

PASSENGER AUTOMOBILE AND LIGHT TRUCK
GREENHOUSE GAS EMISSION REGULATIONS

INTERPRETATION

Definitions

1. (1) The following definitions apply in these Regulations.

“Act” means the *Canadian Environmental Protection Act, 1999*.

“advanced technology vehicle” means an electric vehicle, a plug-in hybrid vehicle or a fuel cell electric vehicle.

“alcohol fuel” means a fuel mixture containing 85% or more by volume of methanol, ethanol, or other alcohols.

“alcohol dual fuel vehicle” means a vehicle that

(a) is designed to operate either on

- (i) alcohol fuel or gasoline, or
- (ii) alcohol fuel or diesel fuel;

(b) yields equal or greater energy efficiency, calculated in accordance with section 510(g)(1) of Title 40, chapter I, part 600, subpart F, of the CFR, while operating on alcohol fuel as it does while operating on gasoline or diesel fuel; and

(c) meets or exceeds the minimum driving range set out in section 5(a) of Title 49, subtitle B, chapter V, part 538, of the CFR.

“approach angle” means the smallest angle, in a plan side view of a vehicle, formed by the level surface on which the vehicle is standing and a line tangent to the front tire static loaded radius arc and touching the underside of the vehicle forward of the front tire.

“automobile” means any four-wheeled self-propelled vehicle that is designed for use on highways and that has a GVWR of less than 4 536 kg (10,000 pounds), except

- (a) a vehicle manufactured in different stages by two or more manufacturers, if no intermediate or final-stage manufacturer of that vehicle manufactures more than 10 000 multistage vehicles per year; or
- (b) a work truck.

“axle clearance” means the vertical distance from the level surface on which a vehicle is standing to the lowest point on the axle differential of the vehicle.

“basic vehicle frontal area” means the area enclosed by the geometric projection of the basic vehicle, which includes tires but does not include mirrors or air deflectors, along the longitudinal axis of the vehicle onto a plane perpendicular to that axis.

“break-over angle” means the supplement of the largest angle, in the plan side view of a vehicle, that can be formed by two lines tangent to the front and rear static loaded radii arcs and intersecting at a point on the underside of the vehicle.

“CFR” means the *Code of Federal Regulations* of the United States as amended from time to time.

“CO₂” means carbon dioxide.

“car line” means a group of vehicles of the same make and, if applicable, the same car division, which have a similar body or chassis.

“curb weight” means the actual or manufacturer’s estimated weight of a vehicle in operational status with all standard equipment and including the weight of fuel at nominal tank capacity and the weight of optional equipment.

“departure angle” means the smallest angle, in a plan side view of a vehicle, formed by the level surface on which the vehicle is standing and a line tangent to the rear tire static loaded radius arc and touching the underside of the vehicle rearward of the rear tire.

“EPA” means the United States Environmental Protection Agency.

“EPA certificate” means a certificate of conformity to U.S. federal standards issued by the EPA.

“electric vehicle” means a vehicle that is powered solely by an electric motor drawing current from a rechargeable energy storage system, provided that

- (a) recharge energy is drawn from a source that is not on-board the vehicle; and
- (b) the vehicle conforms to the emission standards of bin 1 set out in a horizontal row in Table S04-1 in section 1811 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR.

“footprint” means the result of the product of the average width (measured in inches and rounded to the nearest tenth of an inch) of the lateral distance between the centrelines of the front and rear base tires at ground, multiplied by the longitudinal distance between the front and rear wheel centrelines (measured in inches and rounded to the nearest tenth of an inch), divided by 144 and rounded to the nearest tenth of a square foot.

“fuel cell” means an electrochemical cell that produces electricity through the reaction of a fuel on the anode with an oxidant on the cathode in the presence of an electrolyte.

“fuel cell electric vehicle” means a vehicle propelled solely by an electric motor and energy for the motor is supplied by a fuel cell.

“GVWR” means the gross vehicle weight rating specified by a manufacturer as the maximum design loaded weight of a single vehicle.

“hybrid electric vehicle” means a vehicle that is powered by an electric motor drawing current from an on-board rechargeable energy storage system and by an internal combustion engine or heat engine.

“light truck” means an automobile that

(a) has four-wheel drive or that has a GVWR of more than 2 722 kg (6,000 pounds), and that has at least four of the following characteristics calculated when the automobile is at curb weight, on a level surface, with the front wheels parallel to the automobile’s longitudinal centreline and the tires inflated to the manufacturer’s recommended pressure:

- (i) approach angle of not less than 28 degrees,
- (ii) break-over angle of not less than 14 degrees,
- (iii) departure angle of not less than 20 degrees,
- (iv) running clearance of not less than 20 centimetres,
- (v) front and rear axle clearances of not less than 18 centimetres; or

(b) is designed to perform at least one of the following functions:

- (i) transport more than 10 persons,
- (ii) provide temporary living quarters,
- (iii) transport property on an open bed,
- (iv) provide greater cargo-carrying than passenger-carrying volume; if a vehicle is sold with a second-row seat, its cargo-carrying volume is determined with that seat installed, regardless of whether the manufacturer has described that seat as optional,
- (v) permit expanded use of the automobile for cargo-carrying purposes through the removal or stowing of seats to create a flat surface extending from the forwardmost point of installation of those seats to the rear of the automobile’s interior. Such automobiles of the 2012 and subsequent model years must be equipped with at least three rows of designated seating positions as standard equipment.

“model type” means passenger automobiles or light trucks that have the same combination of car line, basic engine and transmission class.

“model year” means the year, as determined under section 4, that is used by a manufacturer to designate a model of vehicle.

“natural gas dual fuel vehicle” means a vehicle that

- (a) is designed to operate either on
 - (i) natural gas or gasoline, or
 - (ii) natural gas or diesel fuel;
- (b) yields equal or greater energy efficiency, calculated in accordance with section 510(g)(1) of Title 40, chapter I, part 600, subpart F, of the CFR, while operating on natural gas as it does while operating on gasoline or diesel fuel; and
- (c) meets or exceeds the minimum driving range set out in section 5(a) of Title 49, subtitle B, chapter V, part 538, of the CFR.

“passenger automobile” means any automobile, other than a light truck, that is designed for use in the transportation of not more than 10 persons.

“plug-in hybrid vehicle” means a hybrid electric vehicle that has the capability to recharge its energy storage system from an electric source that is not on-board the vehicle and that has an equivalent all-electric driving range of no less than 16.1 km (10 miles).

“running clearance” means the vertical distance from the level surface on which a vehicle is standing to the lowest point on the vehicle, excluding any point on a component that forms part of the vehicle’s unsprung weight.

“static loaded radius arc” means a portion of a circle whose centre is the centre of a standard tire-rim combination of a vehicle and whose radius is the distance from that centre to the level surface on which the vehicle is standing, measured with the vehicle at curb weight, the wheel parallel to the vehicle’s longitudinal centreline and the tire inflated to the manufacturer’s recommended pressure.

“temporary living quarters” means a space in the interior of an automobile which includes sleeping surfaces and household conveniences and in which people may temporarily live.

“transmission class” means a group of transmissions having the following common features:

- (a) basic transmission type;
- (b) number of forward gears used in the tests conducted for the purposes of subsection 16(2);
- (c) drive system;
- (d) type of overdrive, if applicable; and
- (e) torque converter type, if applicable.

“useful life” means the period of time or use, whether full or intermediate, in respect of which an emission standard applies to a vehicle as set out in section 1805 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR.

“work truck” means a vehicle that has a GVWR of more than 3 856 kg (8,500 pounds) and less than or equal to 4 536 kg (10,000 pounds) and does not include a medium-duty passenger vehicle as defined in subsection 1(1) of the *On-Road Vehicle and Engine Emission Regulations*.

(2) For the purposes of the definition “model type”, passenger automobiles or light trucks have the same basic engine if

(a) in the case of vehicles other than electric vehicles, their engines have the same

- (i) manufacturer,
- (ii) engine displacement,
- (iii) number of cylinders,
- (iv) fuel system, and
- (v) catalyst; or

(b) in the case of electric vehicles, their engines have the same

- (i) manufacturer,
- (ii) electric traction motor,
- (iii) motor controller,
- (iv) battery configuration,
- (v) electrical charging system, and
- (vi) energy storage device.

PURPOSE

Purpose

2. The purpose of these Regulations is to reduce greenhouse gas emissions from passenger automobiles and light trucks by establishing emission standards and test procedures that are aligned with those of the United States.

BACKGROUND

Background

3. These Regulations set out

- (a) prescribed classes of vehicles for the purposes of section 149 of the Act;
- (b) requirements respecting the conformity of passenger automobiles and light trucks with greenhouse gas emission standards for the purposes of section 153 of the Act;
- (c) requirements respecting the conformity of fleets of passenger automobiles and light trucks with greenhouse gas emission standards and other requirements for carrying out the purposes of Division 5, Part 7 of the Act; and
- (d) a credit system for the purposes of section 162 of the Act.

MODEL YEAR

Model year

- 4.** (1) A year that is used by a manufacturer as a model year must
- (a) if the period of production of a model of vehicle does not include January 1 of a calendar year, correspond to the calendar year during which the period of production falls; or
 - (b) if the period of production of a model of vehicle includes January 1 of a calendar year, correspond to that calendar year.

Production period

- (2) The period of production of a model of a vehicle must include only one January 1.

PRESCRIBED VEHICLES

Classes

- 5.** (1) In these Regulations, subject to subsection (2), the following classes of vehicles are prescribed for the purposes of the definition “vehicle” in section 149 of the Act:
- (a) passenger automobiles; and
 - (b) light trucks.

Exclusion

- (2) The prescribed classes of vehicles referred to in subsection (1) do not include any vehicle that is being exported and that is accompanied by written evidence establishing that it will not be sold or used in Canada.

Transportation within Canada

- (3) For the purpose of section 152 of the Act, the prescribed vehicles are the classes of vehicles referred to in subsection (1) for which the main assembly is completed in Canada, except any vehicle that will be used in Canada solely for purposes of exhibition, demonstration, evaluation or testing.

NATIONAL EMISSIONS MARK

Application

- 6.** (1) Any company that intends to apply the national emissions mark set out in Schedule 2 to the *On-Road Vehicle and Engine Emission Regulations* to a vehicle must apply to the Minister to obtain an authorization in accordance with subsection 7(2) of those Regulations.

Exception

(2) Subsection (1) does not apply to any company that, on the day on which these Regulations come into force, is authorized to apply the national emissions mark to a vehicle under the *On-Road Vehicle and Engine Emission Regulations*.

National emissions mark

7. A company that applies a national emissions mark to a vehicle must comply with section 8 of the *On-Road Vehicle and Engine Emission Regulations*.

GREENHOUSE GAS EMISSION STANDARDS

EMISSION CONTROL SYSTEMS

On-Road Vehicle and Engine Emission Regulations

8. (1) An emission control system that is installed in a vehicle to enable it to conform to the standards set out in these Regulations must be in conformity with subsection 11(1) of the *On-Road Vehicle and Engine Emission Regulations*.

Defeat device

(2) A vehicle must not be equipped with a defeat device.

Test procedures

(3) Subsections 11(3) and (4) of the *On-Road Vehicle and Engine Emission Regulations* apply, except that the test procedures in question are the ones set out in section 10.

STANDARDS FOR PASSENGER AUTOMOBILES AND LIGHT TRUCKS

Nitrous oxide and methane emission standards

9. Passenger automobiles and light trucks of the 2012 or subsequent model years must conform to the exhaust emission standards for nitrous oxide (N₂O) and methane (CH₄) set out in section 1818 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR, for the applicable model year.

Interpretation of standards

10. The standards referred to in section 9 are the certification and in-use standards set out in subpart B of Title 40, chapter I, subchapter C, part 86, of the CFR, at the applicable useful life, and include the test procedures, fuels and calculation methods set out in subpart B for those standards.

Vehicles covered by an EPA certificate

11. (1) Every vehicle of a specific model year that is covered by an EPA certificate and that is sold concurrently in Canada and the United States must conform to, instead of the standards set out in sections 8 and 9, the certification and in-use standards referred to in the EPA certificate.

Subsection 153(3) of the Act

(2) For the purposes of subsection 153(3) of the Act, the provisions of the CFR that are applicable to a vehicle referred to in subsection (1) pursuant to the EPA certificate correspond to the certification and in-use standards referred to in subsection (1).

EPA

(3) For the purposes of subsection 153(3) of the Act, the EPA is the prescribed agency.

FLEET AVERAGING REQUIREMENTS

General

Definition — fleet

12. In sections 14 to 33, “fleet” refers to

(a) all passenger automobiles or light trucks of a specific model year that a company manufactures in Canada or imports into Canada for the purpose of sale of those vehicles to the first retail purchaser; or

(b) if a company makes an election under section 20, all passenger automobiles or light trucks of a specific model year that a company manufactures in Canada or imports into Canada for the purpose of sale of those vehicles to the first retail purchaser that have not been included in the temporary optional fleet created under section 20 for that model year.

Rounding

13. If any of the calculations in these Regulations results in a number that is not a whole number, the number must be rounded to the nearest whole number in accordance with section 6 of the American Society for Testing and Materials method ASTM E 29-93a, *Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications*.

Fleet Average CO₂ Equivalent Emission Standards

Requirements respecting CO₂ equivalent emissions

14. Subject to sections 17 and 18, the fleet average CO₂ equivalent emission value for a company’s fleet of passenger automobiles and fleet of light trucks of the 2011 and subsequent model years must not exceed the applicable fleet average CO₂ equivalent emission standard for the model year in question.

Calculation of fleet average CO₂ equivalent emission standard for model year 2011

14.1 (1) A company must calculate the fleet average CO₂ equivalent emission standard, expressed in grams of CO₂ equivalent per mile, in respect of each one of its fleets of passenger automobiles or light trucks of the 2011 model year, by dividing 8,887 by the following

(a) in the case of passenger automobiles, the manufacturer specific passenger automobile fuel economy standard for the 2011 model year determined in accordance with section 5 of Title 49, subtitle B, chapter V, part 531, of the CFR ;and

(b) in the case light trucks, the manufacturer specific light truck fuel economy standard for the 2011 model year determined in accordance with section 5 of Title 49, subtitle B, chapter V, part 533, of the CFR.

Model type and group

15. (1) For the purposes of this section, passenger automobiles or light trucks of the same model type and that have the same footprint constitute a group.

Calculation of fleet average CO₂ equivalent emission standard for 2012 and subsequent model years

(2) Subject to section 20, a company must calculate the fleet average CO₂ equivalent emission standard in respect of each one of its fleets of passenger automobiles or light trucks of the 2012 and subsequent model years, in accordance with the following formula:

$$\frac{\sum(A \times B)}{C}$$

where

- A is the CO₂ emission target value for each group of passenger automobiles or light trucks, determined in accordance with subsection (3) or (4) and expressed in grams of CO₂ per mile;
 B is the number of passenger automobiles or light trucks in the group in question; and
 C is the total number of passenger automobiles or light trucks in the fleet.

Targets — fleet of passenger automobiles

(3) The CO₂ emission target value applicable to a group of passenger automobiles of a given model year corresponds to the following:

(a) in the case of each group with a footprint that is less than or equal to 3.8 m² (41 square feet), the CO₂ emission target value set out in the following table for the model year in question is:

Column 1		Column 2
Item	Model Year	CO ₂ Emission Target Value (g/mile)
1.	2012	242
2.	2013	234
3.	2014	227
4.	2015	215
5.	2016 and subsequent model years	204

(b) in the case of each group with a footprint that is greater than 3.8 m² (41 square feet) and less than or equal to 5.2 m² (56 square feet), the CO₂ emission target value is to be calculated using the following formula:

$$[4.72 \times f] + b$$

where

f is the footprint of the group, expressed in square feet; and
b is the value set out in the following table applicable to the model year in question:

Column 1		Column 2
Item	Model Year	b
1.	2012	48.8
2.	2013	40.8
3.	2014	33.2
4.	2015	22.0
5.	2016 and subsequent model years	10.9

(c) in the case of each group with a footprint that is greater than 5.2 m² (56 square feet), the CO₂ emission target value set out in the following table for the model year in question is:

Column 1		Column 2
Item	Model Year	CO ₂ Emission Target Value (g/mile)
1.	2012	313
2.	2013	305
3.	2014	297
4.	2015	286
5.	2016 and subsequent model years	275

Targets — fleet of light trucks

(4) The CO₂ emission target value applicable to a group of light trucks of a given model year corresponds to the following:

(a) in the case of each group with a footprint that is less than or equal to 3.8 m² (41 square feet), the CO₂ target emission value set out in the following table for the model year in question is:

Column 1		Column 2
Item	Model Year	CO ₂ Emission Target Value (g/mile)
1.	2012	298
2.	2013	287
3.	2014	276
4.	2015	261
5.	2016 and subsequent model years	246

(b) in the case of each group with a footprint that is greater than 3.8 m² (41 square feet) and less than or equal to 6.1 m² (66 square feet), the CO₂ emission target value is to be calculated using the following formula:

$$[4.04 \times f] + b$$

where

f is the footprint of the group, expressed in square feet; and
b is the value set out in the following table applicable to the model year in question:

Column 1		Column 2
Item	Model Year	b
1.	2012	132.6
2.	2013	121.6
3.	2014	110.3
4.	2015	95.2
5.	2016 and subsequent model years	80.4

(c) in the case of each group with a footprint that is greater than 6.1 m² (66 square feet), the CO₂ emission target value set out in the following table for the model year in question is:

Column 1		Column 2
Item	Model Year	CO ₂ Emission Target Value (g/mile)
1.	2012	399
2.	2013	388
3.	2014	377
4.	2015	362
5.	2016 and subsequent model years	347

Calculation of Fleet Average CO₂ Equivalent Emission Values

Fleet average CO₂ equivalent emission value

16. (1) A company must calculate the fleet average CO₂ equivalent emission value for each of its fleets of passenger automobiles and light trucks of the 2011 and subsequent model years, in accordance with the following formula:

D - E - F - G

where

- D is the average carbon-related exhaust emission value for each fleet determined in accordance with subsection (2) or (10), and subject to subsections (3) to (5);
- E is the allowance for reduction of air conditioning refrigerant leakage determined in accordance with subsection (6);
- F is the allowance for improving air conditioning system efficiency determined in accordance with subsection (7); and
- G is the allowance for the use of innovative technologies that have a measurable CO₂ reduction, determined in accordance with subsection (8).

Average carbon-related exhaust emission value for 2012 and subsequent model years

(2) The average carbon-related exhaust emission value for each fleet of the 2012 or subsequent model years is calculated using with the following formula:

$$\frac{\sum(A \times B)}{C}$$

where

- A is the carbon-related exhaust emission value for each model type, determined in accordance with the provisions of section 510(j)(2) of Title 40, chapter I, part 600, subpart F, of the CFR, for the model year in question and expressed in grams of CO₂ per mile;
- B is the number of vehicles of the model type in question in the fleet; and
- C is the total number of vehicles in the fleet.

Advanced technology

(3) When calculating the fleet average carbon-related exhaust emission value in accordance with the provisions of subsection (2) for vehicles of the 2012 to 2016 model years, a company may, for the purposes of amounts B and C in subsection (2), multiply the number of advanced technology vehicles in its fleet by 2, if the following conditions are met:

- (a) documentation of the use of the multiplier and the number of credits obtained by its use are included in the end of model year report; and
- (b) vehicles are certified to the emission standards of bin 5 or a more stringent bin set out in a horizontal row in Table S04-1 in section 1811 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR.

Maximum decrease for dual fuel vehicles

(4) For the purposes of subsection (2) and for vehicles of the model years 2012 to 2015, if the fleet contains alcohol dual fuel vehicles or natural gas dual fuel vehicles, the fleet average carbon-related exhaust emission value is the greater of:

- (a) the fleet average carbon-related exhaust emission value calculated in accordance with subsection (2); and

(b) the fleet average carbon-related exhaust emission value determined in accordance with subsection (2) but assuming that all alcohol dual fuel vehicles and natural gas dual fuel vehicles operate exclusively on gasoline or diesel fuel, minus the applicable limit set out in section 510(i) of Title 40, chapter I, part 600, subpart F, of the CFR.

Alternative value

(5) For the purposes of sections 510(j)(2)(vi) and (vii) of Title 40, chapter I, part 600, subpart F, of the CFR, a company may use an alternative value for the weighting factor “F” if the company provides the Minister with evidence demonstrating that the alternative value of “F” is more representative of the company’s fleet.

Allowance for reduction of air conditioning refrigerant leakage

(6) A company may calculate an allowance for the use, in its fleet of passenger automobiles or light trucks, of air conditioning systems that incorporate technologies designed to reduce air conditioning refrigerant leakage, calculated using the following formula:

$$\frac{\sum(A \times B)}{C}$$

where

- A is the CO₂ equivalent leakage reduction for each of the air conditioning systems in the fleet that incorporates those technologies, determined in accordance with the provisions of sections 166 and 1866(b) of Title 40, chapter I, subchapter C, Part 86, of the CFR and expressed in grams of CO₂ equivalent per mile;
- B is the total number of vehicles in the fleet equipped with the air conditioning system; and
- C is the total number of vehicles in the fleet.

Allowance for improving air conditioning system efficiency

(7) A company may calculate an allowance for the use, in its fleet of passenger automobiles or light trucks, of air conditioning systems that incorporate technologies designed to reduce air-conditioning-related CO₂ emissions by improving the air conditioning system efficiency of those fleets, calculated using the following formula:

$$\frac{\sum(A \times B)}{C}$$

where

- A is the air conditioning efficiency allowance for each of the air conditioning systems in the fleet that incorporate those technologies, determined in accordance with the provisions relating to credits in sections 165 and 1866(c) of Title 40, chapter I, subchapter C, Part 86, of the CFR and expressed in grams of CO₂ per mile;
- B is the total number of vehicles in the fleet equipped with the air conditioning system; and
- C is the total number of vehicles in the fleet.

Allowance for innovative technologies

(8) A company may calculate an allowance for the use, in its fleet of passenger automobiles or light trucks, of innovative technologies that have a measurable CO₂ emission reduction in accordance with the following formula, if the CO₂ reduction is not captured by the test procedures used to determine the carbon-related exhaust emissions for those technologies:

$$\frac{\sum(A \times B)}{C}$$

where

- A is the allowance for each innovative technology used in the fleet, determined in accordance with the provisions for the 5-cycle methodology set out in section 1866(d)(2)(i) of Title 40, chapter I, subchapter C, Part 86, of the CFR and expressed in grams of CO₂ per mile;
- B is the total number of vehicles in the fleet equipped with the innovative technology; and
- C is the total number of vehicles in the fleet.

Alternative procedure

(9) If the 5-cycle methodology referred to in the description of A in subsection (8) cannot adequately measure the emission reduction attributable to an innovative technology, a company may calculate the allowance in question using an alternative procedure if

- (a) the alternative procedure has been approved by the EPA in accordance with section 1866(d)(2)(ii) of Title 40, chapter I, subchapter C, Part 86, of the CFR; and
- (b) the Minister is provided with evidence of the EPA approval in the end of model year report.

Fleet average carbon-related exhaust emission value for the 2011 model year

(10) The average carbon-related exhaust emission value for each of fleets of the 2011 model year, expressed in grams of CO₂ equivalent per mile, is calculated by dividing 8,887 by the company's fleet average fuel economy for that model year determined in accordance with section 510 of Title 40, chapter I, part 600, subpart F, of the CFR.

CO₂ Equivalent Emission Credit System

CO₂ equivalent emission credits

17. (1) For the purposes of subparagraph 162(1)(b)(i) of the Act, a company obtains CO₂ equivalent emission credits if the fleet average CO₂ equivalent emission value in respect of a fleet of passenger automobiles or a fleet of light trucks of a specific model year is lower than the fleet average CO₂ equivalent emission standard for that fleet and model year and the company reports the credits in its end of year model report.

Deficits

(2) A company incurs deficits if the fleet average CO₂ equivalent emission value in respect of a fleet of passenger automobiles or a fleet of light trucks for a specific model year is higher than the fleet average CO₂ equivalent emission standard for that fleet and model year.

Calculation

(3) A company must calculate the credits or deficits for each of its fleets using the following equation:

$$\text{ECD} = \frac{(A - B) \times C \times D}{1\,000\,000}$$

where

ECD is the number of credits, if the result is positive, or the number of deficits, if the result is negative, expressed in units of megagrams of CO₂ equivalent;

A is the fleet average CO₂ equivalent emission standard calculated in accordance with section 15, expressed in grams per mile;

B is the fleet average CO₂ equivalent emission value calculated in accordance with section 16, expressed in grams per mile;

C is the total number of passenger automobiles or light trucks in the fleet; and

D is the assumed total mileage of the vehicles in question, namely:

(a) 190,971 miles for a fleet of passenger automobiles; and

(b) 221,199 miles for a fleet of light trucks.

Date of credit or deficit

(4) A company obtains credits and incurs deficits for a specific fleet on the day on which the company submits the end of model year report for the model year in question.

Validity – time limit

(5) Credits obtained for a fleet of passenger automobiles or light trucks of a specific model year can be used in respect of any fleet of passenger automobiles or light trucks of five model years after the model year in respect of which the credits were obtained, after which the credits are no longer valid.

Offsetting Deficits and Use of Credits

Deficits

18. (1) Subject to subsection (4), a company must use credits obtained for a fleet of passenger automobiles or light trucks of a specific model year to offset any outstanding deficits incurred for any of its fleets.

Remaining credits

(2) A company may bank any remaining credits to offset a future deficit or may transfer the credits to another company, except during the 2012 to 2015 model years if the company elects to create a temporary optional fleet under section 20.

Offset

(3) A company may offset a deficit with an equivalent number of credits obtained in accordance with section 17 or with an equivalent number of credits transferred from another company.

Offset – time limit

(4) A company must offset a deficit no later than the day on which the company submits the end of model year report for vehicles of the third model year after the model year for which the company incurred the deficit.

Receiver General – Model Year 2011

(5) A company may offset a deficit incurred in the 2011 model year with an equivalent number of credits obtained by the payment of an amount to the Receiver General, at a rate to be prescribed in these Regulations.*

*Note: Interested parties are invited to provide comments on the rate to be prescribed.

Purchased or merged companies

19. (1) A company that purchases another company or that results from the merger of companies is responsible for offsetting any outstanding deficits of the purchased or merged companies.

Ceasing activities

(2) If a company ceases to manufacture, import or sell passenger automobiles or light trucks, it must, before submitting its last end of model year report, offset all deficits that are outstanding for its fleets.

TEMPORARY OPTIONAL FLEETS

Optional fleets

20. (1) A company that manufactured or imported in total less than 40 000 passenger automobiles and light trucks of the 2009 model year for sale in Canada may, for vehicles of the 2012 to 2015 model years, elect to not include, for a given year, a number of vehicles of the model years 2012, 2013, 2014 and 2015 in the calculation of the fleet average CO₂ equivalent emission standard set out in section 15 and to create temporary optional fleets of passenger automobiles or light trucks with the following restrictions:

(a) the combined total of passenger automobiles and light trucks for the model years 2012 to 2015 in the temporary optional fleets must not exceed 10 000;

(b) subject to sections 21 and 22, the fleet average CO₂ equivalent emission value for a company's temporary optional fleet of passenger automobiles or temporary optional fleet of light trucks of a given model year must comply with the alternative fleet average CO₂ equivalent emission standards for that model year, calculated in accordance with subsection (2); and

(c) the company must have manufactured or imported at least one passenger automobile or light truck of the 2009 model year for sale in Canada.

Optional fleet average standards

(2) The company that creates a temporary optional fleet must calculate the optional fleet average CO₂ equivalent emission standard in accordance with the following formula, for each model year, rounding the result to the nearest whole number:

$$\frac{\sum(A \times B)}{C} \times 1.25$$

where

A is the CO₂ equivalent emission target value for each group of passenger automobiles or light trucks included in the temporary optional fleet, determined in accordance with:

- (i) subsection 15(3) for the groups of passenger automobiles, or
- (ii) subsection 15(4) for the groups of light trucks.

B is the number of passenger automobiles or light trucks in the group in question; and

C is the total number of passenger automobiles or light trucks in the temporary optional fleet.

Optional fleet average values

(3) The company that creates a temporary optional fleet must determine, for each model year, the optional fleet average CO₂ equivalent emission value using the formula set out in section 16.

Use of credits

21. (1) A company that creates a temporary optional fleet of passenger automobiles or light trucks obtains credits or incurs deficits in respect of its optional fleet in accordance with subsection 17(1) or (2), as the case may be.

Calculation

(2) The company must calculate the credits or deficits for each of its temporary optional fleets using the equation set out in subsection 17(3).

Subsection 17(4)

(3) Subsection 17(4) applies to credits and deficits obtained or incurred in accordance with this section.

Validity — time limit

(4) Credits obtained for a temporary optional fleet of passenger automobiles or light trucks of a given model year can only be used to offset a deficit incurred in respect of temporary optional fleets of passenger automobiles or light trucks of the 2012 to 2015 model years, after which the credits are no longer valid.

Application of sections 18 and 19

22. (1) Subsections 18(1) and (4) and section 19 apply to credits obtained and deficits incurred for a temporary optional fleet.

Limit on use of credits

(2) The company must not use credits obtained for a temporary optional fleet to offset a deficit incurred for a fleet of passenger automobiles or light trucks to which the fleet average CO₂ equivalent emission standard set out in section 15 applies.

Future deficit

(3) The company may bank any remaining credits obtained for a temporary optional fleet to offset a future deficit incurred for another temporary optional fleet.

Use of credits

(4) The company must use any remaining credits obtained for a fleet of passenger automobiles or light trucks to which the fleet average CO₂ equivalent emission standard set out in section 15 applies, to offset a deficit incurred for a temporary optional fleet.

EARLY ACTION CREDITS

Early action credits — 2008, 2009 and 2010 model years

23. (1) A company may obtain early action credits in respect of its fleets of passenger automobiles and light trucks of the 2008, 2009 and 2010 model years if the total number of credits calculated in respect of those fleets of the 2008, 2009 and 2010 model years is greater than the total number of deficits incurred for those model years and the company reports the credits in its 2011 model year report provided for in section 25.

Date of early action credits

(2) The early action credits are obtained by a company on the day on which the report referred to in subsection (1) is submitted.

Calculation

(3) Early action credits obtained or deficits incurred in respect of its fleets of passenger automobiles and light trucks of the 2008, 2009 and 2010 model years must be calculated in accordance with subsection 17(3), except that the fleet average CO₂ equivalent emission standard for the 2008, 2009 and 2010 model years, as determined for A, is the following:

- (a) in the case of 2008, 2009 and 2010 model year passenger automobiles, 323 grams per mile;
- (b) in the case of 2008 model year light trucks, 395 grams per mile;
- (c) in the case of 2009 model year light trucks, 381 grams per mile; and
- (d) in the case of 2010 model year light trucks, 376 grams per mile.

2008 model year — limitation

(4.1) Early action credits calculated for a fleet of passenger automobiles or light trucks of the 2008 model year can only be subtracted from a deficit calculated for the 2008, 2009, 2010 or 2011 model years.

2009 and 2010 model years

(4.2) Early action credits calculated for a fleet of passenger automobiles or light trucks of the 2009 or 2010 model years can be subtracted from a deficit calculated for the 2008, 2009, 2010 or 2011 model years.

Validity — time limit

(5) Subject to subsection (5.1), early action credits obtained for a fleet of passenger automobiles or light trucks of the model year 2009 or 2010 can be used as of the 2012 model year, but only in respect of any fleet of passenger automobiles or light trucks of five model years after the model year in respect of which the credits were obtained, after which the credits are no longer valid.

Adjustment

(5.1) If the early action credits are obtained in respect of fleets that contain alcohol dual fuel vehicles or natural gas dual fuel vehicles, the number of early action credits that can be used as of the 2012 model year is calculated with the assumption that all alcohol dual fuel vehicles and natural gas dual fuel vehicles operate exclusively on gasoline or diesel fuel. This adjustment also applies to credits obtained in respect of the 2011 model year.

Use of early action credits

(6) The rules set out in sections 18 and 19 with respect to credits also apply to early action credits.

Definitions

24. (1) For the purposes of this section:

- (a) “light-duty vehicle” and “medium-duty passenger vehicle” have the same meaning as in subsection 1(1) of the *On-Road Vehicle and Engine Emission Regulations*;
- (b) “light light-duty truck” means a light-duty truck, as defined in subsection 1(1) of the Regulations referred to in paragraph (a), that has a GVWR of 1 701 kg (3,750 pounds) or less;
- (c) “heavy light-duty truck” means a light-duty truck, as defined in subsection 1(1) of the Regulations referred to in paragraph (a), that has a GVWR of more than 1 701 kg (3,750 pounds).

Alternative fleet combination for early action credits

(2) Instead of obtaining early action credits in respect of its fleets of passenger automobiles and light trucks of the 2008, 2009 and 2010 model years, a company may obtain early action credits in respect of its combined fleet of light-duty vehicles and light light-duty trucks and its combined fleet of heavy light-duty trucks and medium-duty passenger vehicles.

Fleet average CO₂ equivalent emission standard

(3) Section 23 applies to the combined fleets referred to in subsection (1), except that the fleet average CO₂ equivalent emission standard provided for in paragraph 23(3)(a), is the following:

- (a) in the case of 2008 and 2009 model year light-duty vehicles and light light-duty trucks, 321 grams per mile;
- (b) in the case of 2008 and 2009 model year heavy light-duty trucks and medium-duty passenger vehicles, 437 grams per mile;
- (c) in the case of 2010 model year light-duty vehicles and light light-duty trucks, 299 grams per mile; and
- (d) in the case of 2010 model year heavy light-duty trucks and medium-duty passenger vehicles, 418 grams per mile.

REPORTS

2011 model year report

25. (1) A company must submit to the Minister a report for the 2011 model year, signed by a person who is authorized to act on behalf of the company, no later than May 1, 2012.

Content of report

(2) Subject to subsection (3), the 2011 model year report must contain the following information in respect of each of the company's fleets:

- (a) the fleet average CO₂ equivalent emission standard, calculated in accordance with section 14.1, and expressed in grams per mile;
- (b) the average carbon-related exhaust emission value, calculated in accordance with subsection 16(10), and all the values and data used in the calculation of that value;
- (c) the number of credits or deficits, calculated in accordance with subsection 17(3), and, if applicable, the number of credits adjusted in accordance with subsection 23(5.1); and
- (d) the information set out in paragraphs 27(2)(e), (h) to (l), (n) and (o).

Reporting early action credits

(3) In order to obtain early action credits under section 23 or 24 in respect of its fleets of the 2008 to 2010 model years, a company must also include in the 2011 model year report the following information in respect of each of the 2008, 2009 and 2010 model years and each fleet:

- (a) the number of credits or deficits calculated in accordance with subsection 17(3);
- (b) the fleet average CO₂ equivalent emission standard used in the calculation of the number of credits or deficits;

- (c) the fleet average CO₂ equivalent emission value, calculated in accordance with section 16;
- (d) the average carbon-related exhaust emission value for each fleet, calculated in accordance with subsection 16(2);
- (e) the total number of vehicles in the fleet;
- (f) the carbon-related exhaust emission value for each model type in the fleet, calculated in accordance with subsection 16(2), and all the values and data used in the calculation of that value;
- (g) the number of vehicles of each model type;
- (h) if the company calculates an allowance for the use of air conditioning systems that incorporate technologies designed to reduce air conditioning refrigerant leakage, the value of the allowance for the fleet and, for each air conditioning system
 - (i) a description of the system,
 - (ii) the CO₂ equivalent leakage reduction, calculated in accordance with subsection 16(6), and all the values and data used in the calculation of the reduction, and
 - (iii) the total number of vehicles in the fleet that are equipped with the system;
- (i) if the company calculates an allowance for improving air conditioning system efficiency, the value of the allowance for the fleet and, for each air conditioning system
 - (i) a description of the system,
 - (ii) the air conditioning efficiency allowance, calculated in accordance with subsection 16(7), and all the values and data used in the calculation of the allowance, and
 - (iii) the total number of vehicles in the fleet that are equipped with the system; and
- (j) if a company calculates an allowance for the use of innovative technologies that have a measurable CO₂ reduction, the value of the allowance for the fleet and, for each innovative technology
 - (i) a description of the technology,
 - (ii) the allowance for each innovative technology, calculated in accordance with subsection 16(8) and, if applicable, subsection 16(9), and all the values and data used in the calculation of the allowance, and
 - (iii) the total number of vehicles in the fleet that are equipped with the technology.

Annual preliminary report

26. (1) A company must submit to the Minister a preliminary report signed by a person who is authorized to act on behalf of the company

- (a) for vehicles of the 2012 model year, no later than September 1, 2011; and
- (b) for vehicles of subsequent model years, no later than September 1 of the calendar year that precedes the calendar year that corresponds to the model year in question.

Content

(2) A company must determine the carbon-related exhaust emission value for each model type in its fleets for a given model year, calculated in accordance with subsection 16(2), and must include in its preliminary report, for each of its fleets, the value for each model type and all the values and data used in the calculation of that value.

End of model year report

27. (1) A company must submit to the Minister an end of model year report signed by a person who is authorized to act on behalf of the company

- (a) for vehicles of the 2012 model year, no later than May 1, 2013; and
- (b) for vehicles of subsequent model years, no later than May 1 after the end of the calendar year that corresponds to the model year in question.

Content

(2) The end of model year report, for a given model year, must contain the following information in respect of each of the company's fleets:

- (a) the fleet average CO₂ equivalent emission standard, calculated in accordance with subsection 15(2);
- (b) the CO₂ emission target value for each group, calculated for the purposes of section 15, and all the values and data used in the calculation of that value;
- (c) the number of vehicles in each group constituted for the purposes of section 15;
- (d) the total number of vehicles in the fleet;
- (e) the fleet average CO₂ equivalent emission value, calculated in accordance with section 16;
- (f) the average carbon-related exhaust emission value for the fleet, calculated in accordance with subsection 16(2);
- (g) the carbon-related exhaust emission value for each model type in the fleet, calculated in accordance with subsection 16(2) and all the values and data used in the calculation of that value;
- (h) the number of vehicles of each model type in the fleet;
- (i) if the company calculates an allowance for the use of air conditioning systems that incorporate technologies designed to reduce air conditioning refrigerant leakage, the value of the allowance for the fleet and, for each air conditioning system,
 - (i) a description of the system,
 - (ii) the CO₂ equivalent leakage reduction, calculated in accordance with subsection 16(6) and all the values and data used in the calculation of the reduction, and
 - (iii) the total number of vehicles in the fleet equipped with the system;
- (j) if the company calculates an allowance for improving air conditioning system efficiency, the value of the allowance for the fleet and, for each air conditioning system,

- (i) a description of the system,
 - (ii) the air conditioning efficiency allowance, calculated in accordance with subsection 16(7), and all the values and data used in the calculation of the allowance, and
 - (iii) the total number of vehicles in the fleet equipped with the system;
- (k) if a company calculates an allowance for the use of innovative technologies that have a measurable CO₂ reduction, the value of the allowance for the fleet and, for each innovative technology,
- (i) a description of the technology,
 - (ii) the allowance for each innovative technology, calculated in accordance with subsection 16(8) and, if applicable, subsection 16(9), and all the values and data used in the calculation of the allowance, and
 - (iii) the total number of vehicles in the fleet equipped with the technology;
- (l) if applicable, evidence of the EPA approval referred to in subsection 16(9);
- (m) the number of credits or deficits, calculated in accordance with subsection 17(3) for the fleets of the model year in question;
- (n) if applicable, the number of CO₂ emission credits, credits obtained in respect of a temporary optional fleet or early action credits that are used to compensate a deficit incurred in respect of the fleet of the model year in question or an outstanding deficit incurred in respect of the fleet, as well as their identification by fleet of origin and model year; and
- (o) an accounting of all the CO₂ emission credits, credits obtained in respect of a temporary optional fleet or early action credits and deficits incurred for each model year and for each fleet.

Additional information

(3) The end of model year report must also contain the following information on each CO₂ emission credit transfer and early action credit transfer to or from the company since the submission of the previous end of model year report:

- (a) the name, street address and, if different, the mailing address of the company that transferred the credits and the model year in which that company obtained those credits;
- (b) the name, street address and, if different, the mailing address of the company that received the credits;
- (c) the date of the transfer; and
- (d) the number of credits transferred, expressed in megagrams.

Format for submission

28. Any report to be submitted under these Regulations must be submitted electronically, in the format provided by the Minister, but the report must be submitted in writing if

- (a) no such format is provided; or

(b) it is, owing to circumstances beyond the control of the person required to submit the report, impracticable to submit the report electronically in the format provided.

RECORDS

EVIDENCE OF CONFORMITY

Evidence of conformity

29. (1) In the case of a vehicle that is covered by an EPA certificate and that is sold concurrently in Canada and the United States, evidence of conformity for the purpose of paragraph 153(1)(b) of the Act in respect of a company must consist of

(a) a copy of the EPA certificate covering the vehicle;

(b) a document demonstrating that vehicles covered by the EPA certificate are sold concurrently in Canada and the United States;

(c) a copy of the records submitted to the EPA in support of the application for the issuance of the EPA certificate in respect of the vehicle; and

(d) a U.S. emission control information label that is permanently affixed to the vehicle in the form and location set out in section 1807 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR, for the applicable model year.

U.S. control information label

(2) For the purpose of subsection (1), the U.S. emission control information label may be permanently affixed to the vehicle in any other form and location that may be specified in Title 40, chapter I, subchapter C, part 86 of the CFR.

Vehicles not sold in the United States

30. (1) For the purpose of paragraph 153(1)(b) of the Act, a company must obtain and produce evidence of conformity for a vehicle other than one referred to in subsection 29(1) in a form and manner satisfactory to the Minister, instead of as specified in that subsection.

Time of submission

(2) For greater certainty, a company must submit the evidence of conformity to the Minister before importing a vehicle or applying a national emissions mark to it.

Subsection 153(2) of the Act

31. For greater certainty, a company that imports a vehicle or applies a national emissions mark to it under subsection 153(2) of the Act is not required to provide the Minister with the evidence of conformity referred to in subsection 30(1) before importing it or applying a national emissions mark to it, but must provide that evidence in accordance with subsection 153(2) of the Act before the vehicle leaves the possession or control of the company and before it is presented for registration under the laws of a province or an aboriginal government.

FLEET AVERAGE RECORDS

Fleet average records

32. (1) A company must maintain records containing the following information for each of its fleets:

- (a) the model year;
- (b) the applicable fleet average CO₂ equivalent emission standard;
- (c) the fleet average CO₂ equivalent emission value; and
- (d) all the values and data used in calculating the fleet average CO₂ equivalent emission values.

Information

(2) A company must maintain records containing the following information for each vehicle in the fleet referred to in subsection (1):

- (a) the model type and model year;
- (b) the applicable fleet average CO₂ equivalent emission standard;
- (c) in the case of a vehicle covered by an EPA certificate, the applicable test group described in subpart S of Title 40, chapter I, subchapter C, part 86, of the CFR;
- (d) the name and street address of the plant where the vehicle was assembled;
- (e) the vehicle identification number;
- (f) the applicable carbon-related exhaust emission value; and
- (g) the name and street or mailing address of the first purchaser of the vehicle in Canada.

MAINTENANCE AND SUBMISSION OF RECORDS

Maintenance of records

33. (1) A company must maintain, for vehicles of each model year, in writing or in a readily readable electronic or optical form, for a period of at least

- (a) eight years after the end of the calendar year that corresponds to the model year in question, a copy of the reports referred to in sections 25 to 27;
- (b) eight years after the date on which the main assembly of the vehicle was completed, the evidence of conformity referred to in section 29; and
- (c) eight years after the end of the calendar year that corresponds to the model year in question, the records referred to in section 32.

Records maintained on behalf of a company

(2) If the evidence of conformity, the records and a copy of the reports referred to in subsection (1) are maintained on behalf of a company, the company must keep a record of the name and street address and, if different, the mailing address of the person who maintains those records.

Written request for records

(3) If the Minister makes a written request for the evidence of conformity or the records referred to in subsections (1) and (2), or a summary of any of them, the company must provide the Minister with the requested information, in either official language, within

(a) 40 days after the request is delivered to the company; or

(b) if the evidence of conformity or records referred to in section 29 or 30 must be translated from a language other than French or English, 60 days after the request is delivered to the company.

RENTAL RATE

Rental rate

34. The annual rental rate to be paid to a company by the Minister under subsection 159(1) of the Act, prorated on a daily basis for each day that a vehicle is made available, is the rate prescribed in section 43 of the *On-Road Vehicle and Engine Emission Regulations*.

APPLICATION FOR EXEMPTION

Application

35. A company applying under section 156 of the Act for an exemption from conformity with any standard specified under these Regulations must submit in writing to the Minister the information set out in section 44 of the *On-Road Vehicle and Engine Emission Regulations*.

DEFECT INFORMATION

Notice of defect

36. (1) The notice of defect referred to in subsections 157(1) and (4) of the Act must be given in writing and must contain the information set out in subsection 45(1) of the *On-Road Vehicle and Engine Emission Regulations*.

Reports

(2) In respect of a notice of defect issued under these Regulations, a company must comply with the provisions set out in subsections 45(2) and (3) of the *On-Road Vehicle and Engine Emission Regulations*.

Applicable standard

(3) For the application of section 157 of the Act, the prescribed standard that applies to a vehicle is the product of 1.1 multiplied by the carbon-related exhaust emission value for the model type in question, calculated in accordance with subsection 16(2), or by the equivalent value in the case of a model type of the 2011 model year.

COMING INTO FORCE

37. These Regulations come into force on the day on which they are registered.