDPVs: 0.15 grams hydrocarbon per gallon (0.04 grams per liter) of fuel dispensed.

(iii) Refueling standards for HLDTs are subject to the phase-in requirements found in §86.1810–01(k). MDPVs must also comply with the phase-in requirement in §86.1810–01(k) and must be grouped with HLDTs to determine phase-in compliance.

40 CFR 86.1816-05(e)

(e) *Refueling emissions* —(1) *Standards.* Refueling emissions from Otto-cycle complete heavy-duty vehicles equal to or less than 10,000 pounds Gross Vehicle Weight Rating shall be phased in, in accordance with the schedule in Table S01–5 in §86.1810–01 not to exceed the following emission standards:

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

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

(2) *Phase-in.* Complete heavy-duty vehicles subject to refueling standards must comply with the phase-in requirements found in Table S01–5 in §86.1810–01, and must be grouped with HLDTs and MDPVs to determine phase-in compliance.

40 CFR 86.1803-01 Definitions.

Complete heavy-duty vehicle means any Otto-cycle heavy-duty vehicle of 14,000 pounds Gross Vehicle Weight Rating or less that has the primary load carrying device or container attached at the time the vehicle leaves the control of the manufacturer of the engine.

Heavy light-duty truck means any light-duty truck rated greater than 6000 lbs GVWR. The LDT3 and LDT4 classifications comprise the heavy light-duty truck category.

Light light-duty truck means any light-duty truck rated up through 6000 lbs GVWR. The LDT1 and LDT2 classifications compose the light light-duty truck category.

Light-duty truck means any motor vehicle rated at 8,500 pounds GVWR or less which has a curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less, which is:

- (1) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle; or
- (2) Designed primarily for transportation of persons and has a capacity of more than 12 persons; or
- (3) Available with special features enabling off-street or off-highway operation and use.

Light-duty truck 1 (LDT1) means any light light-duty truck up through 3750 lbs loaded vehicle weight.

Light-duty truck 2 (LDT2) means any light light-duty truck greater than 3750 lbs loaded vehicle weight.

Light-duty truck 3 (LDT3) means any heavy light-duty truck up through 5750 lbs adjusted loaded vehicle weight.

Light-duty truck 4 (LDT4) means any heavy light-duty truck greater than 5750 lbs adjusted loaded vehicle weight.

Light-duty vehicle means a passenger car or passenger car derivative capable of seating 12 passengers or less.

Medium-duty passenger vehicle (MDPV) means any heavy-duty vehicle (as defined in this subpart) with a gross vehicle weight rating (GVWR) of less than 10,000 pounds that is designed primarily for the transportation of persons. The MDPV definition does not include any vehicle which:

- (1) Is an “incomplete truck” as defined in this subpart; or
- (2) Has a seating capacity of more than 12 persons; or
- (3) Is designed for more than 9 persons in seating rearward of the driver's seat; or
- (4) Is equipped with an open cargo area (for example, a pick-up truck box or bed) of 72.0 inches in interior length or more. A covered box not readily accessible from the passenger compartment will be considered an open cargo area for purposes of this definition.