

# Canada Gazette, Part 2, Volume 152, Number 22: Regulations Amending the Energy Efficiency Regulations, 2016

Canada Gazette, Part II, Volume 152, Number 22

Registration

October 10, 2018

ENERGY EFFICIENCY ACT

P.C. 2018-1248 October 4, 2018

Her Excellency the Governor General in Council, on the recommendation of the Minister of Natural Resources, pursuant to sections 20 [footnote a](#) and 25 of the *Energy Efficiency Act* [footnote b](#), makes the annexed *Regulations Amending the Energy Efficiency Regulations, 2016*.

## Regulations Amending the Energy Efficiency Regulations, 2016

### Amendments

**1 The *Energy Efficiency Regulations, 2016* [footnote 1](#) are amended by adding the following after section 1:**

#### Standards and procedures of other jurisdiction incorporated by reference

**1.1** Despite these Regulations, if an energy efficiency standard or test procedure that is incorporated by reference in these Regulations as amended from time to time is a reference to a standard or test procedure set out in the laws of another jurisdiction and that standard or procedure is subsequently repealed or revoked in that other jurisdiction, the reference to the standard or procedure in these Regulations is deemed to be a reference to that standard or procedure as it read on the day before the day on which it was repealed or revoked and it continues to apply for the purposes of these Regulations.

**2 (1) Subsection 4(2) of the Regulations is replaced by the following:**

#### Location and visibility

**(2)** The verification mark must be readily visible on the surface of the energy-using product. However, in respect of the following energy-using products, the verification mark may be on the exterior of the product's package:

- **(a)** a CFL;
- **(b)** a general service lamp;
- **(c)** a modified spectrum incandescent lamp;
- **(d)** a general service fluorescent lamp;
- **(e)** a general service incandescent reflector lamp;
- **(f)** a battery charger; and
- **(g)** an external power supply.

**(2) Paragraph 4(3)(a) of the Regulations is replaced by the following:**

- **(a)** a laboratory that is accredited to test the energy performance of lighting products by either the Standards Council of Canada or the National Voluntary Laboratory Accreditation Program has verified the values for nominal power, luminous flux and correlated colour temperature provided to the Minister under subsection 432(1); and

**(3) Subparagraph 4(3)(b)(i) of the Regulations is replaced by the following:**

- **(i)** if the life testing of the CFL is completed, verified the value for life provided to the Minister under subsection 432(1), or

**3 (1) Subsection 5(1) of the Regulations is amended by striking out “and” at the end of paragraph (e), by adding “and” at the end of paragraph (f) and by adding the following after paragraph (f):**

- **(g)** information that indicates whether a mathematical model described in subsection (3) was used to generate any of the information provided under paragraph (f).

**(2) Section 5 of the Regulations is amended by adding the following after subsection (2):**

#### Mathematical model

**(3)** Despite any provision in these Regulations requiring that the information referred to in this section be collected in accordance with an identified standard, a dealer may instead provide the information as generated by a mathematical model that, by means of an engineering or statistical analysis or a computer simulation or model, emulates the manner in which the information is collected under the identified standard.

**4 Section 7 of the Regulations is amended by adding the following after subsection (1):**

#### Exception

**(1.1)** However, the following energy-using products are not energy-using products for the purpose of subsection (1) if, at the time of their importation, they are incorporated into another product:

- **(a)** a battery charger;
- **(b)** an external power supply;
- **(c)** a fluorescent lamp ballast;
- **(d)** an electric motor; and
- **(e)** a small electric motor.

**5 (1) The definition *CSA C361-12* in section 12 of the Regulations is repealed.**

**(2) Section 12 of the Regulations is amended by adding the following in alphabetical order:**

***CSA C361-16*** means the CSA standard CAN/CSA-C361-16 entitled *Energy performance and drum volume of household electric clothes dryers*. (*CSA C361-16*)

**6 The portion of item 2 of the table to section 19 of the Regulations in columns 1 and 2 is replaced by the following:**

| Item | Column 1 | Column 2 |
|------|----------|----------|
|------|----------|----------|

**Standard                      Energy Efficiency Standard**

2 CSA C361-16 or 10 C.F.R. Appendix D2 CSA C361-16, Table 1

7 The portion of item 2 of the table to section 20 of the Regulations in column 2 is replaced by the following:

**Column 2**

**Item                      Standard**

2 CSA C361-16 or 10 C.F.R. Appendix D2

8 The portion of items 4 and 5 of the table to section 24 of the Regulations in column 3 is replaced by the following:

**Column 3**

**Item                      Energy Efficiency Standard**

4 Modified energy factor  $\geq 38.23$  L/kWh/cycle  
Integrated water consumption factor  $\leq 1.18$  L/cycle/L  
Modified energy factor  $\geq 56.63$  L/kWh/cycle

5 Integrated water consumption factor  $\leq 0.55$  L/cycle/L

9 The portion of items 3 and 4 of the table to section 30 of the Regulations in columns 1 and 2 are replaced by the following:

|             | <b>Column 1</b>   | <b>Column 2</b>                                    |
|-------------|---|--|
| <b>Item</b> | <b>Standard</b>   | <b>Energy Efficiency Standard</b>                  |
| 3           | CSA C360-13 for clothes washer function                         | CSA C360-13, Table 9, for clothes washer function  |
|             | CSA C361-16 or 10 C.F.R. Appendix D2 for clothes dryer function | CSA C361-16, Table 1, for clothes dryer function   |
| 4           | CSA C360-13 for clothes washer function                         | CSA C360-13, Table 10, for clothes washer function |
|             | CSA C361-16 or 10 C.F.R. Appendix D2 for clothes dryer function | CSA C361-16, Table 1, for clothes dryer function   |

10 The portion of item 2 of the table to section 31 of the Regulations in column 2 is replaced by the following:

**Column 2**

**Item                      Standard**

2 CSA C360-13 for clothes washer function  
CSA C361-16 or 10 C.F.R. Appendix D2 for clothes dryer function

11 (1) Item 3 of the table to section 37 of the Regulations is repealed.

(2) Item 5 of the table to section 37 of the Regulations is replaced by the following:

|             | <b>Column 1</b>             | <b>Column 2</b> | <b>Column 3</b>                   | <b>Column 4</b>              |
|-------------|-----------------------------|-----------------|-----------------------------------|------------------------------|
| <b>Item</b> | <b>Energy-using Product</b> | <b>Standard</b> | <b>Energy Efficiency Standard</b> | <b>Period of Manufacture</b> |
| 5           | Dishwashers                 | CSA C373-14     | CSA C373-14, Table 2              | On or after May 30, 2013     |

12 (1) The portion of item 3 of the table to section 38 of the Regulations in column 2 is replaced by the following:

**Column 2**

**Item                      Standard**

3 CSA C373-14, for information set out in paragraphs (b) to (d) and (f)

(2) The portion of item 3 of the table to section 38 of the Regulations in column 3 is amended by striking out “and” at the end of paragraph (d), by adding “and” at the end of paragraph (e) and by adding the following after paragraph (e):

**Column 3**

**Item                      Information**

3 (f) water consumption factor in L/cycle.

13 (1) The definition *dehumidifier* in section 61 of the Regulations is replaced by the following:

*dehumidifier* means a household appliance that is primarily designed to remove moisture from the air and is

- (a) self-contained and encased;
- (b) electrically operated; and
- (c) mechanically refrigerated. (*déshumidificateur*)

(2) Section 61 of the Regulations is amended by adding the following in alphabetical order:

*portable dehumidifier* means a dehumidifier that is not a whole-home dehumidifier. (*déshumidificateur portatif*)

**10 C.F.R. Appendix X1** means Appendix X1 to Subpart B of Part 430 of Title 10 to the United States *Code of Federal Regulations*, entitled *Uniform Test Method for Measuring the Energy Consumption of Dehumidifiers*, as amended from time to time. (*appendice X1 10 C.F.R.*)

**10 C.F.R. §430.32(v)(2)** means the table to paragraph 430.32(v)(2) of Subpart C, Part 430 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (*10 C.F.R. §430.32(v)(2)*)

*whole-home dehumidifier* means a dehumidifier that is designed to be installed in an air duct. (*déshumidificateur à conduit*)

**14 Subsection 62(2) of the Regulations is replaced by the following:****Limit**

(2) However, for the purposes of sections 4, 5 and 63, a dehumidifier is not considered to be an energy-using product unless

- (a) it is manufactured on or after December 31, 1998; and
- (b) in the case of a whole-home dehumidifier, it is manufactured on or after June 13, 2019.

**15 The table to section 63 of the Regulations is replaced by the following:****TABLE**

| Item | Column 1<br>Energy-using Product | Column 2<br>Standard  | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                        |
|------|----------------------------------|-----------------------|--|--|
| 1    | Dehumidifiers                    | CSA C749-94           | CSA C749-94, clause 4.2  | On or after December 31, 1998 and before October 1, 2007 |
| 2    | Dehumidifiers                    | CSA C749-07           | CSA C749-07, Table 1   | On or after October 1, 2007 and before October 1, 2012   |
| 3    | Dehumidifiers                    | CSA C749-07           | CSA C749-07, Table 1B  | On or after October 1, 2012 and before June 13, 2019     |
| 4    | Portable dehumidifiers           | 10 C.F.R. Appendix X1 | Minimum integrated energy factor applicable, based on product's capacity, as set out in 10 C.F.R. §430.32(v)(2)    | On or after June 13, 2019                                |
| 5    | Whole-home dehumidifiers         | 10 C.F.R. Appendix X1 | Minimum integrated energy factor applicable, based on product's case volume, as set out in 10 C.F.R. §430.32(v)(2) | On or after June 13, 2019                                |

**16 (1) The portion of item 2 of the table to section 64 of the Regulations in column 1 is replaced by the following:**

| Item | Column 1<br>Energy-using Product  |
|------|---|
| 2    | Dehumidifiers manufactured on or after October 1, 2007 and before June 13, 2019 |

**(2) The table to section 64 of the Regulations is amended by adding the following in numerical order:**

| Item | Column 1<br>Energy-using Product                     | Column 2<br>Standard  | Column 3<br>Information  |
|------|--|-----------------------|--|
| 3    | Dehumidifiers manufactured on or after June 13, 2019 | 10 C.F.R. Appendix X1 | <p>(a) if product is a portable dehumidifier, water removal capacity, in L/day;</p> <p>(b) if product is a whole-home dehumidifier, case volume in litres (cubic feet);</p> <p>(c) integrated energy factor, in L/kWh; and</p> <p>(d) standby power, in watts.</p> |

| Article | Colonne 1<br>Matériel consommateur d'énergie                     | Colonne 2<br>Norme     | Colonne 3<br>Renseignements   |
|---------|--|------------------------|---|
| 3       | Déshumidificateurs fabriqués le 13 juin 2019 ou après cette date | Appendice X1 10 C.F.R. | <p>a) s'agissant d'un déshumidificateur portatif, capacité d'assèchement, en L/j;</p> <p>b) s'agissant d'un déshumidificateur à conduit, volume du boîtier, en litres (pieds cubes);</p> <p>c) facteur énergétique intégré, en L/kWh;</p> <p>d) puissance en mode veille, en W.</p> |

**17 The Regulations are amended by adding the following after section 64:****SUBDIVISION J****Microwave Ovens****Definitions**

**65** The following definitions apply in this Subdivision.

**CSA C388-15** means the CSA standard CAN/CSA-C388-15 entitled *Energy performance and capacity measurement of household microwave ovens*. (CSA C388-15)

**microwave oven** means a household cooking appliance that is designed to cook or heat food in a compartment by means of microwave energy and includes one that has a thermal element that is designed for the surface browning of food. (*four à micro-ondes*)

**10 C.F.R. Appendix I** means Appendix I to Subpart B of Part 430 of Title 10 to the United States *Code of Federal Regulations*, entitled *Uniform Test Method for Measuring the Energy Consumption of Cooking Products*, as amended from time to time. (*appendice I 10 C.F.R.*)

**10 C.F.R. §430.32(j)(3)** means paragraph 430.32(j)(3) of Subpart C, Part 430 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (*10 C.F.R. §430.32(j)(3)*)

**Type**

**66** For the purposes of these Regulations, a microwave oven is one of the following types:

- (a) microwave-only oven;
- (b) countertop convection microwave oven;

- (c) built-in convection microwave oven; or
- (d) over-the-range convection microwave oven.

**Energy-using product**

67 (1) A microwave oven is prescribed as an energy-using product.

**Limit**

(2) However, for the purposes of sections 4, 5 and 68, a microwave oven is not considered to be an energy-using product unless it is manufactured on or after March 31, 2019.

**Energy efficiency standard**

68 (1) The energy efficiency standard for a microwave oven is the standard set out for that type of microwave oven in 10 C.F.R. §430.32(j)(3).

**Testing standard**

(2) A microwave oven complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by CSA C388-15 or 10 C.F.R. Appendix I that are applicable to a *microwave oven* as defined in section 65.

**Information**

69 For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of a microwave oven:

- (a) its type;
- (b) its volume, expressed in litres (cubic feet); and
- (c) its standby power, expressed in watts, as collected in accordance with CSA C388-15 or 10 C.F.R. Appendix I.

18 (1) The definitions *off mode*, *on mode* and *standby mode* in section 108 of the Regulations are repealed.

(2) Section 108 of the Regulations is amended by adding the following in alphabetical order:

CSA C368.1-14 means the CSA standard CAN/CSA-C368.1-14 entitled *Energy performance of room air conditioners*. (CSA C368.1-14)

19 Section 112 of the Regulations is replaced by the following:

**Energy efficiency standards**

112 (1) The energy efficiency standards set out in column 2 of the table to this section apply to room air conditioners that are manufactured during the periods set out in column 3.

**Testing standard**

(2) A room air conditioner complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 1 that are applicable to a *room air conditioner* as defined in section 108.

**TABLE**

| Item | Column 1<br>Standard | Column 2<br>Energy Efficiency Standard | Column 3<br>Period of Manufacture                    |
|------|----------------------|--|--|
| 1    | CSA C368.1           | CSA C368.1, Table 2, second column     | On or after February 3, 1995 and before June 1, 2014 |
| 2    | CSA C368.1-14        | CSA C368.1-14, Table 2, second column  | On or after June 1, 2014                             |

20 The portion of item 2 of the table to section 113 of the Regulations in column 2 is replaced by the following:

| Item | Column 2<br>Standard  |
|------|---|
| 2    | CSA 368.1-14, for information set out in paragraphs (b) and (c) |

21 Section 116 of the Regulations is amended by adding the following in alphabetical order:

CSA C746-17 means the CSA standard CAN/CSA-C746-17 entitled *Energy performance rating for large and single packaged vertical air conditioners and heat pumps*. (CSA C746-17)

22 (1) Subsection 118(2) of the Regulations is replaced by the following:

**Energy efficiency standards — cooled by water**

(2) The energy efficiency standards set out in column 3 of Table 2 to this section apply to large air conditioners that are cooled by water and described in column 1 and that are manufactured during the period set out in column 4.

**Energy efficiency standards — cooled by evaporation**

(2.1) The energy efficiency standards set out in column 3 of Table 3 to this section apply to large air conditioners that are cooled by evaporation and described in column 1 and that are manufactured during the period set out in column 4.

(2) Tables 1 and 2 to section 118 of the Regulations are replaced by the following:

**TABLE 1**

| Item | Column 1<br>Energy-using Product  | Column 2<br>Standard | Column 3<br>Energy Efficiency Standard | Column 4<br>Period of Manufacture                        |
|------|---|----------------------|--|--|
| 1    | Large air conditioners that have a cooling capacity of ≥ 19 kW and < 40 kW and either without a heating section or with an electric heating section | CSA C746-98          | Energy efficiency ratio ≥ 10.3         | On or after December 31, 1998 and before January 1, 2010 |

|    |   |  |   |  |
|----|---|--|---|--|
| 2  | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and either without a heating section or with an electric heating section  | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.2$<br>IEER $\geq 11.4$ | On or after January 1, 2010 and before January 1, 2018   |
| 3  | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and either without a heating section or with an electric heating section  | CSA C746-17  | Energy efficiency ratio $\geq 11.2$<br>IEER $\geq 12.9$ | On or after January 1, 2018                              |
| 4  | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section  | CSA C746-98  | Energy efficiency ratio $\geq 9.7$                      | On or after December 31, 1998 and before January 1, 2010 |
| 5  | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section  | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.0$<br>IEER $\geq 11.2$ | On or after January 1, 2010 and before January 1, 2018   |
| 6  | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section  | CSA C746-17  | Energy efficiency ratio $\geq 11.0$<br>IEER $\geq 12.4$ | On or after January 1, 2018                              |
| 7  | Large air conditioners that have a cooling capacity of $\geq 70$ kW and $< 223$ kW and either without a heating section or with an electric heating section | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 10.0$<br>IEER $\geq 10.1$ | On or after January 1, 2010 and before January 1, 2018   |
| 8  | Large air conditioners that have a cooling capacity of $\geq 70$ kW and $< 223$ kW and either without a heating section or with an electric heating section | CSA C746-17  | Energy efficiency ratio $\geq 10.0$<br>IEER $\geq 11.6$ | On or after January 1, 2018                              |
| 9  | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section other than an electric heating section              | CSA C746-98  | Energy efficiency ratio $\geq 10.1$                     | On or after December 31, 1998 and before January 1, 2010 |
| 10 | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section other than an electric heating section              | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.0$<br>IEER $\geq 11.2$ | On or after January 1, 2010 and before January 1, 2018   |
| 11 | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section other than an electric heating section              | CSA C746-17  | Energy efficiency ratio $\geq 11.0$<br>IEER $\geq 12.7$ | On or after January 1, 2018                              |
| 12 | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and a heating section other than an electric heating section              | CSA C746-98  | Energy efficiency ratio $\geq 9.5$                      | On or after December 31, 1998 and before January 1, 2010 |
| 13 | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and a heating section other than an electric heating section              | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 10.8$<br>IEER $\geq 11.0$ | On or after January 1, 2010 and before January 1, 2018   |
| 14 | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and a heating section other than an electric heating section              | CSA C746-17  | Energy efficiency ratio $\geq 10.8$<br>IEER $\geq 12.2$ | On or after January 1, 2018                              |
| 15 | Large air conditioners that have a cooling capacity of $\geq 70$ kW and $< 223$ kW and a heating section other than an electric heating section             | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 9.8$<br>IEER $\geq 9.9$   | On or after January 1, 2010 and before January 1, 2018   |
| 16 | Large air conditioners that have a cooling capacity of $\geq 70$ kW and $< 223$ kW and a heating section other than an electric heating section             | CSA C746-17  | Energy efficiency ratio $\geq 9.8$<br>IEER $\geq 11.4$  | On or after January 1, 2018                              |

TABLE 2

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard   | Column 3<br>Energy Efficiency Standard                  | Column 4<br>Period of Manufacture                        |
|------|--|--|---|--|
| 1    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and either without a heating section or with an electric heating section | CSA C746-98  | Energy efficiency ratio $\geq 11.5$                     | On or after December 31, 1998 and before January 1, 2010 |
| 2    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and either without a heating section or with an electric heating section | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.5$<br>IEER $\geq 11.7$ | On or after January 1, 2010 and before January 1, 2018   |
| 3    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and either without a heating section or with an electric heating section | CSA C746-17  | Energy efficiency ratio $\geq 12.1$<br>IEER $\geq 11.7$ | On or after January 1, 2018                              |
| 4    | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section | CSA C746-98  | Energy efficiency ratio $\geq 11.0$                     | On or after December 31, 1998 and before January 1, 2010 |
| 5    | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.0$<br>IEER $\geq 11.2$ | On or after January 1, 2010 and before January 1, 2018   |

|    |   | IEER   |   |  |
|----|---|--|---|--|
| 6  | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section  | CSA C746-17  | Energy efficiency ratio $\geq 12.5$<br>IEER $\geq 11.2$ | On or after January 1, 2018                              |
| 7  | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section other than an electric heating section              | CSA C746-98  | Energy efficiency ratio $\geq 11.3$                     | On or after December 31, 1998 and before January 1, 2010 |
| 8  | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section other than an electric heating section              | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.3$<br>IEER $\geq 11.5$ | On or after January 1, 2010 and before January 1, 2018   |
| 9  | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section other than an electric heating section              | CSA C746-17  | Energy efficiency ratio $\geq 11.9$<br>IEER $\geq 11.5$ | On or after January 1, 2018                              |
| 10 | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and a heating section other than an electric heating section              | CSA C746-98  | Energy efficiency ratio $\geq 10.8$                     | On or after December 31, 1998 and before January 1, 2010 |
| 11 | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and a heating section other than an electric heating section              | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 10.8$<br>IEER $\geq 11.0$ | On or after January 1, 2010 and before January 1, 2018   |
| 12 | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and a heating section other than an electric heating section              | CSA C746-17  | Energy efficiency ratio $\geq 12.3$<br>IEER $\geq 11.0$ | On or after January 1, 2018                              |
| 13 | Large air conditioners that have a cooling capacity of $\geq 70$ kW and $< 223$ kW and either without a heating section or with an electric heating section | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.0$<br>IEER $\geq 11.1$ | On or after January 1, 2010 and before January 1, 2018   |
| 14 | Large air conditioners that have a cooling capacity of $\geq 70$ kW and $< 223$ kW and either without a heating section or with an electric heating section | CSA C746-17  | Energy efficiency ratio $\geq 12.4$<br>IEER $\geq 11.1$ | On or after January 1, 2018                              |
| 15 | Large air conditioners that have a cooling capacity of $\geq 70$ kW and $< 223$ kW and a heating section other than an electric heating section             | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 10.8$<br>IEER $\geq 10.9$ | On or after January 1, 2010 and before January 1, 2018   |
| 16 | Large air conditioners that have a cooling capacity of $\geq 70$ kW and $< 223$ kW and a heating section other than an electric heating section             | CSA C746-17  | Energy efficiency ratio $\geq 12.2$<br>IEER $\geq 10.9$ | On or after January 1, 2018                              |

TABLE 3

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard   | Column 3<br>Energy Efficiency Standard                  | Column 4<br>Period of Manufacture                        |
|------|--|--|---|--|
| 1    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and either without a heating section or with an electric heating section | CSA C746-98  | Energy efficiency ratio $\geq 11.5$                     | On or after December 31, 1998 and before January 1, 2010 |
| 2    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and either without a heating section or with an electric heating section | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.5$<br>IEER $\geq 11.7$ | On or after January 1, 2010 and before January 1, 2018   |
| 3    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and either without a heating section or with an electric heating section | CSA C746-17  | Energy efficiency ratio $\geq 12.1$<br>IEER $\geq 11.7$ | On or after January 1, 2018                              |
| 4    | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section | CSA C746-98  | Energy efficiency ratio $\geq 11.0$                     | On or after December 31, 1998 and before January 1, 2010 |
| 5    | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.0$<br>IEER $\geq 11.2$ | On or after January 1, 2010 and before January 1, 2018   |
| 6    | Large air conditioners that have a cooling capacity of $\geq 40$ kW and $< 70$ kW and either without a heating section or with an electric heating section | CSA C746-17  | Energy efficiency ratio $\geq 12.0$<br>IEER $\geq 11.2$ | On or after January 1, 2018                              |
| 7    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section other than an electric heating section             | CSA C746-98  | Energy efficiency ratio $\geq 11.3$                     | On or after December 31, 1998 and before January 1, 2010 |
| 8    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section other than an electric heating section             | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.3$<br>IEER $\geq 11.5$ | On or after January 1, 2010 and before January 1, 2018   |
| 9    | Large air conditioners that have a cooling capacity of $\geq 19$ kW and $< 40$ kW and a heating section  | CSA C746-17  | Energy efficiency ratio $\geq 11.9$                     | On or after January 1, 2018                              |

|    |  |  |   |  |
|----|--|--|---|--|
|    | other than an electric heating section   |  | IEER ≥ 11.5                                   |  |
| 10 | Large air conditioners that have a cooling capacity of ≥ 40 kW and < 70 kW and a heating section other than an electric heating section              | CSA C746-98  | Energy efficiency ratio ≥ 10.8                | On or after December 31, 1998 and before January 1, 2010 |
| 11 | Large air conditioners that have a cooling capacity of ≥ 40 kW and < 70 kW and a heating section other than an electric heating section              | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio ≥ 10.8<br>IEER ≥ 11.0 | On or after January 1, 2010 and before January 1, 2018   |
| 12 | Large air conditioners that have a cooling capacity of ≥ 40 kW and < 70 kW and a heating section other than an electric heating section              | CSA C746-17  | Energy efficiency ratio ≥ 11.8<br>IEER ≥ 11.0 | On or after January 1, 2018                              |
| 13 | Large air conditioners that have a cooling capacity of ≥ 70 kW and < 223 kW and either without a heating section or with an electric heating section | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio ≥ 11.0<br>IEER ≥ 11.1 | On or after January 1, 2010 and before January 1, 2018   |
| 14 | Large air conditioners that have a cooling capacity of ≥ 70 kW and < 223 kW and either without a heating section or with an electric heating section | CSA C746-17  | Energy efficiency ratio ≥ 11.9<br>IEER ≥ 11.1 | On or after January 1, 2018                              |
| 15 | Large air conditioners that have a cooling capacity of ≥ 70 kW and < 223 kW and a heating section other than an electric heating section             | CSA C746-06 for energy efficiency ratio<br>AHRI 340/360 for IEER | Energy efficiency ratio ≥ 10.8<br>IEER ≥ 10.9 | On or after January 1, 2010 and before January 1, 2018   |
| 16 | Large air conditioners that have a cooling capacity of ≥ 70 kW and < 223 kW and a heating section other than an electric heating section             | CSA C746-17  | Energy efficiency ratio ≥ 11.7<br>IEER ≥ 10.9 | On or after January 1, 2018                              |

**23 (1) The portion of item 1 of the table to section 119 of the Regulations in column 3 is amended by striking out “and” at the end of paragraph (b), by adding “and” at the end of paragraph (c) and by adding the following after paragraph (c):**

**Column 3**

**Item**

**Information**

**1 (d)** information that indicates whether the product has a heating section and, if so, whether it is electric or other than electric.

**(2) The portion of item 2 of the table to section 119 of the Regulations in column 1 is replaced by the following:**

**Column 1**

**Item**

**Energy-using Product**

**2** Large air conditioners manufactured on or after January 1, 2010 and before January 1, 2018

**(3) The portion of item 2 of the table to section 119 of the Regulations in column 3 is amended by striking out “and” at the end of paragraph (c), by adding “and” at the end of paragraph (d) and by adding the following after paragraph (d):**

**Column 3**

**Item**

**Information**

**2 (e)** information that indicates whether the product has a heating section and, if so, whether it is electric or other than electric.

**(4) The table to section 119 of the Regulations is amended by adding the following in numerical order:**

| <b>Item</b> | <b>Column 1<br/>Energy-using Product</b>                        | <b>Column 2<br/>Standard</b> | <b>Column 3<br/>Information</b>  |
|-------------|---|------------------------------|--|
| <b>3</b>    | Large air conditioners manufactured on or after January 1, 2018 | CSA C746-17                  | <p><b>(a)</b> product classification set out in Column II of Table 1 of CSA C746-17;</p> <p><b>(b)</b> cooling capacity, in kW (Btu/h);</p> <p><b>(c)</b> energy efficiency ratio;</p> <p><b>(d)</b> IEER; and</p> <p><b>(e)</b> information that indicates whether the product has a heating section and, if so, whether it is electric or other than electric.</p> |

**24 Section 120 of the Regulations is amended by adding the following in alphabetical order:**

*CSA C744-17* means the joint CSA and AHRI standard ANSI/AHRI 310/380-2017/CAN/CSA-C744-17 entitled *Packaged terminal air-conditioners and heat pumps*. (*CSA C744-17*)

**25 (1) The portion of item 2 of the table to section 122 of the Regulations in column 3 is replaced by the following:**

**Column 3**

**Item**

**Period of Manufacture**

**2** On or after September 30, 2012 and before January 1, 2017

**(2) The table to section 122 of the Regulations is amended by adding the following in numerical order:**

| <b>Item</b> | <b>Column 1<br/>Standard</b> | <b>Column 2<br/>Energy Efficiency Standard</b> | <b>Column 3<br/>Period of Manufacture</b> |
|-------------|------------------------------|--|---|
|-------------|------------------------------|--|---|

3 CSA C744-17 CSA C744-17, Table 2 On or after January 1, 2017  
**Colonne 1 Colonne 2 Colonne 3**

**Article Norme Norme d'efficacité énergétique Période de fabrication**

3 CSA C744-17 CSA C744-17, tableau 2 Le 1<sup>er</sup> janvier 2017 ou après cette date

**26 Subsection 123(2) of the Regulations is amended by striking out “or” at the end of paragraph (a) and by replacing paragraph (b) with the following:**

- (b) CSA C744-14, if the product was manufactured on or after September 30, 2012 and before January 1, 2017; or
- (c) CSA C744-17, if the product is manufactured on or after January 1, 2017.

**27 Section 136 of the Regulations is replaced by the following:**

**Definition of large condensing unit**

**136** In this Subdivision, *large condensing unit* means a commercial or industrial condensing unit that is intended for air conditioning applications and that has a cooling capacity of at least 40 kW (135,000 Btu/h) but not more than 70 kW (240,000 Btu/h).

**28 Subsection 141(2) of the Regulations is replaced by the following:**

**Limit**

(2) However, for the purposes of sections 4, 5 and 142, a chiller is not considered to be an energy-using product unless it has an integral refrigerant condenser and is manufactured on or after October 28, 2004.

**29 Section 191 of the English version of the Regulations is replaced by the following:**

**Definition of internal water loop heat pump**

**191** In this Subdivision, *internal water loop heat pump* means a water-source single package or split-system heat pump that is factory-built, is intended for installation in an internal water loop system and has a cooling or heating capacity of not more than 40 kW (135,000 Btu/h).

**30 Section 195 of the Regulations is amended by adding the following in alphabetical order:**

**CSA C746-17** means the CSA standard CAN/CSA-C746-17 entitled *Energy performance rating for large and single packaged vertical air conditioners and heat pumps*. (CSA C746-17)

**31 Tables 1 and 2 to section 197 of the Regulations are replaced by the following:**

**TABLE 1**

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard  | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                        |
|------|--|---|--|--|
| 1    | Large heat pumps that have a cooling capacity of $\geq 19$ kW and $< 40$ kW  | CSA C746-98   | Energy efficiency ratio $\geq 10.1$<br>Heating coefficient of performance $\geq 3.2$ with $8.3^{\circ}\text{C}$ inlet air and $\geq 2.2$ with $-8.3^{\circ}\text{C}$ inlet air   | On or after December 31, 1998 and before January 1, 2010 |
| 2    | Large heat pumps that have a cooling capacity of $\geq 19$ kW and $< 40$ kW  | CSA C746-06 for energy efficiency ratio and heating coefficient of performance<br>AHRI 340/360 for IEER | Energy efficiency ratio $\geq 11.0$<br>Heating coefficient of performance $\geq 3.3$ with $8.3^{\circ}\text{C}$ inlet air and $\geq 2.25$ with $-8.3^{\circ}\text{C}$ inlet air<br>IEER $\geq 11.2$<br>Energy efficiency ratio $\geq 11.0$ | On or after January 1, 2010 and before January 1, 2018   |
| 3    | Large heat pumps that have a cooling capacity of $\geq 19$ kW and $< 40$ kW  | CSA C746-17   | Heating coefficient of performance $\geq 3.3$ with $8.3^{\circ}\text{C}$ inlet air and $\geq 2.25$ with $-8.3^{\circ}\text{C}$ inlet air<br>IEER $\geq 12.2$<br>Energy efficiency ratio $\geq 9.3$   | On or after January 1, 2018                              |
| 4    | Large heat pumps that have a cooling capacity of $\geq 40$ kW and $< 70$ kW  | CSA C746-98   | Heating coefficient of performance $\geq 3.1$ with $8.3^{\circ}\text{C}$ inlet air and $\geq 2.0$ with $-8.3^{\circ}\text{C}$ inlet air<br>Energy efficiency ratio $\geq 10.6$   | On or after December 31, 1998 and before January 1, 2010 |
| 5    | Large heat pumps that have a cooling capacity of $\geq 40$ kW and $< 70$ kW  | CSA C746-06 for energy efficiency ratio and heating coefficient of performance<br>AHRI 340/360 for IEER | Heating coefficient of performance $\geq 3.2$ with $8.3^{\circ}\text{C}$ inlet air and $\geq 2.05$ with $-8.3^{\circ}\text{C}$ inlet air<br>IEER $\geq 10.7$<br>Energy efficiency ratio $\geq 10.6$  | On or after January 1, 2010 and before January 1, 2018   |
| 6    | Large heat pumps that have a cooling capacity of $\geq 40$ kW and $< 70$ kW  | CSA C746-17   | Heating coefficient of performance $\geq 3.2$ with $8.3^{\circ}\text{C}$ inlet air and $\geq 2.05$ with $-8.3^{\circ}\text{C}$ inlet air<br>IEER $\geq 11.6$<br>Energy efficiency ratio $\geq 9.5$   | On or after January 1, 2018                              |
| 7    | Large heat pumps that have a cooling capacity of $\geq 70$ kW and $< 223$ kW | CSA C746-06 for energy efficiency ratio and heating coefficient of performance<br>AHRI 340/360 for IEER | Heating coefficient of performance $\geq 3.2$ with $8.3^{\circ}\text{C}$ inlet air and $\geq 2.05$ with $-8.3^{\circ}\text{C}$ inlet air<br>IEER $\geq 9.6$  | On or after January 1, 2010 and before January 1, 2018   |



|   |  |             |  |                             |
|---|--|-------------|--|-----------------------------|
| 8 | Large heat pumps that have a cooling capacity of $\geq 70$ kW and $< 223$ kW | CSA C746-17 | Energy efficiency ratio $\geq 9.5$<br>Heating coefficient of performance $\geq 3.2$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.05$ with $-8.3^\circ\text{C}$ inlet air<br>IEER $\geq 10.6$ | On or after January 1, 2018 |
|---|--|-------------|--|-----------------------------|

**TABLE 2**

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard  | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                        |
|------|--|---|--|--|
| 1    | Large heat pumps that have a cooling capacity of $\geq 19$ kW and $< 40$ kW  | CSA C746-98   | Energy efficiency ratio $\geq 9.9$<br>Heating coefficient of performance $\geq 3.2$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.2$ with $-8.3^\circ\text{C}$ inlet air<br>Energy efficiency ratio $\geq 10.8$ | On or after December 31, 1998 and before January 1, 2010 |
| 2    | Large heat pumps that have a cooling capacity of $\geq 19$ kW and $< 40$ kW  | CSA C746-06 for energy efficiency ratio and heating coefficient of performance<br>AHRI 340/360 for IEER | Heating coefficient of performance $\geq 3.3$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.25$ with $-8.3^\circ\text{C}$ inlet air<br>IEER $\geq 11.0$<br>Energy efficiency ratio $\geq 10.8$                  | On or after January 1, 2010 and before January 1, 2018   |
| 3    | Large heat pumps that have a cooling capacity of $\geq 19$ kW and $< 40$ kW  | CSA C746-17   | Heating coefficient of performance $\geq 3.3$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.25$ with $-8.3^\circ\text{C}$ inlet air<br>IEER $\geq 12.0$<br>Energy efficiency ratio $\geq 9.1$                   | On or after January 1, 2018                              |
| 4    | Large heat pumps that have a cooling capacity of $\geq 40$ kW and $< 70$ kW  | CSA C746-98   | Heating coefficient of performance $\geq 3.1$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.0$ with $-8.3^\circ\text{C}$ inlet air<br>Energy efficiency ratio $\geq 10.4$                                       | On or after December 31, 1998 and before January 1, 2010 |
| 5    | Large heat pumps that have a cooling capacity of $\geq 40$ kW and $< 70$ kW  | CSA C746-06 for energy efficiency ratio and heating coefficient of performance<br>AHRI 340/360 for IEER | Heating coefficient of performance $\geq 3.2$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.05$ with $-8.3^\circ\text{C}$ inlet air<br>IEER $\geq 10.5$<br>Energy efficiency ratio $\geq 10.4$                  | On or after January 1, 2010 and before January 1, 2018   |
| 6    | Large heat pumps that have a cooling capacity of $\geq 40$ kW and $< 70$ kW  | CSA C746-17   | Heating coefficient of performance $\geq 3.2$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.05$ with $-8.3^\circ\text{C}$ inlet air<br>IEER $\geq 11.4$<br>Energy efficiency ratio $\geq 9.3$                   | On or after January 1, 2018                              |
| 7    | Large heat pumps that have a cooling capacity of $\geq 70$ kW and $< 223$ kW | CSA C746-06 for energy efficiency ratio and heating coefficient of performance<br>AHRI 340/360 for IEER | Heating coefficient of performance $\geq 3.2$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.05$ with $-8.3^\circ\text{C}$ inlet air<br>IEER $\geq 9.4$<br>Energy efficiency ratio $\geq 9.3$                    | On or after January 1, 2010 and before January 1, 2018   |
| 8    | Large heat pumps that have a cooling capacity of $\geq 70$ kW and $< 223$ kW | CSA C746-17   | Heating coefficient of performance $\geq 3.2$ with $8.3^\circ\text{C}$ inlet air and $\geq 2.05$ with $-8.3^\circ\text{C}$ inlet air<br>IEER $\geq 10.4$   | On or after January 1, 2018                              |

**32 (1) Paragraph 1(g) of the table to section 198 of the Regulations is replaced by the following:**

| Item | Column 3<br>Information   |
|------|---|
| 1    | (g) information that indicates whether the product has a heating section and, if so, whether it is electric or other than electric. |

**(2) The portion of item 2 of the table to section 198 of the Regulations in column 1 is replaced by the following:**

| Item | Column 1<br>Energy-using Product   |
|------|--|
| 2    | Large heat pumps manufactured on or after January 1, 2010 and before January 1, 2018 |

**(3) Paragraph 2(g) of the table to section 198 of the Regulations is replaced by the following:**

| Item | Column 3<br>Information   |
|------|---|
| 2    | (g) information that indicates whether the product has a heating section and, if so, whether it is electric or other than electric; and |

**(4) The table to section 198 of the Regulations is amended by adding the following in numerical order:**

| Item | Column 1 | Column 2 | Column 3 |
|------|----------|----------|----------|
|------|----------|----------|----------|

|   | Energy-using Product                                      | Standard    | Information   |
|---|---|-------------|---|
|   |   |             | (a) product classification set out in columns II and III of Table 2 of CSA C746-17;   |
|   |   |             | (b) cooling capacity, in kW (Btu/h);  |
|   |   |             | (c) energy efficiency ratio;  |
|   |   |             | (d) heating capacity, in kW (Btu/h);  |
| 3 | Large heat pumps manufactured on or after January 1, 2018 | CSA C746-17 | (e) heating coefficient of performance at 8.3°C;  |
|   |   |             | (f) heating coefficient of performance at -8.3°C;   |
|   |   |             | (g) information that indicates whether the product has a heating section and, if so, whether it is electric or other than electric; and |
|   |   |             | (h) IEER.   |

**33 The Regulations are amended by adding the following after the heading “Furnaces, Fireplaces and Unit Heaters” of Division 4 of Part 2:**

**Interpretation**

**Definitions**

**256.1** The following definitions apply in this Division.

**CSA P.2** means the CSA standard CAN/CSA-P.2-13 entitled *Testing method for measuring the annual fuel utilization efficiency of residential gas-fired or oil-fired furnaces and boilers.* (CSA P.2)

**FER** means, in respect of a gas furnace or an oil-fired furnace, the fan energy rating, which is the annual electrical energy consumption of the furnace fan normalized by annual fan operating hours and the product’s maximum airflow (Q<sub>max</sub>). (FER)

**10 C.F.R. Appendix AA** means Appendix AA to Subpart B of Part 430 of Title 10 to the United States *Code of Federal Regulations*, entitled *Uniform Test Method for Measuring the Energy Consumption of Furnace Fans*, as amended from time to time. (appendix AA 10 C.F.R.)

**10 C.F.R. §430.32(y)** means Table 1 to paragraph 430.32(y) of Subpart C, Part 430 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (10 C.F.R. §430.32(y))

**34 The definition CSA P.2 in section 257 of the Regulations is repealed.**

**35 (1) Items 2 and 3 of the table to section 259 of the Regulations are replaced by the following:**

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard  | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                     |
|------|--|---|--|---|
| 2    | Gas furnaces that have an input rate of ≤ 65,92 kW (225,000 Btu/h), use single-phase electric current and do not have an integrated cooling component                | CSA P.2   | Annual fuel utilization efficiency ≥ 90%   | On or after December 31, 2009 and before July 3, 2019 |
| 2.1  | Gas furnaces that have an input rate of ≤ 65,92 kW (225,000 Btu/h), use single-phase electric current and do not have an integrated cooling component                | CSA P.2, for annual fuel utilization efficiency<br>10 C.F.R. Appendix AA, for FER | Annual fuel utilization efficiency ≥ 90%<br>FER ≤ FER for product class "Non-Weatherized, Condensing Gas Furnace Fan (NWG-C)", set out in 10 C.F.R. §430.32(y) | On or after July 3, 2019                              |
| 3    | Gas furnaces that are outdoor furnaces, have an input rate of ≤ 65,92 kW (225,000 Btu/h), use single-phase electric current and have an integrated cooling component | CSA P.2   | Annual fuel utilization efficiency ≥ 78%   | On or after December 31, 2009 and before July 3, 2019 |
| 3.1  | Gas furnaces that are outdoor furnaces, have an input rate of ≤ 65,92 kW (225,000 Btu/h), use single-phase electric current and have an integrated cooling component | CSA P.2, for annual fuel utilization efficiency<br>10 C.F.R. Appendix AA, for FER | Annual fuel utilization efficiency ≥ 78%<br>FER ≤ FER for product class "Weatherized Non-Condensing Gas Furnace Fan (WG-NC)", set out in 10 C.F.R. §430.32(y)  | On or after July 3, 2019                              |

**(2) Item 5 of the table to section 259 of the Regulations is replaced by the following:**

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard  | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                     |
|------|--|---|--|---|
| 5    | Gas furnaces that are through-the-wall, have an input rate of ≤ 65,92 kW (225,000 Btu/h), use single-phase electric current and have an integrated cooling component | CSA P.2   | Annual fuel utilization efficiency ≥ 90%   | On or after December 31, 2012 and before July 3, 2019 |
| 5.1  | Gas furnaces that are through-the-wall, have an input rate of ≤ 65,92 kW (225,000 Btu/h), use single-phase electric current and have an integrated cooling component | CSA P.2, for annual fuel utilization efficiency<br>10 C.F.R. Appendix AA, for FER | Annual fuel utilization efficiency ≥ 90%<br>FER ≤ FER for product class "Non-Weatherized, Condensing Gas Furnace Fan (NWG-C)", set out in 10 C.F.R. §430.32(y) | On or after July 3, 2019                              |

**36 (1) The portion of item 2 of the table to section 260 of the Regulations in column 1 is replaced by the following:**

| Item | Column 1 |
|------|----------|
|------|----------|

**Energy-using Product**

- 2 Gas furnaces that have an input rate of  $\leq 65,92$  kW (225,000 Btu/h), that use single-phase electric current and that are manufactured on or after December 31, 2009 and before July 3, 2019

(2) Paragraph 2(a) of the table to section 260 of the Regulations is replaced by the following:

| Item | Column 3<br>Information |
|------|-------------------------|
|------|-------------------------|

- 2 (a) maximum heat input and output nominal capacities, in kW (Btu/h);

(3) The table to section 260 of the Regulations is amended by adding the following in numerical order :

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard  | Column 3<br>Information  |
|------|--|---|--|
| 2.1  | Gas furnaces that have an input rate of $\leq 65,92$ kW (225,000 Btu/h), that use single-phase electric current and that are manufactured on or after July 3, 2019 | CSA P.2, for information set out in paragraphs (a) to (e)<br><br>10 C.F.R. Appendix AA, for information set out in paragraphs (f) and (g) | (a) maximum heat input and output nominal capacities, in kW (Btu/h);<br><br>(b) annual fuel utilization efficiency;<br><br>(c) information that indicates whether product has an integrated cooling component;<br><br>(d) if product has an integrated cooling component, information that indicates whether the product is outdoor or through-the-wall;<br><br>(e) type of fuel used;<br><br>(f) FER, expressed in W/472 L/s (W/1,000 ft <sup>3</sup> /min); and<br><br>(g) product's maximum airflow ( $Q_{max}$ ), expressed in L/s (ft <sup>3</sup> /min). |

37 Sections 263 and 264 of the Regulations are replaced by the following:

**Energy efficiency standards**

263 (1) The energy efficiency standards set out in column 2 of the table to this section apply to oil-fired furnaces that are manufactured during the periods set out in column 3.

**Testing standard**

(2) An oil-fired furnace complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 1 that are applicable to an *oil-fired furnace* as defined in section 261.

**TABLE**

| Item | Column 1<br>Standard  | Column 2<br>Energy Efficiency Standard   | Column 3<br>Period of Manufacture                        |
|------|---|--|--|
| 1    | CSA B212  | Seasonal energy utilization efficiency $\geq 78\%$   | On or after December 31, 1998 and before January 1, 2017 |
| 2    | CSA P.2   | Annual fuel utilization efficiency $\geq 83\%$   | On or after January 1, 2017 and before July 3, 2019      |
| 3    | CSA P.2, for annual fuel utilization efficiency<br><br>10 C.F.R. Appendix AA, for FER | Annual fuel utilization efficiency $\geq 83\%$<br><br>FER $\leq$ FER for product class "Non-Weatherized, Non-Condensing Oil Furnace Fan (NWO-NC)", set out in 10 C.F.R. §430.32(y) | On or after July 3, 2019                                 |

**Information**

264 For the purpose of subsection 5(1) of the Act, the information set out in column 3 of the table to this section must be collected in accordance with the standard set out in column 2 and provided to the Minister in respect of an oil-fired furnace described in column 1.

**TABLE**

| Item | Column 1<br>Energy-using Product  | Column 2<br>Standard   | Column 3<br>Information   |
|------|---|--|---|
| 1    | Oil-fired furnaces that are manufactured on or after December 31, 1998 and before January 1, 2017 | CSA B212   | (a) input rate, in kW (Btu/h); and<br><br>(b) seasonal energy utilization efficiency.   |
| 2    | Oil-fired furnaces that are manufactured on or after January 1, 2017 and before July 3, 2019      | CSA P.2  | (a) input rate, in kW (Btu/h); and<br><br>(b) annual fuel utilization efficiency.   |
| 3    | Oil-fired furnaces that are manufactured on or after July 3, 2019                                 | CSA P.2, for information set out in paragraphs (a) and (b)<br><br>10 C.F.R. Appendix AA, for information set out in paragraphs (c) and (d) | (a) input rate, in kW (Btu/h);<br><br>(b) annual fuel utilization efficiency;<br><br>(c) FER, expressed in W/472 L/s (W/1,000 ft <sup>3</sup> /min); and<br><br>(d) maximum airflow ( $Q_{max}$ ), expressed in L/s (ft <sup>3</sup> /min). |

**38 Section 369 of the Regulations is replaced by the following:****Definitions**

**369** The following definitions apply in this Division.

- **CSA P.3-15** means the CSA standard CAN/CSA-P.3-15 entitled *Testing method for measuring energy consumption and determining efficiencies of gas-fired and fuel oil-fired water heaters.* (CSA P.3-15)
- **first-hour rating** means, in respect of a gas-fired storage water heater or an oil-fired water heater, the measure of the maximum volume of hot water that the water heater can supply within an hour that begins when the water in the water heater is fully heated. (*capacité de première heure*)
- $V_r$  means the nominal volume, expressed in litres, of a water heater's storage tank. ( $V_r$ )
- $V_s$  means the measured storage volume, expressed in litres, of a water heater's storage tank. ( $V_s$ )

**39 The definition electric water heater in section 370 of the Regulations is replaced by the following:**

- **electric water heater** means a stationary electric storage tank water heater that is intended for use on a pressurized water system and that has an input rate of less than 12 kW (40,982 Btu/h) and a  $V_r$  of at least 50 L (13.21 US gallons) but not more than 454 L (120 US gallons). (*chauffe-eau électrique*)

**40 Sections 376 and 377 of the Regulations are replaced by the following:****Energy efficiency standards**

**376 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to gas-fired storage water heaters described in column 1 that are manufactured during the periods set out in column 4.

**Testing standard**

**(2)** A gas-fired storage water heater complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to a *gas-fired storage water heater* as defined in section 374.

**TABLE**

| Item | Column 1<br>Energy-using Product  | Column 2<br>Standard   | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                         |
|------|---|--|--|---|
| 1    | Gas-fired storage water heaters   | CSA P.3-04   | Energy factor of $\geq 0.67 - 0.0005 V_r$  | On or after February 3, 1995 and before December 31, 2016 |
| 2    | Gas-fired storage water heaters   | CSA P.3-04   | Energy factor of $\geq 0.675 - 0.00039 V_r$  | On or after December 31, 2016 and before January 1, 2018  |
| 3    | Gas-fired storage water heaters that have a first-hour rating of < 68 L (18 US gallons)                                   | CSA P.3-04 for energy factor<br>CSA P.3-15 for uniform energy factor | Must have at least one of the following:<br><b>(a)</b> energy factor of $\geq 0.675 - 0.00039 V_r$ ; or<br><b>(b)</b> uniform energy factor of $\geq 0.3456 - 0.00053 V_s$ | On or after January 1, 2018                               |
| 4    | Gas-fired storage water heaters that have a first-hour rating of $\geq 68$ L (18 US gallons) but < 193 L (51 US gallons)  | CSA P.3-04 for energy factor<br>CSA P.3-15 for uniform energy factor | Must have at least one of the following:<br><b>(a)</b> energy factor of $\geq 0.675 - 0.00039 V_r$ ; or<br><b>(b)</b> uniform energy factor of $\geq 0.5982 - 0.00050 V_s$ | On or after January 1, 2018                               |
| 5    | Gas-fired storage water heaters that have a first-hour rating of $\geq 193$ L (51 US gallons) but < 284 L (75 US gallons) | CSA P.3-04 for energy factor<br>CSA P.3-15 for uniform energy factor | Must have at least one of the following:<br><b>(a)</b> energy factor of $\geq 0.675 - 0.00039 V_r$ ; or<br><b>(b)</b> uniform energy factor of $\geq 0.6483 - 0.00045 V_s$ | On or after January 1, 2018                               |
| 6    | Gas-fired storage water heaters that have a first-hour rating of > 284 L (75 US gallons)                                  | CSA P.3-04 for energy factor<br>CSA P.3-15 for uniform energy factor | Must have at least one of the following:<br><b>(a)</b> energy factor of $\geq 0.675 - 0.00039 V_r$ ; or<br><b>(b)</b> uniform energy factor of $\geq 0.692 - 0.00034 V_s$  | On or after January 1, 2018                               |

**Information**

**377 (1)** For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of a gas-fired storage water heater:

- **(a)** its input rate, expressed in kilowatts;
- **(b)** its recovery efficiency;
- **(c)** the fuel it uses;
- **(d)** its annual energy consumption, expressed in kilojoules;
- **(e)** its first-hour rating, expressed in litres;
- **(f)** its  $V_r$ ;
- **(g)** its energy factor, if a certification body has verified that the product is in compliance with the energy efficiency standard set out in any of paragraphs 3(a), 4(a), 5(a) and 6(a) of the table to section 376; and
- **(h)** its uniform energy factor and  $V_s$ , if a certification body has verified that the product is in compliance with the energy efficiency standard set out in any of paragraphs 3(b), 4(b), 5(b) and 6(b) of the table to section 376.

**Standard**

(2) The information must be collected in accordance with one of the following standards:

- (a) CSA P.3-04, if the product
  - (i) was manufactured on or after February 3, 1995 and before January 1, 2018, or
  - (ii) is manufactured on or after January 1, 2018 and a certification body has verified that the product is in compliance with the energy efficiency standard set out in any of paragraphs 3(a), 4(a), 5(a) and 6(a) of the table to section 376; or
- (b) CSA P.3-15, if the product is manufactured on or after January 1, 2018 and if a certification body has verified that the product is in compliance with the energy efficiency standard set out in any of paragraphs 3(b), 4(b), 5(b) and 6(b) of the table to section 376.

#### 41 Sections 380 and 381 of the Regulations are replaced by the following:

##### Energy efficiency standards

**380 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to oil-fired water heaters described in column 1 that are manufactured during the periods set out in column 4.

##### Testing standard

(2) An oil-fired water heater complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to an *oil-fired water heater* as defined in section 378.

TABLE

| Item | Column 1<br>Energy-using Product  | Column 2<br>Standard  | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                         |
|------|---|---|--|---|
| 1    | Oil-fired water heaters   | CSA B211-00   | Energy factor of $\geq 0.59 - 0.0005 V_R$  | On or after February 3, 1995 and before December 31, 2016 |
| 2    | Oil-fired water heaters   | CSA B211-00   | Energy factor of $\geq 0.68 - 0.0005 V_R$<br>Must have at least one of the following:  | On or after December 31, 2016 and before January 1, 2018  |
| 3    | Oil-fired water heaters that have a first-hour rating of < 68 L (18 US gallons)                                   | CSA B211-00 for energy factor<br>CSA P.3-15 for uniform energy factor | (a) energy factor of $\geq 0.68 - 0.0005 V_R$ ; or<br>(b) uniform energy factor of $\geq 0.2509 - 0.00032 V_S$ .<br>Must have at least one of the following: | On or after January 1, 2018                               |
| 4    | Oil-fired water heaters that have a first-hour rating of $\geq 68$ L (18 US gallons) but < 193 L (51 US gallons)  | CSA B211-00 for energy factor<br>CSA P.3-15 for uniform energy factor | (a) energy factor of $\geq 0.68 - 0.0005 V_R$ ; or<br>(b) uniform energy factor of $\geq 0.5330 - 0.00042 V_S$ .<br>Must have at least one of the following: | On or after January 1, 2018                               |
| 5    | Oil-fired water heaters that have a first-hour rating of $\geq 193$ L (51 US gallons) but < 284 L (75 US gallons) | CSA B211-00 for energy factor<br>CSA P.3-15 for uniform energy factor | (a) energy factor of $\geq 0.68 - 0.0005 V_R$ ; or<br>(b) uniform energy factor of $\geq 0.6078 - 0.00042 V_S$ .<br>Must have at least one of the following: | On or after January 1, 2018                               |
| 6    | Oil-fired water heaters that have a first-hour rating of > 284 L (75 US gallons)                                  | CSA B211-00 for energy factor<br>CSA P.3-15 for uniform energy factor | (a) energy factor of $\geq 0.68 - 0.0005 V_R$ ; or<br>(b) uniform energy factor of $\geq 0.6815 - 0.00037 V_S$ .   | On or after January 1, 2018                               |

##### Information

**381 (1)** For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of an oil-fired water heater:

- (a) its input rate, expressed in kilowatts;
- (b) its recovery efficiency;
- (c) its annual energy consumption, expressed in kilojoules;
- (d) its first-hour rating, expressed in litres;
- (e) its  $V_R$ ;
- (f) its energy factor, if a certification body has verified that the product is in compliance with the energy efficiency standard set out in any of paragraphs 3(a), 4(a), 5(a) and 6(a) of the table to section 380; and
- (g) its uniform energy factor and  $V_S$ , if a certification body has verified that the product is in compliance with the energy efficiency standard set out in any of paragraphs 3(b), 4(b), 5(b) and 6(b) of the table to section 380.

##### Standard

(2) The information must be collected in accordance with one of the following standards:

- (a) CSA B211-00, if the product

- (i) was manufactured on or after February 3, 1995 and before January 1, 2018, or
- (ii) is manufactured on or after January 1, 2018 and a certification body has verified that the product is in compliance with the energy efficiency standard set out in any of paragraphs 3(a), 4(a), 5(a) and 6(a) of the table to section 380; or
- (b) CSA P.3-15, if the product is manufactured on or after January 1, 2018 and a certification body has verified that the product is in compliance with the energy efficiency standard set out in any of paragraphs 3(b), 4(b), 5(b) and 6(b) of the table to section 380.

**42 (1) The definition ANSI C79.1 in section 424 of the Regulations is repealed.**

**(2) The definition *lampe pour appareils électroménagers* in section 424 of the French version of the Regulations is repealed.**

**(3) The definitions ANSI C81.61, IES LM45, IES LM49 and IES LM65 in section 424 of the Regulations are replaced by the following:**

- **ANSI C81.61** means the ANSI standard ANSI C81.61-2016 entitled *American National Standard for Electrical Lamp Bases — Specifications for Bases (Caps) for Electric Lamps. (ANSI C81.61)*
- **IES LM45** means the IES standard IES LM-45-15 entitled *IES Approved Method for the Electrical and Photometric Measurement of General Service Incandescent Filament Lamps. (IES LM45)*
- **IES LM49** means the IES standard IES LM-49-12 entitled *IES Approved Method For Life Testing of Incandescent Filament Lamps. (IES LM49)*
- **IES LM65** means the IES standard IES LM-65-14 entitled *IES Approved Method for the Life Testing of Single-Based Fluorescent Lamps. (IES LM65)*

**(4) Section 424 of the Regulations is amended by adding the following in alphabetical order:**

- **ANSI C78.79** means the ANSI standard ANSI C78.79-2014 entitled *American National Standard for Electric Lamps — Nomenclature for Envelope Shapes Intended for Use with Electric Lamps. (ANSI C78.79)*

**(5) Section 424 of the French version of the Regulations is amended by adding the following in alphabetical order:**

***lampe pour appareils domestiques*** Lampe qui est commercialisée comme lampe pour appareils domestiques, qui a une puissance nominale maximale de 40 W et qui est conçue pour être utilisée à une température ambiante pouvant aller jusqu'à 315 °C. (*appliance lamp*)

**43 (1) The definition *general service incandescent reflector lamp* in section 441 of the Regulations is replaced by the following:**

- ***general service incandescent reflector lamp*** means an incandescent reflector lamp that has a bulb shape described in ANSI C78.79 or a bulb shape similar to that shape, and that has an E26/24 single contact or E26/50×39 skirted medium screw base, a nominal voltage of at least 100 V but not more than 130 V or a nominal voltage range that lies at least partially between those voltages, a diameter of more than 57 mm and a nominal power of at least 40 W but not more than 205 W. It does not include any of the following:
  - (a) a coloured lamp;
  - (b) a rough service lamp;
  - (c) a vibration service lamp;
  - (d) a BR30 or BR40 lamp that has a nominal power of 50 W or less or of 65 W;
  - (e) an R20 lamp that
    - (i) has a nominal power of 45 W or less, or
    - (ii) has a nominal power of 100 W and a nominal overall length of not more than 92 mm (3.625 inches) and is designed and marketed for pool and spa applications; or
  - (f) a modified spectrum lamp that
    - (i) is an ER30 or ER40 lamp, that has a nominal power of 50 W or less,
    - (ii) is an ER40 lamp that has a nominal power of 65 W, or
    - (iii) was manufactured before July 15, 2012. (*lampe-réflécteur à incandescence standard*)

**(2) The definition CSA C862-12 in section 441 of the English version of the Regulations is replaced by the following:**

- **CSA C862-12** means the CSA standard CAN/CSA-C862-12 entitled *Performance of incandescent reflector lamps. (CSA C862-12)*

**44 (1) The definition CSA C819-95 in section 445 of the Regulations is repealed.**

**(2) The definition CSA C819-11 in section 445 of the English version of the Regulations is replaced by the following:**

- **CSA C819-11** means the CSA standard CAN/CSA-C819-11 entitled *Performance of general service fluorescent lamps. (CSA C819-11)*

**(3) Paragraph (b) of the definition *coloured fluorescent lamp* in section 445 of the Regulations is replaced by the following:**

- (b) a correlated colour temperature of less than 2 500 K or more than 7 000 K, as determined in accordance with the IES standard IES LM-9-09 entitled *IES Approved Method for the Electrical and Photometric Measurement of Fluorescent Lamps. (lampe fluorescente colorée)*

**(4) Paragraphs (d) to (f) of the definition *general service fluorescent lamp* in section 445 of the Regulations are replaced by the following:**

- (d) is instant-start and straight-shaped and has a nominal overall length of 2 400 mm (96 inches), a single-pin base and a nominal power of at least 49 W;
- (e) is straight-shaped and standard output and has a nominal overall length of at least 1 125 mm (45 inches) but not more than 1 200 mm (48 inches), a miniature bi-pin base and a nominal power of at least 25 W;
- (f) is straight-shaped and high output with a nominal overall length of at least 1 125 mm (45 inches) but not more than 1 200 mm (48 inches), a miniature bi-pin base and a nominal power of at least 44 W; or

**(5) Paragraph (o) of the definition *general service fluorescent lamp* in section 445 of the English version of the Regulations is replaced by the following:**

- (o) a fluorescent lamp that has a colour rendering index of at least 87. (*lampe fluorescente standard*)

**45 Section 447 of the Regulations is replaced by the following:**

#### Energy efficiency standards

**447 (1)** The energy efficiency standards set out in column 2 of the table to this section apply to general service fluorescent lamps that are manufactured during the periods set out in column 3.

#### Testing standard

(2) A general service fluorescent lamp complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 1 that are applicable to a *general service fluorescent lamp* as defined in section 445.

#### TABLE

| Item | Column 1 | Column 2 | Column 3 |
|------|----------|----------|----------|
|------|----------|----------|----------|

|   | Standard                            | Energy Efficiency Standard  | Period of Manufacture                                     |
|---|-------------------------------------|---|---|
| 1 | CSA C819-11                         | CSA C819-11, Table 1  | On or after December 31, 1996 and before January 26, 2018 |
| 2 | CSA C819-16 or 10 C.F.R. Appendix R | CSA C819-16, Table 1 or average lamp efficacy $\times 1.011 >$ minimum average lamp efficacy for the product in 10 C.F.R. §430.32(m)(4) | On or after January 26, 2018                              |

**46 (1) Paragraph 448(1)(h) of the English version of the Regulations is replaced by the following:**

- (h) its average colour rendering index; and

**(2) Subsection 448(2) of the Regulations is replaced by the following:**

**Standard**

(2) The information must be collected in accordance with one of the following standards:

- (a) CSA C819-11, if the product was manufactured on or after December 31, 1996 and before January 26, 2018; or
- (b) CSA C819-16 or 10 C.F.R. Appendix R, if the product is manufactured on or after January 26, 2018.

**47 Section 449 of the Regulations is replaced by the following:**

**Definitions**

**449 (1)** The following definitions apply in this Subdivision.

- **CSA C654-10** means the CSA standard CAN/CSA-C654-10 entitled *Fluorescent lamp ballast efficacy measurements*. (CSA C654-10)
- **CSA C654-14** means the CSA standard CAN/CSA-C654-14 entitled *Fluorescent lamp ballast efficacy measurements*. (CSA C654-14)
- **fluorescent lamp ballast** means a ballast that is
  - (a) designed to start and operate fluorescent lamps by
    - (i) providing the necessary voltage and current,
    - (ii) limiting the current during normal operation, and
    - (iii) if necessary to facilitate lamp operation, providing cathode heating;
  - (b) designed for a nominal voltage of at least 120 V but not more than 347 V; and
  - (c) described in Table 1A of CSA C654-14.

It does not include any of the following:

- (d) a ballast — other than a T12 dimming ballast — that, by means of an integrated dimming capability, is designed to reduce the output of a fluorescent lamp by 50% or more;
- (e) a low-frequency T8 ballast that is designed and marketed only for use in an electromagnetic interference-sensitive environment and that is sold in a package of 10 or fewer; or
- (f) a program-start ballast that is designed to operate one or more T8 fluorescent lamps with a nominal overall length of 1 200 mm and a medium bi-pin base, and that delivers an average current of less than 140 mA to each lamp. (*ballast pour lampes fluorescentes*)

**high-frequency** means, in respect of a fluorescent lamp ballast, that the ballast operates the lamp at a frequency of 10 kHz or more. (*à haute fréquence*)

**low-frequency** means, in respect of a fluorescent lamp ballast, that the ballast operates at a supply frequency of 50 to 60 Hz and operates the lamp at the same frequency as the supply. (*à basse fréquence*)

**10 C.F.R. §430.32(m)(2)(ii)(B)** means paragraph 430.32(m)(2)(ii)(B) of Subpart C, Part 430 of Title 10 to the United States Code of Federal Regulations, as amended from time to time. (*10 C.F.R. §430.32(m)(2)(ii)(B)*)

**T12 dimming ballast** means a fluorescent lamp ballast that

- (a) is designed for a nominal voltage of at least 120 V but not more than 277 V;
- (b) by means of an integrated dimming capability, is designed to reduce the output of a T12 fluorescent lamp by 50% or more; and
- (c) is designed to operate one F34T12 fluorescent lamp or two F34T12, F96T12ES or F96T12HO ES fluorescent lamps. (*ballast de gradation T12*)

**Table 1A of CSA C654-14**

(2) Despite subsection 1(3), a reference in this Subdivision to Table 1A of CSA C654-14 is a reference to that table as it read on the day on which the standard was published.

**48 Subsection 450(2) of the Regulations is replaced by the following:**

**Limit**

(2) However, for the purposes of sections 4, 5 and 451, a fluorescent lamp ballast is not considered to be an energy-using product if

- (a) it was manufactured before February 3, 1995; or
- (b) it was manufactured on or after February 3, 1995 and before November 14, 2014 and
  - (i) is a T12 dimming ballast,
  - (ii) is designed to operate a fluorescent lamp other than an F32T8, F34T12, F40T10 or F40T12 rapid-start fluorescent lamp or an F96T12ES, F96T12IS, F96T12HO or F96T12HO ES fluorescent lamp, or
  - (iii) is designed to be used in an outdoor sign and to operate two F96T12HO fluorescent lamps in ambient temperatures at or below  $-28.9^{\circ}\text{C}$ .

**49 Section 451 of the Regulations is replaced by the following:**

**Energy efficiency standards**

**451 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to fluorescent lamp ballasts described in column 1 that are manufactured during the periods described in column 4.

**Testing standard**

(2) A fluorescent lamp ballast complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to a *fluorescent lamp ballast* as defined in section 449.

**TABLE**

| Item | Column 1 | Column 2 | Column 3 | Column 4 |
|------|----------|----------|----------|----------|
|------|----------|----------|----------|----------|

|    | <b>Energy-using Product</b>  | <b>Standard</b> | <b>Energy Efficiency Standard</b>  | <b>Period of Manufacture</b>                              |
|----|--|-----------------|--|---|
| 1  | Fluorescent lamp ballasts  | CSA<br>C654-10  | CSA C654-10, clause 4 for power factor<br>CSA C654-10, Table 2 for ballast efficacy factor   | On or after February 3, 1995 and before November 14, 2014 |
| 2  | Fluorescent lamp ballasts, other than T12 dimming ballasts                                 | CSA<br>C654-14  | CSA C654-14, clause 4 for power factor<br>CSA C654-14, clause 5.2 for ballast luminous efficiency<br>CSA C654-14, clause 4 for power factor                          | On or after November 14, 2014                             |
| 3  | T12 dimming ballasts that are low-frequency and designed to operate one F34T12 lamp        | CSA<br>C654-14  | Must have ballast luminous efficiency that is $\geq$ that specified for ballast in table to 10 C.F.R. §430.32(m)(2)(ii)(B)<br>CSA C654-14, clause 4 for power factor | On or after November 14, 2014                             |
| 4  | T12 dimming ballasts that are high-frequency and designed to operate one F34T12 lamp       | CSA<br>C654-14  | Must have ballast luminous efficiency that is $\geq$ that specified for ballast in table to 10 C.F.R. §430.32(m)(2)(ii)(B)<br>CSA C654-14, clause 4 for power factor | On or after November 14, 2014                             |
| 5  | T12 dimming ballasts that are low-frequency and designed to operate two F34T12 lamps       | CSA<br>C654-14  | Must have ballast luminous efficiency that is $\geq$ that specified for ballast in table to 10 C.F.R. §430.32(m)(2)(ii)(B)<br>CSA C654-14, clause 4 for power factor | On or after November 14, 2014                             |
| 6  | T12 dimming ballasts that are high-frequency and designed to operate two F34T12 lamps      | CSA<br>C654-14  | Must have ballast luminous efficiency that is $\geq$ that specified for ballast in table to 10 C.F.R. §430.32(m)(2)(ii)(B)<br>CSA C654-14, clause 4 for power factor | On or after November 14, 2014                             |
| 7  | T12 dimming ballasts that are low-frequency and designed to operate two F96T12/ES lamps    | CSA<br>C654-14  | Must have ballast luminous efficiency that is $\geq$ that specified for ballast in table to 10 C.F.R. §430.32(m)(2)(ii)(B)<br>CSA C654-14, clause 4 for power factor | On or after November 14, 2014                             |
| 8  | T12 dimming ballasts that are high-frequency and designed to operate two F96T12/ES lamps   | CSA<br>C654-14  | Must have ballast luminous efficiency that is $\geq$ that specified for ballast in table to 10 C.F.R. §430.32(m)(2)(ii)(B)<br>CSA C654-14, clause 4 for power factor | On or after November 14, 2014                             |
| 9  | T12 dimming ballasts that are low-frequency and designed to operate two F96T12HO/ES lamps  | CSA<br>C654-14  | Must have ballast luminous efficiency that is $\geq$ that specified for ballast in table to 10 C.F.R. §430.32(m)(2)(ii)(B)<br>CSA C654-14, clause 4 for power factor | On or after November 14, 2014                             |
| 10 | T12 dimming ballasts that are high-frequency and designed to operate two F96T12HO/ES lamps | CSA<br>C654-14  | Must have ballast luminous efficiency that is $\geq$ that specified for ballast in table to 10 C.F.R. §430.32(m)(2)(ii)(B)   | On or after November 14, 2014                             |

**50 (1) Paragraph 1(c) of the table to section 452 of the Regulations is replaced by the following:**

| <b>Column 3</b> |                      |
|-----------------|----------------------|
| <b>Item</b>     | <b>Information</b>   |
| 1               | (c) nominal voltage. |

**(2) The portion of item 2 of the table to section 452 of the Regulations in column 1 is replaced by the following:**

| <b>Column 1</b> |   |
|-----------------|---|
| <b>Item</b>     | <b>Energy-using Product</b>   |
| 2               | Fluorescent lamp ballasts manufactured on or after November 14, 2014, other than T12 dimming ballasts |

**(3) Paragraph 2(c) of the table to section 452 of the Regulations is replaced by the following:**

| <b>Column 3</b> |                      |
|-----------------|----------------------|
| <b>Item</b>     | <b>Information</b>   |
| 2               | (c) nominal voltage; |

**(4) The table to section 452 of the Regulations is amended by adding the following in numerical order:**

| <b>Item</b> | <b>Column 1</b><br><b>Energy-using Product</b>                  | <b>Column 2</b><br><b>Standard</b> | <b>Column 3</b><br><b>Information</b>   |
|-------------|---|------------------------------------|---|
| 3           | T12 dimming ballasts manufactured on or after November 14, 2014 | CSA<br>C654-14                     | (a) the type and number of fluorescent lamps it is designed to operate;<br>(b) ballast luminous efficiency;<br>(c) nominal voltage;<br>(d) ballast input power, in watts;<br>(e) total lamp arc power, in watts;<br>(f) power factor; and |



(g) whether it is high-frequency or low-frequency.

**51 The Regulations are amended by adding the following after section 452:**

**SUBDIVISION G**

**Metal Halide Lamp Ballasts**

**Definitions**

**453** The following definitions apply in this Subdivision.

- **CSA C863-16** means the CSA standard CAN/CSA C863-16 entitled *Energy efficiency of high-intensity discharge (HID) and low-pressure sodium (LPS) lamp ballasts*. (CSA C863-16)
- **electronic ballast** means a ballast that is controlled by a transistor, thyristor or other active electronic component and in which impedance is provided by capacitive or inductive reactance. (*ballast électronique*)
- **magnetic-regulated lamp ballast** means a ballast that operates at a lagging high power factor and that has
  - (a) three coils;
  - (b) isolated secondary windings; and
  - (c) a constant-voltage regulator that, in conjunction with capacitive reactance, provides power factor correction and lamp wattage regulation. (*ballast à régulation magnétique*)
- **metal halide lamp ballast** means a device that is used to obtain the voltage, current and waveform necessary for starting and operating a metal halide lamp that has a nominal power of at least 50 W but not more than 1 000 W. It does not include any of the following:
  - (a) a magnetic-regulated lamp ballast;
  - (b) a replacement metal halide lamp ballast; or
  - (c) an electronic ballast that is designed for a nominal voltage of 480 V or to operate a lamp at an output frequency of 1000 Hz or more. (*ballast pour lampes aux halogénures métalliques*)
- **replacement metal halide lamp ballast** means a ballast that is marketed for use as replacement ballast for a metal halide luminaire installation and that is sold in a package of 10 or fewer. (*ballast pour lampes aux halogénures métalliques de remplacement*)

**Energy-using product**

**454 (1)** A metal halide lamp ballast is prescribed as an energy-using product.

**Limit**

(2) However, for the purposes of sections 4, 5 and 455, a metal halide lamp ballast is not considered to be an energy-using product if

- (a) it was manufactured before February 10, 2017; or
- (b) it is manufactured before December 31, 2019 and is capable of using a nominal voltage of 347 V.

**Energy efficiency standards**

**455 (1)** The energy efficiency standards set out in Table 3 of CSA C863-16 apply to metal halide lamp ballasts.

**Testing standard**

(2) A metal halide lamp ballast complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by CSA C863-16 that are applicable to a *metal halide lamp ballast* as defined in section 453.

**Information**

**456** For the purpose of subsection 5(1) of the Act, the following information must be collected in accordance with CSA C863-16 and provided to the Minister in respect of a metal halide lamp ballast:

- (a) its type;
- (b) the efficiency of the lamp and ballast combination, expressed as a percentage;
- (c) its nominal voltage;
- (d) its input power, in watts;
- (e) the power, in watts, of the lamps that the ballast is designed to operate; and
- (f) its power factor.

**52 The definition *ITE VTCSH* in section 506 of the Regulations is repealed.**

**53 Subdivision B of Division 8 of Part 2 of the Regulations is repealed.**

**54 Section 515 of the Regulations is replaced by the following:**

**Definitions**

**515** The following definitions apply in this Subdivision.

- **ceiling fan light kit** means equipment that is designed to provide light from a ceiling fan and that is
  - (a) integral to the fan before its retail sale; or
  - (b) attachable to the fan after its retail sale. (*ensemble d'éclairage pour ventilateurs de plafond*)
- **integrated solid-state lighting circuitry** means the circuitry in a ceiling fan light kit that is not replaceable by a consumer and that is used to connect the light kit's solid-state lighting components. (*circuits intégrés d'éclairage à semi-conducteurs*)
- **10 C.F.R. §430.23(x)(2)** means paragraph 430.23(x)(2) of Subpart B, Part 430 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (*10 C.F.R. §430.23(x)(2)*)
- **10 C.F.R. §430.32(s)(6)** means the table to paragraph 430.32(s)(6) of Subpart C, Part 430 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (*10 C.F.R. §430.32(s)(6)*)

**55 Paragraphs 516(2)(a) and (b) of the Regulations are replaced by the following:**

- (a) for the purposes of sections 4 and 5, if it was manufactured before January 1, 2010; and
- (b) for the purpose of section 517,
  - (i) if it was manufactured before January 1, 2010,
  - (ii) if it is manufactured on or after January 1, 2010 and before January 7, 2019, it has a total power less than or equal to 10 W or only pin-based sockets, or
  - (iii) if it is manufactured on or after January 7, 2019, it has at least one socket, has maximum wattage markings on each socket that together indicate that the combined total power for the lighting is less than or equal to 70 W and does not have integrated solid state lighting circuitry.

**56 Sections 517 and 518 of the Regulations are replaced by the following:**

**Energy efficiency standards**

**517 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to ceiling fan light kits described in column 1 that are manufactured during the periods set out in column 4.

#### Testing standard

**(2)** A ceiling fan light kit complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to a *ceiling fan light kit* as defined in section 515.

TABLE

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard    | Column 3<br>Energy Efficiency Standard                                   | Column 4<br>Period of Manufacture                      |
|------|--|-------------------------|--|--|
| 1    | Ceiling fan light kits   | CSA C22.2 No. 250.0     | Total power for lighting ≤ 190 W   | On or after January 1, 2010 and before January 7, 2019 |
| 2    | Ceiling fan light kits that have at least one socket, that are not packaged with a lamp for each socket and that do not have integrated solid-state lighting circuitry | CSA C22.2 No. 250.0     | Total power for lighting ≤ 70 W  | On or after January 7, 2019                            |
| 3    | Ceiling fan light kits that have at least one socket, that are packaged with a lamp for each socket, but that do not have integrated solid-state lighting circuitry    | 10 C.F.R. §430.23(x)(2) | Lighting efficacy ≥ minimum required efficacy in 10 C.F.R. §430.32(s)(6) | On or after January 7, 2019                            |
| 4    | Ceiling fans light kits that have integrated solid-state lighting circuitry  | 10 C.F.R. §430.23(x)(2) | Lighting efficacy ≥ minimum required efficacy in 10 C.F.R. §430.32(s)(6) | On or after January 7, 2019                            |

#### Information

**518 (1)** For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of a ceiling fan light kit:

- **(a)** if it has at least one socket, the type of socket and the number of each type of socket;
- **(b)** if it has integrated solid-state lighting circuitry, the lighting efficacy, expressed in lumens per watt;
- **(c)** if it has a pin-based socket, the ballast type;
- **(d)** if it is packaged with lamps, their type, brand name and model number; and
- **(e)** the total power for the lighting, expressed in watts.

#### Standard

**(2)** The information must be collected in accordance with CSA C22.2 No. 250.0 or 10 C.F.R. §430.23(x)(2).

**57 Paragraph (a) of the definition *legend* in section 519 of the Regulations is replaced by the following:**

- **(a)** a representation of a running person, as described in Annex B.1 of the CSA standard CSA C22.2 No. 141 entitled *Emergency lighting equipment*; and

**58 Paragraph (b) of the definition *traffic signal module* in section 523 of the Regulations is replaced by the following:**

- **(b)** provide drivers with movement information by means of a red or green traffic signal indicator that has a nominal diameter of 200 mm (8 inches) or 300 mm (12 inches). (*module de signalisation routière*)

**59 The portions of items 1 to 4 of the table to section 525 of the Regulations in column 1 are replaced by the following:**

| Item | Column 1<br>Energy-using Product  |
|------|---|
| 1    | Traffic signal modules that have a red traffic signal indicator that has a nominal diameter of 200 mm (8 inches)    |
| 2    | Traffic signal modules that have a red traffic signal indicator that has a nominal diameter of 300 mm (12 inches)   |
| 3    | Traffic signal modules that have a green traffic signal indicator that has a nominal diameter of 200 mm (8 inches)  |
| 4    | Traffic signal modules that have a green traffic signal indicator that has a nominal diameter of 300 mm (12 inches) |

**60 (1) The definition *CSA C62301* in section 573 of the English version of the Regulations is replaced by the following:**

- **CSA C62301** means the CSA standard CAN/CSA-C62301:11 entitled *Household electrical appliances – Measurement of standby power*. (*CSA C62301*)

**(2) Section 573 of the Regulations is amended by adding the following in alphabetical order:**

- **medical device** has the same meaning as in section 1 of the *Medical Devices Regulations*. (*instrument médical*)

**61 The definition *standby mode* in section 574 of the Regulations is replaced by the following:**

- **standby mode** means the mode in which the product, while connected to mains power,
  - **(a)** is not producing video or audio output signals, providing any mechanical function or exchanging data with, or receiving it from, an external source; and
  - **(b)** can be switched into another mode with a remote control unit, an internal signal or an internal timer. (*mode veille*)

**62 The definition *standby mode* in section 578 of the Regulations is replaced by the following:**

- **standby mode** means the mode in which the product, while connected to mains power,
  - **(a)** is not producing video or audio output signals, providing any mechanical function or exchanging data with, or receiving it from, an external source; and
  - **(b)** can be switched into another mode with a remote control unit, an internal signal or an internal timer. (*mode veille*)

**63 The definition *standby mode* in section 582 of the Regulations is replaced by the following:**

- **standby mode** means the mode in which the product, while connected to mains power,
  - **(a)** is not producing sound or picture, providing any mechanical function or exchanging data with, or receiving it from, an external source; and
  - **(b)** can be switched into another mode with a remote control unit, an internal signal or an internal timer. (*mode veille*)

**64 (1) The definitions *external power supply* and *replacement external power supply* in subsection 586(1) of the Regulations are replaced by the following:**

- **external power supply** means a single-voltage external power supply or a multiple-voltage external power supply that is designed to be used with a household or office end-use product that constitutes the primary load. It does not include

- (a) a direct operation external power supply that has a nominal output voltage of less than 3 V and a nominal output current of 1 000 mA or more and that charges the battery of an end-use product that is fully or primarily motor-operated;
  - (b) an indirect operation external power supply that has a nominal output power of greater than 250 W;
  - (c) a device that powers the charger of a detachable battery pack of an end-use product;
  - (d) a device that is an accessory to a medical device; or
  - (e) a device that is solely designed to power solid-state lighting or a ceiling fan that has a direct current motor. (*bloc d'alimentation externe*)
- **replacement external power supply** means an external power supply that is marked as a replacement to be used with a specific end-use product that was manufactured before July 1, 2017. (*bloc d'alimentation externe de remplacement*)

**(2) Subsection 586(1) of the Regulations is amended by adding the following in alphabetical order:**

- **adaptive external power supply** means an external power supply that, without user intervention and while it is connected to mains power and each output is connected to a load, can alter the output voltage using a digital communication protocol with the end-use product. (*bloc d'alimentation externe adaptatif*)
- **CSA C381.1-17** means the CSA standard CAN/CSA C381.1-17 entitled *Energy performance of external ac-dc and ac-ac power supplies*. (*CSA C381.1-17*)
- **direct operation external power supply** means a power supply device that is capable of operating an end-use product, other than a battery charger, without the assistance of a battery. (*bloc d'alimentation externe à fonctionnement direct*)
- **indirect operation external power supply** means a power supply device that can only operate an end-use product with the assistance of a battery. (*bloc d'alimentation externe à fonctionnement indirect*)
- **multiple-voltage external power supply** means a device that is designed to convert line voltage AC input into more than one simultaneous lower voltage AC or DC outputs. (*bloc d'alimentation externe à tensions multiples*)
- **single-voltage external power supply** means a device that is designed to convert line voltage AC input into only one lower AC or DC voltage output at a time. (*bloc d'alimentation externe à simple tension*)
- **10 C.F.R. §430.32(w)(1)(i)** means the table to paragraph 430.32(w)(1)(i) of Subpart C, Part 430 of Title 10 to the United States Code of Federal Regulations, as amended from time to time. (*10 C.F.R. §430.32(w)(1)(i)*)
- **verification mark** has the same meaning as in section 2. (*marque de vérification*)

**(3) Subsection 586(2) of the Regulations is repealed.**

**65 Subsection 587(2) of the Regulations is replaced by the following:**

**Limit**

(2) However, an external power supply is not considered to be an energy-using product

- (a) for the purposes of sections 4 and 5 if
  - (i) it was manufactured before July 1, 2010, or
  - (ii) it was manufactured on or after July 1, 2010 and before July 1, 2017 and
    - (A) it is a multiple-voltage external power supply or an adaptive external power supply,
    - (B) it is a direct operation external power supply that has a nominal output power of greater than 250 W, or
    - (C) it is an indirect operation external power supply that has a nominal output voltage of greater than 3 V and a nominal output current of less than 1 000 mA and that charges the battery of an end-use product that is fully or primarily motor-operated; and
- (b) for the purpose of section 588 if
  - (i) it was manufactured before July 1, 2010,
  - (ii) it was manufactured on or after July 1, 2010 and before July 1, 2017 and
    - (A) it is a multiple-voltage external power supply or an adaptive external power supply,
    - (B) it is a direct operation external power supply that has a nominal output power of greater than 250 W, or
    - (C) it is an indirect operation external power supply that has a nominal output voltage of greater than 3 V and a nominal output current of less than 1 000 mA and that charges the battery of an end-use product that is fully or primarily motor-operated, or
  - (iii) it was manufactured before July 1, 2013 and is a replacement external power supply.

**66 Sections 588 and 589 of the Regulations are replaced by the following:**

**Energy efficiency standards**

**588 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to external power supplies described in column 1 that are manufactured during the periods set out in column 4.

**Testing standard**

(2) An external power supply complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to an *external power supply* as defined in subsection 586(1).

**TABLE**

| Item | Column 1<br>Energy-using Product  | Column 2<br>Standard                  | Column 3<br>Energy Efficiency Standard  | Column 4<br>Period of Manufacture                     |
|------|---|---------------------------------------|---|---|
| 1    | External power supplies, other than replacement external power supplies                   | CSA C381.1 or 10 C.F.R. Appendix Z    | 10 C.F.R. §430.32(w)(1)(i) for efficiency in active mode and, if product is not a security external power supply, power in no-load mode ≤ 0.5 W | On or after July 1, 2010 and before July 1, 2017      |
| 2    | Direct operation external power supplies other than replacement external power supplies   | CSA C381.1-17 or 10 C.F.R. Appendix Z | CSA C381.1-17, Table D.1, for efficiency in active mode and power in no-load mode   | On or after July 1, 2017                              |
| 3    | Indirect operation external power supplies other than replacement external power supplies | CSA C381.1 or 10 C.F.R. Appendix Z    | 10 C.F.R. §430.32(w)(1)(i) for efficiency in active mode and, if product is not a security external power supply, power in no-load mode ≤ 0.5 W | On or after July 1, 2017                              |
| 4    | Replacement external power supplies   | CSA C381.1 or 10 C.F.R. Appendix Z    | 10 C.F.R. §430.32(w)(1)(i) for efficiency in active mode and, if product is not a security external power supply, power in no-load mode ≤ 0.5 W | On or after July 1, 2013 and before February 10, 2020 |
| 5    | Replacement external power supplies   | CSA C381.1-17 or 10 C.F.R. Appendix Z | CSA C381.1-17, Table D.1, for efficiency in active mode and power in no-load mode   | On or after February 10, 2020                         |

**Information**

**589 (1)** For the purpose of subsection 5(1) of the Act, the following information must provided to the Minister in respect of an external power supply:

- (a) information that indicates whether the product is a single-voltage external power supply or a multiple-voltage external power supply;
- (b) for each voltage output, its nominal output voltage at the highest and lowest settings and information that indicates whether that voltage

- is AC or DC;
- (c) its nominal output power, expressed in watts, at the highest and lowest power settings, if applicable;
- (d) its average efficiency at the highest and lowest power settings, if applicable;
- (e) its power in no-load mode, expressed in watts;
- (f) the Roman numeral mark, if applicable;
- (g) information that indicates whether the product bears a verification mark; and
- (h) information that indicates whether the product is a replacement external power supply or a security external power supply and, if it is one of those power supplies, the end-use product or equipment, as applicable, and the model number and brand of that end-use product or equipment.

#### Standard

(2) The information must be collected in accordance with a standard set out in column 2 of the table to this section in respect of an external power supply described in column 1.

#### TABLE

| Item | Column 1<br>Energy-using Product  | Column 2<br>Standard                  |
|------|---|---------------------------------------|
| 1    | External power supplies, other than replacement external power supplies, that are manufactured on or after July 1, 2010 and before July 1, 2017 | CSA C381.1 or 10 C.F.R. Appendix Z    |
| 2    | Direct operation external power supplies, other than replacement external power supplies, that are manufactured on or after July 1, 2017        | CSA C381.1-17 or 10 C.F.R. Appendix Z |
| 3    | Indirect operation external power supplies, other than replacement external power supplies, that are manufactured on or after July 1, 2017      | CSA C381.1 or 10 C.F.R. Appendix Z    |
| 4    | Replacement external power supplies that are manufactured on or after July 1, 2013 and before February 10, 2020                                 | CSA C381.1 or 10 C.F.R. Appendix Z    |
| 5    | Replacement external power supplies that are manufactured on or after February 10, 2020   | CSA C381.1-17 or 10 C.F.R. Appendix Z |

#### SUBDIVISION E

##### Battery Chargers

#### Definitions

590 The following definitions apply in this Subdivision.

- **backup battery charger** means a device that
  - (a) is incorporated into an end-use product, including a device that is incorporated into an uninterruptible power supply or that uses an external power supply, that is designed to operate continuously using mains power; and
  - (b) recharges a battery that is used to maintain the continuity of electrical power to the end-use product such that the product can continue its full or partial operation in the event of a failure of mains power. (*chargeur de batterie de secours*)
- **battery charger** means a device that charges the battery of a wheelchair, golf cart, low-speed vehicle or any other end-use product. It does not include any of the following:
  - (a) a device that charges the battery of a vehicle other than a wheelchair, golf cart or low-speed vehicle;
  - (b) a device that charges the battery of a medical device;
  - (c) a wireless battery charger, other than a wireless battery charger that is inductive and designed for wet environments; or
  - (d) a backup battery charger. (*chargeur de batterie*)
- **CSA C381.2-17** means the CSA standard CSA C381.2-17 entitled *Energy performance of battery-charging systems and uninterruptible power supplies*. (*CSA C381.2-17*)
- **low-speed vehicle** means a vehicle that
  - (a) does not use fuel as an on-board source of energy;
  - (b) travels on two or more wheels;
  - (c) is powered by an electric power train that is designed to allow the vehicle to attain a speed of no greater than 40 km/h over a distance of 1.6 km on a paved level surface; and
  - (d) has a loaded weight, as specified by its manufacturer, of less than 1 361 kg. (*véhicule à basse vitesse*)
- **10 C.F.R. Appendix Y** means Appendix Y to Subpart B, Part 430 of Title 10 to the United States *Code of Federal Regulations*, entitled *Uniform Test Method for Measuring the Energy Consumption of Battery Chargers*, as amended from time to time. (*appendice Y 10 C.F.R.*)

#### Energy-using product

591 (1) A battery charger is prescribed as an energy-using product.

#### Limit

(2) However, for the purposes of sections 4, 5 and 592, a battery charger is not considered to be an energy-using product unless it is manufactured on or after June 13, 2019.

#### Energy efficiency standard

592 (1) A battery charger must have a unit energy consumption that is less than or equal to that set out for the battery charger's product class in Table C.1 of CSA C381.2-17.

#### Testing standards

(2) A battery charger complies with the energy efficiency standard if it meets that standard when tested in accordance with the testing procedures established by CSA C381.2-17 or 10 C.F.R. Appendix Y that are applicable to a *battery charger* as defined in section 590.

#### Information

593 For the purpose of subsection 5(1) of the Act, the following information must be collected in accordance with CSA C381.2-17 or 10 C.F.R. Appendix Y and provided to the Minister in respect of a battery charger:

- (a) its product class;
- (b) its rated battery energy ( $E_{\text{batt}}$ ), expressed in watt-hours;
- (c) its unit energy consumption, expressed in kilowatt-hours per year;
- (d) its power, expressed in watts, when it is in active mode, maintenance mode and standby mode, respectively; and
- (e) if an external power supply was used to test the battery charger, the power supply's model number and the name of its manufacturer.

67 (1) The definitions *commercial freezer*, *commercial refrigerator* and *commercial refrigerator-freezer* in section 636 of the Regulations are replaced by the following:

**commercial freezer** means a freezer that is self-contained or remote-condensing, that uses or is designed to be used with a vapour-compression refrigeration system and whose compartments are all designed for the freezing and display or storage of food, beverages or ice at temperatures below 0°C. It does not include a household freezer or walk-in freezer. (*congélateur commercial*)

**commercial refrigerator** means a refrigerator that is self-contained or remote-condensing, that uses or is designed to be used with a vapour-compression refrigeration system and whose compartments are all designed for the display or storage of food, beverages or flowers at temperatures at or above 0°C. It does not include a household refrigerator, refrigerated buffet table, refrigerated preparation table or walk-in cooler. (*réfrigérateur commercial*)

**commercial refrigerator-freezer** means a refrigerator-freezer that is self-contained or remote-condensing, that uses or is designed to be used with a vapour-compression refrigeration system and that has two or more compartments, at least one of which is designed for the display or storage of food and beverages at temperatures at or above 0°C and at least one of which is designed for the freezing and display or storage of food and beverages at temperatures below 0°C. It does not include a household refrigerator-freezer, walk-in freezer or walk-in cooler. (*réfrigérateur-congélateur commercial*)

**(2) Section 636 of the Regulations is amended by adding the following in alphabetical order:**

**ice cream freezer** means a commercial freezer that is designed to operate at temperatures at or below  $-21^{\circ}\text{C} \pm 1.1^{\circ}\text{C}$  and that is designed or marketed for the storage, display or dispensing of ice cream. (*congélateur de crème glacée*)

**68 (1) Paragraph 637(2)(a) of the Regulations is replaced by the following:**

- (a) for the purposes of sections 4 and 5, unless
  - (i) it is self-contained and manufactured on or after April 1, 2007, or
  - (ii) it is remote-condensing and manufactured on or after January 1, 2012; and

**(2) Subparagraph 637(2)(b)(i) of the Regulations is replaced by the following:**

- (i) it is self-contained, closed and was manufactured on or after April 1, 2007 and before January 1, 2012, or

**69 Section 638 of the Regulations is replaced by the following:**

**Energy efficiency standards**

**638 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to commercial refrigerators described in column 1 that are manufactured during the periods set out in column 4.

**Testing standard**

**(2)** A commercial refrigerator complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to a *commercial refrigerator* as defined in section 636.

**TABLE**

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard       | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                      |
|------|--|----------------------------|--|--|
| 1    | Commercial refrigerators that are self-contained, closed and not transparent   | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00441 V + 4.22$ | On or after April 1, 2007 and before January 1, 2008   |
| 2    | Commercial refrigerators that are self-contained, closed and not transparent   | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00441 V + 2.76$ | On or after January 1, 2008 and before January 1, 2010 |
| 3    | Commercial refrigerators that are self-contained, closed and not transparent   | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00353 V + 2.04$ | On or after January 1, 2010 and before March 27, 2017  |
| 4    | Commercial refrigerators that are self-contained and transparent   | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00607 V + 5.78$ | On or after April 1, 2007 and before January 1, 2008   |
| 5    | Commercial refrigerators that are self-contained and transparent   | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00607 V + 4.77$ | On or after January 1, 2008 and before January 1, 2010 |
| 6    | Commercial refrigerators that are self-contained and transparent and that do not have pull-down temperature reduction capability | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00424 V + 3.34$ | On or after January 1, 2010 and before March 27, 2017  |
| 7    | Commercial refrigerators that are self-contained and transparent and that have pull-down temperature reduction capability        | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00445 V + 3.51$ | On or after January 1, 2010 and before March 27, 2017  |
| 8    | Commercial refrigerators that are self-contained and open  | CSA C657, Test Procedure A | CSA C657, Table 5                        | On or after January 1, 2012 and before March 27, 2017  |
| 9    | Commercial refrigerators that are remote-condensing  | CSA C657, Test Procedure A | CSA C657, Table 5                        | On or after January 1, 2012 and before March 27, 2017  |
| 10   | Commercial refrigerators   | CSA C657, Test Procedure B | CSA C657, Table 6                        | On or after March 27, 2017                             |

**70 (1) Section 639 of the Regulations is renumbered as subsection 639(1) and the portion of that subsection before paragraph (a) is replaced by the following:**

**Information**

**639 (1)** For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of a commercial refrigerator:

**(2) Section 639 of the Regulations is amended by adding the following after subsection (1):**

**Standards**

**(2)** The information must be collected in accordance with one of the following standards:

- (a) CSA C657, Test Procedure A, if the product was manufactured before March 27, 2017; or
- (b) CSA C657, Test Procedure B, if the product is manufactured on or after March 27, 2017.

**71 (1) Subparagraphs 640(2)(a)(i) and (ii) of the Regulations are replaced by the following:**

- (i) it is self-contained, is closed and is manufactured on or after April 1, 2007,
- (ii) it is self-contained, is open and is manufactured on or after January 1, 2012, or
- (iii) it is remote-condensing and is manufactured on or after January 1, 2012; and

**(2) Subparagraphs 640(2)(b)(i) and (ii) of the Regulations are replaced by the following:**

- (i) it is self-contained, is closed, is not transparent and is manufactured on or after April 1, 2007,
- (ii) it is self-contained, is open or transparent and is manufactured on or after January 1, 2012, or
- (iii) it is remote-condensing and is manufactured on or after January 1, 2012.

**72 Sections 641 and 642 of the Regulations are replaced by the following:****Energy efficiency standards**

**641 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to commercial refrigerator-freezers described in column 1 that are manufactured during the periods set out in column 4.

**Testing standard**

**(2)** A commercial refrigerator-freezer complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to a *commercial refrigerator-freezer* as defined in section 636.

**TABLE**

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard       | Column 3<br>Energy Efficiency Standard                              | Column 4<br>Period of Manufacture                      |
|------|--|----------------------------|---|--|
| 1    | Commercial refrigerator-freezers that are self-contained, closed and not transparent | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00964 AV + 2.63$                           | On or after April 1, 2007 and before January 1, 2008   |
| 2    | Commercial refrigerator-freezers that are self-contained, closed and not transparent | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.00964 AV + 1.65$                           | On or after January 1, 2008 and before January 1, 2010 |
| 3    | Commercial refrigerator-freezers that are self-contained, closed and not transparent | CSA C657, Test Procedure A | $E_{\text{daily}} \leq$ the greater of (0.00953 AV – 0.71) and 0.70 | On or after January 1, 2010 and before March 27, 2017  |
| 4    | Commercial refrigerator-freezers that are self-contained and open or transparent     | CSA C657, Test Procedure A | CSA C657, Table 5   | On or after January 1, 2012 and before March 27, 2017  |
| 5    | Commercial refrigerator-freezers that are remote-condensing                          | CSA C657, Test Procedure A | CSA C657, Table 5   | On or after January 1, 2012 and before March 27, 2017  |
| 6    | Commercial refrigerator-freezers   | CSA C657, Test Procedure B | CSA C657, Table 6   | On or after March 27, 2017                             |

**Information**

**642** For the purpose of subsection 5(1) of the Act, the information set out in column 3 of the table to this section must be collected in accordance with the standard set out in column 2 and provided to the Minister in respect of a commercial refrigerator-freezer described in column 1.

**TABLE**

| Item | Column 1<br>Energy-using Product   | Column 2<br>Standard       | Column 3<br>Information   |
|------|--|----------------------------|---|
| 1    | Commercial refrigerator-freezers that are self-contained, closed, not transparent and manufactured on or after April 1, 2007 and before March 27, 2017 | CSA C657, Test Procedure A | (a) $E_{\text{daily}}$ ;<br>(b) AV; and<br>(c) for each compartment tested at the lowest temperature setting, the integrated average temperature, expressed in degrees Celsius, at the lowest temperature setting.  |
| 2    | Commercial refrigerator-freezers that are self-contained, transparent and manufactured on or after April 1, 2007 and before January 1, 2012            | CSA C657, Test Procedure A | (a) $E_{\text{daily}}$ ;<br>(b) AV; and<br>(c) for each compartment tested at the lowest temperature setting, the integrated average temperature, expressed in degrees Celsius, at the lowest temperature setting.  |
| 3    | Commercial refrigerator-freezers that are self-contained, open or transparent and manufactured on or after January 1, 2012 and before March 27, 2017   | CSA C657, Test Procedure A | (a) $E_{\text{daily}}$ ;<br>(b) for each compartment tested at the lowest temperature setting, the integrated average temperature, expressed in degrees Celsius, at the lowest temperature setting; and<br>(c) for each compartment, its equipment class designation and TDA.                         |
| 4    | Commercial refrigerator-freezers that are remote-condensing and manufactured on or after January 1, 2012 and before March 27, 2017                     | CSA C657, Test Procedure A | (a) $E_{\text{daily}}$ ;<br>(b) for each compartment tested at the lowest temperature setting, the integrated average temperature, expressed in degrees Celsius, at the lowest temperature setting; and<br>(c) for each compartment, its equipment class designation and TDA.                         |
| 5    | Commercial refrigerator-freezers that are manufactured on or after March 27, 2017  | CSA C657, Test Procedure B | (a) $E_{\text{daily}}$ ;<br>(b) for each compartment tested at the lowest temperature setting, the integrated average temperature, expressed in degrees Celsius, at the lowest temperature setting; and<br>(c) for each compartment, its equipment class designation and its TDA or V, as applicable. |

**73 (1) Paragraph 643(2)(a) of the Regulations is replaced by the following:**

- (a) for the purposes of sections 4 and 5, unless

- (i) it is self-contained and manufactured on or after April 1, 2007, or
- (ii) it is remote-condensing and is manufactured on or after January 1, 2012; and

**(2) Subparagraph 643(2)(b)(i) of the Regulations is replaced by the following:**

- (i) it is self-contained, closed and was manufactured on or after April 1, 2007 and before January 1, 2012, or

**74 Section 644 of the Regulations is replaced by the following:**

**Energy efficiency standards**

**644 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to commercial freezers described in column 1 that are manufactured during the periods set out in column 4.

**Testing standard**

**(2)** A commercial freezer complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to a *commercial freezer* as defined in section 636.

**TABLE**

| Item | Column 1<br>Energy-using Product  | Column 2<br>Standard       | Column 3<br>Energy Efficiency Standard   | Column 4<br>Period of Manufacture                      |
|------|---|----------------------------|--|--|
| 1    | Commercial freezers that are self-contained and open, other than ice cream freezers                       | CSA C657, Test Procedure A | CSA C657, Table 5                        | On or after January 1, 2012 and before March 27, 2017  |
| 2    | Commercial freezers that are self-contained, closed and not transparent and have a volume of < 340 L      | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 7.62$             | On or after April 1, 2007 and before January 1, 2008   |
| 3    | Commercial freezers that are self-contained, closed and not transparent and have a volume of < 340 L      | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 7.07$             | On or after January 1, 2008 and before January 1, 2010 |
| 4    | Commercial freezers that are self-contained, closed and not transparent and have a volume of $\geq 340$ L | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.0141 V + 2.83$  | On or after April 1, 2007 and before January 1, 2008   |
| 5    | Commercial freezers that are self-contained, closed and not transparent and have a volume of $\geq 340$ L | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.0141 V + 2.28$  | On or after January 1, 2008 and before January 1, 2010 |
| 6    | Commercial freezers that are self-contained, closed and not transparent                                   | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.01413 V + 1.38$ | On or after January 1, 2010 and before January 1, 2012 |
| 7    | Commercial freezers that are self-contained, closed and not transparent, other than ice cream freezers    | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.01413 V + 1.38$ | On or after January 1, 2012 and before March 27, 2017  |
| 8    | Commercial freezers that are self-contained and transparent   | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.0332 V + 5.10$  | On or after April 1, 2007 and before January 1, 2010   |
| 9    | Commercial freezers that are self-contained and transparent   | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.02649 V + 4.10$ | On or after January 1, 2010 and before January 1, 2012 |
| 10   | Commercial freezers that are self-contained and transparent, other than ice cream freezers                | CSA C657, Test Procedure A | $E_{\text{daily}} \leq 0.02649 V + 4.10$ | On or after January 1, 2012 and before March 27, 2017  |
| 11   | Commercial freezers that are remote-condensing, other than ice cream freezers                             | CSA C657, Test Procedure A | CSA C657, Table 5                        | On or after January 1, 2012 and before March 27, 2017  |
| 12   | Ice cream freezers  | CSA C657, Test Procedure A | CSA C657, Table 5                        | On or after January 1, 2012 and before March 27, 2017  |
| 13   | Commercial freezers   | CSA C657, Test Procedure B | CSA C657, Table 6                        | On or after March 27, 2017                             |

**75 (1) Section 645 of the Regulations is renumbered as subsection 645(1) and the portion of that subsection before paragraph (a) is replaced by the following:**

**Information**

**645 (1)** For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of a commercial freezer:

**(2) Section 645 of the Regulations is amended by adding the following after subsection (1):**

**Standards**

**(2)** The information must be collected in accordance with one of the following standards:

- (a) CSA C657, Test Procedure A, if the product was manufactured before March 27, 2017; or
- (b) CSA C657, Test Procedure B, if the product is manufactured on or after March 27, 2017.

**76 The Regulations are amended by adding the following after section 656:**

**SUBDIVISION D**

**Walk-in Freezer and Walk-in Cooler Components**

**Interpretation**

**Definitions**

**657** The following definitions apply in this Subdivision.

**annual walk-in energy factor** means the ratio of total heat removed from an enclosed space, excluding heat generated by the operation of the walk-in refrigeration system, to the total energy input of the walk-in refrigeration system during a one-year period, expressed in watt-hours per watt-hours. (*facteur énergétique annuel de la chambre froide*)

**dedicated condensing unit** means a positive displacement condensing unit that

- (a) is part of a refrigeration system, including a matched refrigeration system;
- (b) has one or more compressors, one condenser and one refrigeration circuit; and
- (c) is designed to serve one refrigerated load. (*unité de condensation dédiée*)

**display door assembly** means a walk-in door assembly that is designed for product display and that has 75% or more of its surface area

composed of glass or other transparent material. (*assemblage de porte de présentation*)

**floor panel** means a walk-in panel that is installed, or designed to be installed, as the floor of a walk-in freezer. (*panneau de plancher*)

**freight door assembly** means a walk-in door assembly, other than a display door assembly, that is 1.22 m (4 feet) or more in width and 2.44 m (8 feet) or more in height. (*assemblage de porte de quai de chargement*)

**passage door assembly** means a walk-in door assembly that is not a display door assembly or a freight door assembly. (*assemblage de porte de passage*)

**R-value** means, in respect of a walk-in panel and a walk-in door assembly, its thermal resistance, expressed in square metre kelvins per watt. (*valeur-R*)

**single-package dedicated system** means a singlepackage refrigeration system that has

- (a) one or more compressors, one condenser and a means of forced circulation of refrigerated air; and
- (b) components by which heat is transferred from air to refrigerant without any components that are external to the system imposing resistance to the flow of the refrigerated air. (*système dédié monobloc*)

**structural panel** means a walk-in panel that is installed, or is designed to be installed, as the ceiling or a wall of a walk-in cooler or walk-in freezer. (*panneau de structure*)

**10 C.F.R. Appendix A** means Appendix A to Subpart R, Part 431 of Title 10 to the United States *Code of Federal Regulations*, entitled *Uniform Test Method for the Measurement of Energy Consumption of the Components of Envelopes of Walk-In Coolers and Walk-In Freezers*, as amended from time to time. (*appendice A 10 C.F.R.*)

**10 C.F.R. Appendix B** means Appendix B to Subpart R, Part 431 of Title 10 to the United States *Code of Federal Regulations*, entitled *Uniform Test Method for the Measurement of R-Value for Envelope Components of Walk-In Coolers and Walk-In Freezers*, as amended from time to time. (*appendice B 10 C.F.R.*)

**10 C.F.R. Appendix C** means Appendix C to Subpart R, Part 431 of Title 10 to the United States *Code of Federal Regulations*, entitled *Uniform Test Method for the Measurement of Net Capacity and AWEF of Walk-In Cooler and Walk-In Freezer Refrigeration Systems*, as amended from time to time. (*appendice C 10 C.F.R.*)

**10 C.F.R. §431.304** means section 431.304 of Subpart R, Part 431 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (*10 C.F.R. §431.304*)

**walk-in cooler** means an enclosed storage space that has an area of less than 278.71 m<sup>2</sup> (3,000 square feet) and is designed to be cooled to temperatures at or above 0° C and to allow a person to enter. (*réfrigérateur-chambre*)

**walk-in door assembly** means an assembly that

- (a) is installed, or is designed to be installed, in an opening of an interior or exterior wall of a walk-in cooler or walk-in freezer in order to allow access through the opening or to close it off; and
- (b) consists of the framing material necessary for its attachment and a moveable door panel, including any glass, door plugs or mullions. (*assemblage de porte de chambre froide*)

**walk-in freezer** means an enclosed storage space that has an area of less than 278.71 m<sup>2</sup> (3000 square feet) and is designed to be cooled to temperatures below 0° C and to allow a person to enter. (*congélateur-chambre*)

**walk-in panel** means a panel that is installed, or is designed to be installed, as part of the envelope of a walk-in cooler or walk-in freezer. It does not include a walk-in door assembly. (*panneau de chambre froide*)

**walk-in process cooling refrigeration system** means a refrigeration system that

- (a) is sold as a set with an insulated enclosure and, when assembled with the enclosure, has a cooling capacity of at least 1.035 kW/m<sup>3</sup> (100 Btu/h/ft<sup>3</sup>) of enclosed internal volume;
- (b) is sold as a set that has a dedicated condensing unit and an assembly that has a means of forced air circulation and an evaporator coil that has a height that is
  - (i) at least 1.37 m (4.5 feet), as measured perpendicular to the tubes, and
  - (ii) at least one-and-a-half times the width, as measured parallel to the tubes; or
- (c) is sold as a set that has a dedicated condensing unit and an evaporator coil. (*système de réfrigération de type chambre pour refroidissement industriel*)

**walk-in refrigeration system** means a refrigeration system that is installed, or is designed to be installed, in a walk-in cooler for the purpose of cooling its refrigerated compartment and has a dedicated condensing unit or a single-package dedicated system. It includes all controls and other components that are integral to its operation but does not include a walk-in process cooling refrigeration system. (*système de réfrigération de chambre froide*)

## Nameplate

### Nameplate required

**658** Every walk-in door assembly and walk-in panel that is manufactured on or after June 26, 2017 must be labelled with a nameplate that is attached to the outside of the product in a location that is readily visible prior to assembly of the walk-in cooler or walk-in freezer and that sets out the following information in English and French:

- (a) the brand name or manufacturer of the product; and
- (b) a statement indicating whether the product is intended for use in a walk-in cooler, walk-in freezer or both.

## Walk-in Door Assemblies

### Energy-using product

**659 (1)** A walk-in door assembly is prescribed as an energy-using product.

### Limit

**(2)** However, for the purposes of sections 4, 5 and 660, a walk-in door assembly is not considered to be an energy-using product unless it is manufactured on or after June 5, 2017.

### Energy efficiency standards

**660 (1)** The energy efficiency standards set out in column 3 of the table to this section apply to walk-in door assemblies described in column 1 that are manufactured on or after June 5, 2017.



**Testing standard**

(2) A walk-in door assembly complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by the standard set out in column 2 that are applicable to a *walk-in door assembly* as defined in section 657.

**TABLE**

| Item | Column 1                                     | Column 2                                    | Column 3  |
|------|--|---|---|
|      | Energy-using Product                         | Standard                                    | Energy Efficiency Standard  |
| 1    | Display door assemblies for walk-in coolers  | 10 C.F.R. Appendix A                        | $E_{\text{daily}} \leq 0.4306 \times A_{\text{dd}} + 0.41 (0.04 \times A_{\text{dd}} + 0.41)$ |
| 2    | Display door assemblies for walk-in freezers | 10 C.F.R. Appendix A                        | $E_{\text{daily}} \leq 1.6146 \times A_{\text{dd}} + 0.29 (0.15 \times A_{\text{dd}} + 0.29)$ |
| 3    | Freight door assemblies for walk-in coolers  | 10 C.F.R. Appendix A for $E_{\text{daily}}$ | $E_{\text{daily}} \leq 0.4306 \times A_{\text{nd}} + 1.9 (0.04 \times A_{\text{nd}} + 1.9)$   |
| 4    | Freight door assemblies for walk-in freezers | 10 C.F.R. Appendix B for R-value            | R-value $\geq 4.40 \text{ K} \cdot \text{m}^2/\text{W}$ (25 ft <sup>2</sup> ·°F·h/Btu)        |
|      |  | 10 C.F.R. Appendix A for $E_{\text{daily}}$ | $E_{\text{daily}} \leq 1.2917 \times A_{\text{nd}} + 5.6 (0.12 \times A_{\text{nd}} + 5.6)$   |
| 5    | Passage door assemblies for walk-in coolers  | 10 C.F.R. Appendix B for R-value            | R-value $\geq 5.64 \text{ K} \cdot \text{m}^2/\text{W}$ (32 ft <sup>2</sup> ·°F·h/Btu)        |
|      |  | 10 C.F.R. Appendix A for $E_{\text{daily}}$ | $E_{\text{daily}} \leq 0.5382 \times A_{\text{nd}} + 1.7 (0.05 \times A_{\text{nd}} + 1.7)$   |
| 6    | Passage door assemblies for walk-in freezers | 10 C.F.R. Appendix B for R-value            | R-value $\geq 4.40 \text{ K} \cdot \text{m}^2/\text{W}$ (25 ft <sup>2</sup> ·°F·h/Btu)        |
|      |  | 10 C.F.R. Appendix A for $E_{\text{daily}}$ | $E_{\text{daily}} \leq 1.5069 \times A_{\text{nd}} + 4.8 (0.14 \times A_{\text{nd}} + 4.8)$   |
|      |  | 10 C.F.R. Appendix B for R-value            | R-value $\geq 5.64 \text{ K} \cdot \text{m}^2/\text{W}$ (32 ft <sup>2</sup> ·°F·h/Btu)        |

**Information**

661 For the purpose of subsection 5(1) of the Act, the following information must be collected in accordance with 10 C.F.R. §431.304 and provided to the Minister in respect of a walk-in door assembly:

- (a) its  $E_{\text{daily}}$ ;
- (b) information that indicates whether it is a display door assembly, freight door assembly or passage door assembly;
- (c) information that indicates whether it is for use with a walk-in cooler or walk-in freezer; and
- (d) if the product is a freight door assembly or passage door assembly, its R-value.

**Walk-in Panels****Energy-using product**

662 (1) A walk-in panel is prescribed as an energy-using product.

**Limit**

(2) However, for the purposes of sections 4, 5 and 663, a walk-in panel is not considered to be an energy-using product unless it is manufactured on or after June 5, 2017.

**Energy efficiency standards**

663 (1) The energy efficiency standards set out in column 2 of the table to this section apply to walk-in panels described in column 1 that are manufactured on or after June 5, 2017.

**Testing standard**

(2) A walk-in panel complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by 10 C.F.R. Appendix B that are applicable to a *walk-in panel* as defined in section 657.

**TABLE**

| Item | Column 1                               | Column 2  |
|------|--|---|
|      | Energy-using Product                   | Energy Efficiency Standard  |
| 1    | Structural panels for walk-in coolers  | R-value $\geq 4.40 \text{ K} \cdot \text{m}^2/\text{W}$<br>(25 ft <sup>2</sup> ·°F·h/Btu) |
| 2    | Structural panels for walk-in freezers | R-value $\geq 5.64 \text{ K} \cdot \text{m}^2/\text{W}$<br>(32 ft <sup>2</sup> ·°F·h/Btu) |
| 3    | Floor panels                           | R-value $\geq 4.93 \text{ K} \cdot \text{m}^2/\text{W}$<br>(28 ft <sup>2</sup> ·°F·h/Btu) |

**Information**

664 For the purpose of subsection 5(1) of the Act, the following information must be collected in accordance with 10 C.F.R. Appendix B and provided to the Minister in respect of a walk-in panel:

- (a) its R-value;
- (b) information that indicates whether it is a structural panel or floor panel; and
- (c) if it is a structural panel, information that indicates whether it is for use with a walk-in cooler or walk-in freezer.

**Walk-in Refrigeration Systems****Energy-using product**

665 (1) A walk-in refrigeration system is prescribed as an energy-using product.

**Limit**

(2) However, for the purposes of sections 4, 5 and 666, a walk-in refrigeration system is not considered to be an energy-using product unless it is manufactured on or after January 1, 2020.

**Energy efficiency standards**

**666 (1)** The following energy efficiency standards apply to a walk-in refrigeration system that is manufactured on or after January 1, 2020:

- (a) if its condenser is designed and marketed only for use indoors, the product must have an annual walk-in energy factor of 1.644 or more;
- (b) if its condenser is designed and marketed only for use outdoors, the product must have an annual walk-in energy factor of 2.227 or more; and
- (c) if its condenser is designed and marketed for use both indoors and outdoors, the product must meet the energy efficiency standards set out in paragraphs (a) and (b).

**Testing standard**

(2) A walk-in refrigeration system complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by 10 C.F.R. Appendix C that are applicable to a *walk-in refrigeration system* as defined in section 657.

**Information**

**667** For the purpose of subsection 5(1) of the Act, the following information must be collected in accordance with 10 C.F.R. Appendix C and provided to the Minister in respect of a walk-in refrigeration system:

- (a) its annual walk-in energy factor; and
- (b) information that indicates whether it is designed and marketed for use indoors, outdoors or both.

**77 (1)** The definition *CSA C802.2-12* in section 703 of the English version of the Regulations is replaced by the following:

*CSA C802.2-12* means the CSA standard CAN/CSA-C802.2-12 entitled *Minimum efficiency values for dry-type transformers*. (*CSA C802.2-12*)

(2) Section 703 of the Regulations is amended by adding the following in alphabetical order:

**10 C.F.R. Appendix A** means Appendix A to Subpart K, Part 431 of Title 10 to the United States *Code of Federal Regulations*, entitled *Uniform Test Method for Measuring the Energy Consumption of Distribution Transformers*, as amended from time to time. (*appendix A 10 C.F.R.*)

**78 (1)** Subsection 705(1) of the Regulations is replaced by the following:

**Energy efficiency standards — manufactured before January 1, 2016**

**705 (1)** In respect of dry-type transformers that were manufactured on or after January 1, 2005 and before January 1, 2016, the energy efficiency standards set out in column 2 of the table to this section apply to dry-type transformers that were manufactured during the periods set out in column 3.

(2) The portion of item 2 of the table to section 705 of the Regulations in column 3 is replaced by the following:

| Item | Column 3<br>Period of Manufacture                      |
|------|--|
| 2    | On or after January 1, 2010 and before January 1, 2016 |

**79** Section 706 of the Regulations is replaced by the following:

**Energy efficiency standard — single-phase and 1.2 kV voltage class**

**705.1 (1)** In respect of dry-type transformers that are single-phase, in the 1.2 kV voltage class and manufactured on or after January 1, 2016, the energy efficiency standards set out in column 2 of Table 1 to this section apply to dry-type transformers that have a kVA rating described in column 1.

**Energy efficiency standards — single-phase and voltage class greater than 1.2 kV**

(2) In respect of dry-type transformers that are single-phase, in a voltage class greater than 1.2 kV and manufactured on or after January 1, 2016, the energy efficiency standards that are set out in relation to the product's BIL rating set out in column 2 of Table 2 to this section apply to dry-type transformers that have a kVA rating set out in column 1.

**Interpolation**

(3) For the purposes of subsections (1) and (2), if the kVA rating of the product falls between the kVA ratings set out in two consecutive items in column 1 of the applicable table to this section, the energy efficiency standard for the product is an interpolation of the corresponding energy efficiency standards set out in column 2.

**Testing standard**

(4) A dry-type transformer complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by 10 C.F.R. Appendix A that are applicable to a *dry-type transformer* as defined in section 703.

**TABLE 1**

| Item | Column 1<br>kVA Rating | Column 2<br>% Efficiency When Tested at 35% of Nominal Load |
|------|------------------------|---|
| 1    | 15.0                   | 97.70   |
| 2    | 25.0                   | 98.00   |
| 3    | 37.5                   | 98.20   |
| 4    | 50.0                   | 98.30   |
| 5    | 75.0                   | 98.50   |
| 6    | 100.0                  | 98.60   |
| 7    | 167.0                  | 98.70   |
| 8    | 250.0                  | 98.80   |
| 9    | 333.0                  | 98.90   |

**TABLE 2**

| Item | Column 1 | Column 2 |
|------|----------|----------|
|------|----------|----------|

**% Efficiency When Tested at 50% of Nominal Load**

|    | <b>kVA Rating</b> | <b>20-45 kV BIL</b> | <b>&gt; 45-95 kV BIL</b> | <b>&gt; 95-199 kV BIL</b> |
|----|-------------------|---------------------|--------------------------|---------------------------|
| 1  | 15.0              | 98.10               | 97.86                    | 97.60                     |
| 2  | 25.0              | 98.33               | 98.12                    | 97.90                     |
| 3  | 37.5              | 98.49               | 98.30                    | 98.10                     |
| 4  | 50.0              | 98.60               | 98.42                    | 98.20                     |
| 5  | 75.0              | 98.73               | 98.57                    | 98.53                     |
| 6  | 100.0             | 98.82               | 98.67                    | 98.63                     |
| 7  | 167.0             | 98.96               | 98.83                    | 98.80                     |
| 8  | 250.0             | 99.07               | 98.95                    | 98.91                     |
| 9  | 333.0             | 99.14               | 99.03                    | 98.99                     |
| 10 | 500.0             | 99.22               | 99.12                    | 99.09                     |
| 11 | 667.0             | 99.27               | 99.18                    | 99.15                     |
| 12 | 833.0             | 99.31               | 99.23                    | 99.20                     |

**Energy efficiency standards — three-phase and 1.2 kV voltage class**

**705.2 (1)** In respect of dry-type transformers that are three-phase, in the 1.2 kV voltage class and manufactured on or after January 1, 2016, the energy efficiency standards set out column 2 of Table 1 to this section apply to dry-type transformers that have a kVA rating set out in column 1.

**Energy efficiency standards — three-phase and voltage class greater than 1.2 kV**

**(2)** In respect of dry-type transformers that are three-phase, in a voltage class greater than 1.2 kV and manufactured on or after January 1, 2016, the energy efficiency standards that are set out in relation to the product's BIL rating set out in column 2 of Table 2 to this section apply to dry-type transformers that have a kVA rating set out in column 1.

**Interpolation**

**(3)** For the purposes of subsections (1) and (2), if the kVA rating of the product falls between the kVA ratings set out in two consecutive items in column 1 of the applicable table to this section, the energy efficiency standard for the product is an interpolation of the corresponding energy efficiency standards set out in column 2.

**Reduced energy efficiency standard**

**(4)** The energy efficiency standard that is applicable to a dry-type transformer under this section is reduced by 0.11 if the transformer has multiple high-voltage windings and a voltage ratio other than 2:1.

**Testing standard**

**(5)** A dry-type transformer complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by 10 C.F.R. Appendix A that are applicable to a *dry-type transformer* as defined in section 703.

**TABLE 1**

| <b>Item</b> | <b>Column 1</b>   |  | <b>Column 2</b> |  |
|-------------|-------------------|--|-----------------|--|
|             | <b>kVA Rating</b> | <b>% Efficiency When Tested at 35% of Nominal Load</b> |                 |  |
| 1           | 15.0              | 97.89  |                 |  |
| 2           | 30.0              | 98.23  |                 |  |
| 3           | 45.0              | 98.40  |                 |  |
| 4           | 75.0              | 98.60  |                 |  |
| 5           | 112.5             | 98.74  |                 |  |
| 6           | 150.0             | 98.83  |                 |  |
| 7           | 225.0             | 98.94  |                 |  |
| 8           | 300.0             | 99.02  |                 |  |
| 9           | 500.0             | 99.14  |                 |  |
| 10          | 750.0             | 99.23  |                 |  |
| 11          | 1 000.0           | 99.28  |                 |  |

**TABLE 2**

| <b>Item</b> | <b>Column 1</b>     |  | <b>Column 2</b>           |       |
|-------------|---------------------|--|---------------------------|-------|
|             | <b>kVA Rating</b>   | <b>% Efficiency When Tested at 50% of Nominal Load</b> |                           |       |
|             | <b>20-45 kV BIL</b> | <b>&gt; 45-95 kV BIL</b>                               | <b>&gt; 95-199 kV BIL</b> |       |
| 1           | 15.0                | 97.50  | 97.18                     | 96.80 |
| 2           | 30.0                | 97.90  | 97.63                     | 97.30 |
| 3           | 45.0                | 98.10  | 97.86                     | 97.60 |
| 4           | 75.0                | 98.33  | 98.13                     | 97.90 |
| 5           | 112.5               | 98.52  | 98.36                     | 98.10 |
| 6           | 150.0               | 98.65  | 98.51                     | 98.20 |
| 7           | 225.0               | 98.82  | 98.69                     | 98.57 |
| 8           | 300.0               | 98.93  | 98.81                     | 98.69 |
| 9           | 500.0               | 99.09  | 98.99                     | 98.89 |
| 10          | 750.0               | 99.21  | 99.12                     | 99.02 |
| 11          | 1 000.0             | 99.28  | 99.20                     | 99.11 |
| 12          | 1 500.0             | 99.37  | 99.30                     | 99.21 |
| 13          | 2 000.0             | 99.43  | 99.36                     | 99.28 |
| 14          | 2 500.0             | 99.47  | 99.41                     | 99.33 |
| 15          | 3 000.0             | 99.47  | 99.41                     | 99.33 |
| 16          | 3 750.0             | 99.47  | 99.41                     | 99.33 |

|    |         |       |       |       |
|----|---------|-------|-------|-------|
| 17 | 5 000.0 | 99.47 | 99.41 | 99.33 |
| 18 | 7 500.0 | 99.48 | 99.41 | 99.39 |

### Information

**706 (1)** For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of a dry-type transformer:

- (a) if applicable, information that indicates whether the transformer is in the 1.2 kV voltage class;
- (b) its BIL rating;
- (c) if applicable, information that indicates whether the transformer is a three-phase transformer that has multiple high-voltage windings and a voltage ratio other than 2:1;
- (d) its kVA rating;
- (e) its phase — namely, single-phase or three-phase;
- (f) the tested efficiency, expressed as a percentage;
- (g) the loss, expressed in watts, when it is under load and when it is not under load; and
- (h) if it is manufactured on or after January 1, 2010, the impedance, expressed as a percentage.

### Standard

(2) The information must be collected in accordance with one of the following standards:

- (a) CSA C802.2-12, if the product was manufactured on or after January 1, 2005 and before January 1, 2016; or
- (b) 10 C.F.R. Appendix A, if the product is manufactured on or after January 1, 2016.

**80 Sections 749 to 797 of the Regulations are replaced by the following:**

## SUBDIVISION A

### Electric Motors

#### Definitions

**749** The following definitions apply in this Subdivision.

**CSA C390-10** means the CSA standard CSA C390-10 entitled *Test methods, marking requirements, and energy efficiency levels for three-phase induction motors*. (CSA C390-10)

**electric motor** means a machine that converts electrical power into rotational mechanical power and that

- (a) is an electric three-phase induction design;
- (b) is one of the following designs:
  - (i) a NEMA design A, B or C with a three- or four-digit NEMA frame number,
  - (ii) an enclosed NEMA design A, B or C with a NEMA frame number of 56, or
  - (iii) an IEC design N or H with an IEC frame number of 80 or above;
- (c) has a nominal output power of not less than 0.75 kW (1 horsepower) and not more than 375 kW (500 horsepower);
- (d) has a cage or squirrel-cage design;
- (e) is rated for continuous duty or S1 operation;
- (f) is designed to operate at a single speed;
- (g) has a nominal voltage of not more than 600 V AC;
- (h) has a nominal frequency of 50 Hz, 50/60 Hz or 60 Hz;
- (i) has a two-, four-, six- or eight-pole construction;
- (j) has an open or enclosed construction; and
- (k) has an IP code from 00 to 67.

It does not include any of the following:

- (l) a motor that is cooled by air that is forced over the motor by a fan or blower that is not an integral part of the motor;
- (m) a liquid-cooled motor;
- (n) an inverter-only motor; or
- (o) a motor that is designed to operate continuously only while immersed. (*moteur électrique*)

**explosion-proof motor** means an electric motor

- (a) in respect of which measures have been taken to prevent excessive temperatures and the production of arcs or sparks by the motor; or
- (b) that is encased in an enclosure that can withstand the explosion of any flammable gas or vapour that might enter it, without being damaged and without transmitting the explosion to the outside. (*moteur antidéflagrant*)

**footless** means, in respect of an electric motor, that it does not have feet or detachable feet or that it is not designed to receive detachable feet. (*sans pieds*)

**IEC 60034-5** means the IEC standard CEI/IEC 60034-5: 2006 entitled *Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electric machines (IP code) - Classification*. (CEI 60034-5)

**IEC 60529** means the IEC standard CEI/IEC 60529: 2013 entitled *Degrees of Protection Provided by Enclosures (IP Code)*. (CEI 60529)

**IEEE 112-2004** means the IEEE standard IEEE 112-2004 entitled *Standard Test Procedure for Polyphase Induction Motors and Generators*. (IEEE 112-2004)

**integral gear assembly** means a product that consists of an electric motor and a gear mechanism that are combined in such a manner that

- (a) the end bracket or mounting flange forms an integral part of both the motor and the gear mechanism; and
- (b) if the motor and the gear mechanism are separated, only one of them remains intact. (*assemblage d'engrenages intégrés*)

**IP code** means the classification of the degree of protection provided by an enclosure, as set out in IEC 60034-5, IEC 60529 or NEMA MG-1. (*code IP*)

**NEMA MG-1** means the NEMA standard MG 1-2014 entitled *NEMA Standards Publication No. MG 1-2014 Motors and Generators*. (NEMA MG-1)

#### Energy-using product

**750 (1)** An electric motor is prescribed as an energy-using product.

#### Limits

(2) However, for the purposes of sections 4, 5, 751 and 752, an electric motor is not considered to be an energy-using product if

- (a) it was manufactured before February 3, 1995;
- (b) it was manufactured before November 27, 1999 and is an explosion-proof motor or is part of an integral gear assembly;
- (c) it was manufactured before January 1, 2011 and it
  - (i) has an eight-pole construction,
  - (ii) has NEMA U frame dimensions,
  - (iii) is a NEMA design C or an IEC design H,
  - (iv) is a close-coupled pump motor,
  - (v) is a vertically mounted solid shaft normal thrust motor,
  - (vi) is a fire-pump motor or other NEMA design B motor with a nominal output power of more than 150 kW (200 horsepower) or is an IEC design N motor with a nominal output power of more than 150 kW (200 horsepower), or
  - (vii) is footless;
- (d) it was manufactured before June 1, 2016 and it
  - (i) is a NEMA design A with a nominal output power of more than 150 kW (200 horsepower),
  - (ii) is an enclosed NEMA design with a NEMA frame number of 56,
  - (iii) has NEMA frame dimensions other than T or U,
  - (iv) has an IEC frame number of 80 or more but less than 90,
  - (v) is a partial electric motor, a brake motor or a vertical hollow shaft motor,
  - (vi) is designed to operate continuously in free air, but can operate continuously for a period of at least 30 minutes while completely immersed,
  - (vii) has a separately powered blower,
  - (viii) has a base, end shields or flanges that are not within the dimensions specified in NEMA MG-1, or
  - (ix) has a NEMA shaft that is not a standard shaft, R-shaft or S-shaft, as specified in NEMA MG-1; or
- (e) it was manufactured before June 1, 2017 and is a medical-imaging motor.

**Energy efficiency standards**

751 (1) The energy efficiency standards set out in column 3 of the table to this section apply to electric motors described in column 1 that are manufactured during the periods set out in column 4.

**Testing standard**

(2) An electric motor complies with the energy efficiency standard if it meets the standard when tested at 100% of its nominal full load in accordance with testing procedures established by the standard set out in column 2 that are applicable to an *electric motor* as defined in section 749.

**TABLE**

| Item | Column 1<br>Energy-using Product  | Column 2<br>Standard                  | Column 3<br>Energy Efficiency Standard | Column 4<br>Period of Manufacture                     |
|------|---|---------------------------------------|--|---|
| 1    | Electric motors that are fire-pump motors   | CSA C390-10                           | CSA C390-10, Table 2                   | On or after February 3, 1995                          |
| 2    | Electric motors that are medical-imaging motors   | CSA C390-10<br>or<br>IEEE<br>112-2004 | NEMA MG-1, Table<br>12-12              | On or after June 1, 2017                              |
| 3    | Electric motors that are part of an integral gear assembly;   | CSA C390-10                           | CSA C390-10, Table 2                   | On or after November 27, 1999 and before June 1, 2016 |
| 4    | Electric motors that are close-coupled pump motors  | CSA C390-10                           | CSA C390-10, Table 2                   | On or after January 1, 2011 and before June 1, 2016   |
| 5    | Electric motors that are vertically-mounted solid shaft normal thrust motors<br>Electric motors that<br>(a) have an eight-pole construction;<br>(b) have NEMA U frame dimensions; | CSA C390-10                           | CSA C390-10, Table 2                   | On or after January 1, 2011 and before June 1, 2016   |
| 6    | (c) are a NEMA design C or an IEC design H;<br>(d) have a nominal output power of more than 150 kW (200 HP) and are a NEMA design B or an IEC design N; or<br>(e) are footless.   | CSA C390-10                           | CSA C390-10, Table 2                   | On or after January 1, 2011 and before June 1, 2016   |
| 7    | Electric motors other than motors described in items 1 to 6   | CSA C390-10                           | CSA C390-10, Table 3                   | On or after February 3, 1995 and before June 1, 2016  |
| 8    | Electric motors other than fire-pump motors or medical-imaging motors   | CSA C390-10<br>or<br>IEEE<br>112-2004 | NEMA MG-1, Table<br>12-12              | On or after June 1, 2016                              |

**Information**

752 For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of an electric motor:

- (a) in respect of an electric motor for which a unique motor identifier was not provided under paragraph 5(1)(c),
  - (i) its nominal output power, expressed in kilowatts (horsepower),
  - (ii) the number of poles, and
  - (iii) its construction — namely, open construction or enclosed construction; and
- (b) in respect of an electric motor described in column 1 of the table to this section, the information set out in column 3, which must be collected in accordance with the standard set out in column 2.

**TABLE**

| Item | Column 1<br>Energy-using Product | Column 2<br>Standard | Column 3<br>Information |
|------|----------------------------------|----------------------|-------------------------|
|------|----------------------------------|----------------------|-------------------------|

|   |   |                              |   |
|---|---|------------------------------|---|
| 1 | Electric motors manufactured on or after February 3, 1995 and before June 1, CSA C390-10 2016 |                              | <p>(a) nominal efficiency value;</p> <p>(b) NEMA or IEC design of motor;</p> <p>(c) frame type;</p> <p>(d) motor configuration, namely, close-coupled pump motor, vertically mounted solid shaft normal thrust motor, fire-pump motor or motor that is part of an integral gear assembly;</p> <p>(e) shaft type;</p> <p>(f) mounting type; and</p> <p>(g) motor configuration, namely, footless, with feet or with detachable feet.</p> |
| 2 | Electric motors manufactured on or after June 1, 2016   | CSA C390-10 or IEEE 112-2004 | <p>(a) nominal efficiency value;</p> <p>(b) NEMA or IEC design of motor; and</p> <p>(c) motor configuration, namely, fire-pump motor, medical-imaging motor or another configuration.</p>   |

## SUBDIVISION B

### Small Electric Motors

#### Definitions

**753** The following definitions apply in this Subdivision.

**CSA C747-09** means the CSA standard CSA C747-09 entitled *Energy efficiency test methods for small motors*. (CSA C747-09)

**IEEE 114-2010** means the IEEE standard IEEE 114-2010 entitled *IEEE Standard Test Procedure for Single-Phase Induction Motors*. (IEEE 114-2010)

**small electric motor** means a machine that converts electrical power into rotational mechanical power and that

- (a) has a nominal output power of not less than 0.18 kW (0.25 horsepower) and not more than 2.2 kW (3 horsepower);
- (b) is a NEMA design with a two-digit frame number or an IEC design with a frame number of 63 or 71;
- (c) has a nominal frequency of 50/60 Hz or 60 Hz;
- (d) has a two-, four- or six-pole construction;
- (e) operates using alternating current;
- (f) is one of the following types, namely, capacitor-start capacitor-run, capacitor-start induction-run or polyphase;
- (g) has an open construction;
- (h) is rated for continuous duty or S1 operation;
- (i) is designed to operate at a single speed; and
- (j) is designed as a general purpose motor.

It does not include a split-phase motor, shaded pole motor or permanent split-capacitor motor. (*petit moteur électrique*)

**10 C.F.R. §431.446** means section 431.446 of Subpart X, Part 431 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (10 C.F.R. §431.446)

#### Energy-using product

**754 (1)** A small electric motor is prescribed as an energy-using product.

#### Limits

**(2)** However, for the purposes of sections 4, 5 and 755, a small electric motor is not considered to be an energy-using product if it was manufactured before March 9, 2015 or it is incorporated into any other product that is subject to these Regulations.

#### Energy efficiency standards

**755 (1)** The energy efficiency standards set out in the applicable table in paragraph (a) of 10 C.F.R. §431.446 apply to a small motor.

#### Testing standard

**(2)** A small electric motor complies with the energy efficiency standard if it meets that standard when

- (a) the product's average full load efficiency is determined using horsepower and kilowatt ratings that are determined in accordance with paragraph (b) of 10 C.F.R. §431.446;
- (b) the product is tested at 100% of its nominal full load; and
- (c) the product is tested in accordance with testing procedures established by one of the following standards that are applicable to a *small electric motor* as defined in section 753:
  - (i) if the motor is polyphase and has a nominal output power  $\geq$  0.18 kW (0.25 horsepower) but  $\leq$  0.75 kW (1 horsepower), CSA C747-09 or IEEE 112-2004, Test Method A,
  - (ii) if the motor is polyphase and has a nominal output power  $>$  0.75 kW (1 horsepower) but  $\leq$  2.2 kW (3 horsepower), CSA C390-10 or IEEE 112-2004, Test Method B, or
  - (iii) if the motor is capacitor-start capacitor-run or capacitor-start induction-run, CSA C747-09 or IEEE 114-2010.

#### Information

**756 (1)** For the purpose of subsection 5(1) of the Act, the following information must be provided to the Minister in respect of a small electric motor:

- (a) its average full load efficiency;
- (b) its type, namely, capacitor-start capacitor-run, capacitor-start induction-run or polyphase; and
- (c) if the motor is one for which a unique motor identifier has not been provided under paragraph 5(1)(c), its nominal output power expressed in kilowatts (horsepower) and the number of poles.

#### Standard

**(2)** The information must be collected in accordance with one of the following standards:

- (a) if the motor is polyphase and has a nominal output power  $\geq$  0.18 kW (0.25 horsepower) but  $\leq$  0.75 kW (1 horsepower), CSA C747-09 or

IEEE 112-2004, Test Method A;

- (b) if the motor is polyphase and has a nominal output power > 0.75 kW (1 horsepower) but ≤ 2.2 kW (3 horsepower), CSA C390-10 or IEEE 112-2004, Test Method B; or
- (c) if the motor is capacitor-start capacitor-run or capacitor-start induction-run, CSA C747-09 or IEEE 114-2010.

[757 to 799 reserved]

## DIVISION 13

### Commercial Pre-Rinse Spray Valves

#### Definitions

**800** The following definitions apply in this Division.

**commercial pre-rinse spray valve** means a handheld device for spraying water on food service items, that has a release-to-close valve and is designed and marketed to be used in conjunction with commercial dishwashing or commercial ware washing equipment. (*pulvérisateur de pré-rinçage commercial*).

**10 C.F.R. §431.264** means the test method set out in section 431.264 of Subpart O, Part 431 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (*10 C.F.R. §431.264*)

**10 C.F.R. §431.266** means the table to paragraph 431.266(b) of Subpart O, Part 431 of Title 10 to the United States *Code of Federal Regulations*, as amended from time to time. (*10 C.F.R. §431.266*)

#### Energy-using product

**801 (1)** A commercial pre-rinse spray valve is prescribed as an energy-using product.

#### Limit

(2) However, for the purposes of sections 4, 5 and 802, a commercial pre-rinse spray valve is not considered to be an energy-using product unless it is manufactured on or after June 27, 2016.

#### Energy efficiency standards

**802 (1)** The energy efficiency standards set out in column 2 of the table to this section apply to commercial pre-rinse spray valves described in column 1 that are manufactured during the periods set out in column 3.

#### Testing standard

(2) A commercial pre-rinse spray valve complies with the energy efficiency standard if it meets that standard when tested in accordance with testing procedures established by 10 C.F.R. §431.264 that are applicable to a *commercial pre-rinse spray valve* as defined in section 800.

#### TABLE

| Item | Column 1<br>Energy-using Product  | Column 2<br>Energy Efficiency Standard   | Column 3<br>Period of Manufacture                     |
|------|---|--|---|
| 1    | Commercial pre-rinse spray valves   | Maximum water flow rate ≤ 6.1 L/min (1.6 gallons/min)  | On or after June 27, 2016 and before January 28, 2019 |
| 2    | Commercial pre-rinse spray valves that have a spray force ≤ 1.39 N (5.0 ounce-force)                                | Maximum water flow rate ≤ flow rate for "Product Class 1" commercial pre-rinse spray valve set out in 10 C.F.R. §431.266 | On or after January 28, 2019                          |
| 3    | Commercial pre-rinse spray valves that have a spray force > 1.39 N (5.0 ounce-force) but ≤ 2.22 N (8.0 ounce-force) | Maximum water flow rate ≤ flow rate for "Product Class 2" commercial pre-rinse spray valve set out in 10 C.F.R. §431.266 | On or after January 28, 2019                          |
| 4    | Commercial pre-rinse spray valves that have a spray force > 2.22 N (8.0 ounce-force)                                | Maximum water flow rate ≤ flow rate for "Product Class 3" commercial pre-rinse spray valve set out in 10 C.F.R. §431.266 | On or after January 28, 2019                          |

#### Information

**803** For the purpose of subsection 5(1) of the Act, the following information must be collected in accordance with 10 C.F.R. §431.264 and provided to the Minister in respect of a commercial pre-rinse spray valve:

- (a) the maximum water flow rate, in litres per minute (gallons per minute); and
- (b) if it is manufactured on or after January 28, 2019, the spray force in newtons (ounce-force).

**81** The Regulations are amended by replacing “ANSI C79.1” with “ANSI C78.79” in the following provisions:

- (a) paragraphs 433(1)(e), (f) and (o);
- (b) paragraph 436(a);
- (c) paragraphs 437(1)(d), (e), (i) and (o); and
- (d) paragraph 440(a).

## Coming into Force

#### Six months after publication

**82 (1)** These Regulations, other than sections 3, 4 and 38 to 41, come into force on the day that, in the sixth month after the month in which they are published in the *Canada Gazette*, Part II, has the same calendar number as the day on which they are published or, if that sixth month has no day with that number, the last day of that sixth month.

#### On publication

(2) Sections 3, 4 and 38 to 41 come into force on the day on which these Regulations are published in the *Canada Gazette*, Part II.

## REGULATORY IMPACT ANALYSIS STATEMENT

(This statement is not part of the Regulations.)

## Executive summary

**Issues:** Greenhouse gases are primary contributors to climate change, which has an impact on Canada's economy and environment. Canada's building sector represents a significant portion of national greenhouse gas emissions given the amount of energy used to heat space and water and the amount of electricity this sector consumes from the grid. National policies and strategies such as the Pan-Canadian Framework on Clean Growth and Climate Change, the Canadian Energy Strategy, *Build Smart – Canada's Building Strategy*, and the recent report from the Generation Energy Council demonstrate the important role of energy efficiency and the Government of Canada's commitments to improve energy efficiency standards for appliances and equipment and take action on climate change. The Government of Canada is also committed to reducing regulatory burden through alignment with the United States (U.S.) given the integrated nature of the markets. Achieving these commitments will provide benefits to Canadians through energy cost savings and improved environmental outcomes, which lead to increased productivity, competitiveness and energy affordability.

In December 2016, First Ministers adopted the Pan-Canadian Framework on Clean Growth and Climate Change, which presents the country's plan to reduce greenhouse gas emissions to at least 30% below 2005 levels by 2030, grow the economy, and build resilience to a changing climate. Further mitigation efforts are needed to support the achievement of Canada's greenhouse gas emissions reduction target. Ministers also agreed to work collaboratively on energy efficiency standards in the building sector. This builds on the August 2016 publication of a framework and action plan for energy efficiency standards under the Energy and Mines Ministers' Conference and collaborative efforts with provinces and territories to implement the Canadian Energy Strategy.

In March 2016, the Prime Minister of Canada and the President of the United States committed to better align and further improve energy efficiency standards by 2020. This builds on the 2014 Canada–United States Regulatory Cooperation Council commitment to align new and updated energy efficiency standards and test methods. The support for continued bilateral regulatory cooperation was reaffirmed in the February 2017 joint statement by Prime Minister Trudeau and President Trump. Since 2011, the U.S. Department of Energy has implemented changes to its regulations across several product categories. These changes have to be implemented in Canada to reduce unnecessary regulatory differences, support cross-border trade and investment, and ultimately reduce costs to citizens, businesses and economies.

**Description:** This amendment to the *Energy Efficiency Regulations, 2016* [the Amendment] (a) introduces minimum energy performance standards, labelling and reporting requirements for six new product categories; (b) introduces more stringent minimum energy performance for 11 currently regulated product categories; (c) makes minor changes to existing standards, test procedures or reporting requirements for currently regulated product categories; and (d) provides flexibility for testing requirements and removes import reporting requirements for certain product categories.

**Cost-benefit statement:** The benefits and costs associated with the Amendment have been estimated using a methodology consistent with that used for the *Energy Efficiency Regulations, 2016*, with previous modifications to the *Energy Efficiency Regulations* and with other energy efficiency regulators, such as the U.S. Department of Energy. Based on this methodology, the present value of net benefits of the Amendment is estimated to be \$4.55 billion by 2030, with total benefits exceeding total costs by a ratio of almost five to one. By 2030, the present value of benefits and costs from the Amendment is estimated to be \$5.75 billion and \$1.20 billion, respectively. On an annualized average basis, this equates to benefits and costs of \$724 million and \$152 million, respectively.

The quantified benefits are calculated as the sum of the energy savings over the service life of products shipped by 2030 and the benefits of reductions in greenhouse gas emissions. The quantified costs include incremental technology costs to meet the more stringent standards, and incremental costs to Government associated with regulatory implementation. The retail prices for regulated energy-using products may increase if incremental technology costs are passed on to consumers. These costs will be more than recovered through energy savings. The analysis found payback ranges of less than eight years for all product categories, with nine product categories having paybacks of two years or less.

The Amendment is estimated to result in an annual reduction of 1.54 megatonnes (Mt) of greenhouse gas emissions in 2030. For industries using regulated energy-using products, improvements in energy efficiency translate into energy and operating cost savings, which in turn lead to increased productivity and competitiveness.

**“One-for-One” Rule and small business lens:** The Amendment is considered an “OUT” under the “One-for-One” Rule. While the Amendment will increase some administrative costs via the introduction of regulatory requirements for new product categories, these will be more than offset by the elimination of import reporting requirements for certain existing products. The Amendment will thus result in a net \$543,896 reduction in annualized average administrative costs to affected businesses.

The small business lens applies, given that the Amendment impacts small business importers of affected products. However, the impact on these small businesses is a net reduction in administrative costs resulting from the elimination of import reporting requirements.

**Domestic and international coordination and cooperation:** Implementation of the Amendment will reduce unnecessary regulatory differences between Canada and the United States, consistent with binational commitments made under the Canada–United States Regulatory Cooperation Council, and the commitments made by the Prime Minister of Canada and the President of the United States. It also supports the objectives of the *Memorandum of Understanding between the Treasury Board of Canada Secretariat and the United States Office of Information and Regulatory Affairs Regarding the Canada-United States Regulatory Cooperation Council* signed in June 2018. The Amendment seeks to foster alignment of federal regulations where feasible and appropriate. Domestically, the Amendment will reduce regulatory differences that exist between federal and provincial regulations.

## Background

In 1992, Parliament passed Canada's *Energy Efficiency Act* (the Act) and amended multiple times since then. The Act provides for the making and enforcement of regulations requiring energy-using products that are imported or shipped inter-provincially for the purpose of sale or lease to meet minimum energy performance standards (MEPS), [footnote 2](#) for product labelling, and for the promotion of energy efficiency and alternative energy use, including the collection of data and statistics on energy use.

The *Energy Efficiency Regulations* were introduced in 1995 as a means to reduce greenhouse gas (GHG) emissions in Canada. In 2016, the *Energy Efficiency Regulations* were repealed and replaced to remove references to obsolete and out-of-date standards and improve the organization of the regulatory text and became the *Energy Efficiency Regulations, 2016* (the Regulations). The Regulations prescribe MEPS for certain consumer and commercial energy-using products. They also prescribe labelling requirements for certain products to disclose and compare the energy use of a given product model relative to others in their category. They are regularly amended to introduce new energy-using products and to update existing requirements.

Since most energy-using products must cross provincial or international borders to reach their markets, federally prescribed MEPS are an effective tool to raise the level of energy efficiency in Canada. Prescribed MEPS are one component of Canada's program to reduce GHG emissions and energy consumption associated with energy-using products because they eliminate the least efficient product models from the market. Natural Resources Canada also administers the ENERGY STAR® labelling program, which sets voluntary specifications for 75 product categories that identify the top 15 to 30% of energy efficiency performers, making the choice of energy-efficient products simple for consumers and businesses.

When combined, MEPS and labelling programs drive product innovation by raising requirements for minimum energy performance to pull the market forward with labels to inform consumers of top performing products. Through cycles of continuous improvement, this approach eliminates the least efficient products while encouraging innovation as manufacturers produce products to achieve increasing ENERGY STAR levels, making affordable, higher efficiency products available to consumers and businesses. MEPS and labelling programs are among the most cost-effective GHG reduction policies and are the cornerstone of energy efficiency and climate change programs in more than 80 countries. [footnote 3](#)

## Policy context



Canada committed to reduce its GHG emissions by 30% below 2005 levels by signing the Paris Agreement in 2015. Building on this commitment, First Ministers agreed to take ambitious action in support of meeting or exceeding this target. They also agreed that a collaborative approach between provincial, territorial, and federal governments is important to reduce GHG emissions and to enable sustainable economic growth.

Since August 2014, Canada and the U.S. Department of Energy have worked toward a goal of aligning new and updated energy efficiency standards and test methods for common product categories. This is accomplished through enhanced information sharing and a cooperative development and implementation process, to the extent practicable and permitted by law within the context of the Canada–United States Regulatory Cooperation Council. [footnote 4](#)

In December 2016, First Ministers adopted the Pan-Canadian Framework for Clean Growth and Climate Change, which presents the country's plan to meet its emissions reduction targets, grow the economy, and build resilience to a changing climate. The plan outlines an approach for the building sector that consists of four elements: (1) making new buildings more energy efficient; (2) retrofitting existing buildings, as well as fuel switching; (3) supporting building codes and energy-efficient housing in Indigenous communities; and (4) improving energy efficiency for appliances and equipment.

In June 2018, the Generation Energy Council released a report that highlighted the important role that energy efficiency can play in reducing greenhouse gas emissions in Canada. According to this report, fully one third of Canada's emission reduction target could be met through improvements in energy efficiency, which would also make Canadian businesses more competitive internationally and leave more money in consumers' pockets. These conclusions are supported by an Efficiency Canada report on the economic impacts of energy efficiency, which showed that implementing strong energy efficiency programs will increase Canada's gross domestic product and job growth.

## Issues

GHG emissions are primary contributors to climate change, which has an impact on Canada's economy and environment. Carbon dioxide, a by-product of fossil fuel consumption, has been identified as the most significant GHG.

Canadian homes and commercial and institutional buildings (the building sector) are significant contributors to national GHG emissions. The building sector accounted for about 17% of national GHG emissions in 2014. The level of emissions in the building sector is impacted by the energy-using products it contains. Equipment that combusts fuel to generate heat leads to direct carbon dioxide emissions at the site, while equipment that consumes electricity contributes to GHG emissions at the point of generation.

GHG emissions from Canadian homes declined by 1 Mt between 2005 and 2015, and are projected to decline by a further 3 Mt between 2015 and 2030. This is despite an expected 36% increase (or 4.4 million) in the number of Canadian households (a key driver of residential emissions growth) between 2005 and 2030. GHG emissions from Canada's commercial buildings increased by 1 Mt between 2005 and 2015, and are expected to remain relatively constant through 2030, despite an expected 32% increase in floor space from 2005 to 2030. [footnote 5](#) While technologies exist in the Canadian market to provide incremental reductions in GHG emissions and energy consumption in the building sector, there are market barriers that lead to consumers making economic or environmental choices with respect to energy efficiency that are less than optimal. These include a lack of awareness and information available to consumers regarding energy-saving opportunities and actual energy use, a lack of capacity within organizations to understand and manage energy use, and split incentives (e.g. landlords may not purchase efficient equipment if tenants pay the energy bill).

In 2011, the Canada–United States Regulatory Cooperation Council stated that unnecessary regulatory differences and duplicative actions hinder cross-border trade and investment and ultimately impose a cost on citizens, businesses and economies. [footnote 6](#) Since 2011, the U.S. Department of Energy has implemented changes to its regulations across several product categories, by applying MEPS to new product categories, increasing the stringency of MEPS for some currently regulated product categories, and updating test procedures. These changes have not yet been made in Canada, which has resulted in an increasing number of unnecessary regulatory differences. In 2014, Natural Resources Canada and the U.S. Department of Energy established a goal of aligning new and updated energy efficiency standards and test methods under the Canada–United States Regulatory Cooperation Council.

Regulatory action is required to deliver these outcomes, given that voluntary measures will not be sufficient to phase out some low-efficiency product models from the Canadian market. It is also required to address unnecessary regulatory differences between Canada and the United States.

## Objectives

The goals of the Amendment are to

- reduce GHG emissions and energy consumption associated with 17 product categories;
- reduce load on the electricity system associated with the building sector;
- reduce energy costs incurred by consumers and businesses; and
- reduce unnecessary regulatory differences between Canadian and U.S. regulations across new and existing product categories to support cross-border trade.

The desired outcomes of the Amendment are as follows:

- GHG emissions are reduced, contributing to Canada's goal to reduce GHG emissions by at least 30% below 2005 levels by 2030;
- Electricity demand associated with space and water heating is reduced to contribute capacity to the electrification of other economic sectors;
- Consumers and businesses save money by purchasing higher efficiency product models that have lower costs over their lifetime;
- Businesses using regulated energy-using products experience cost savings that can lead to increased productivity and competitiveness; and
- Businesses benefit from common North American test procedures and MEPS for more product categories; therefore, obstacles to trade are reduced.

## Description

The Amendment (a) introduces MEPS, labelling and reporting requirements for six new product categories; (b) introduces more stringent MEPS for eleven currently regulated product categories; (c) makes minor changes to existing standards, test procedures or reporting requirements for currently regulated product categories; and (d) provides flexibility for testing requirements and removes import reporting requirements in limited instances where products are a component of another product. Some provisions offering flexibility to dealers, including related import reporting provisions, will come into force upon publication, while the balance of the Amendment will come into force six months after the date of publication in the *Canada Gazette*, Part II.

The MEPS established by the Amendment will apply to energy-using products that are manufactured after particular dates generally aligned with those of the United States. Only the products that have been manufactured after those dates and that are being imported into Canada or shipped between provinces after the coming-into-force date of the Amendment will be impacted.

### **(A) Introduce MEPS, labelling and reporting requirements for new product categories**

#### **Battery chargers**

Battery chargers are used to charge the batteries of end-use products such as power tools or cell phones. For battery chargers, not including uninterruptible power supplies manufactured on or after June 13, 2019, the Amendment will align Canada's MEPS and test procedures with those applied in the United States on June 13, 2018.

#### **Commercial pre-rinse spray valves**

Commercial pre-rinse spray valves are used in commercial applications to spray hot water on dishes, flatware, and other food service items for the purpose of removing food residue before cleaning them in a commercial dishwasher. Imposing a maximum flow rate would limit the quantity of hot water passing through the product, thereby lowering the energy used by the associated hot water heater.

- For products manufactured on or after June 27, 2016, and before January 28, 2019, the Amendment will align the Canada's MEPS and test procedures with those applied in the United States on those same dates.
- For products manufactured on or after January 28, 2019, the Amendment will align the Canada's MEPS and test procedures with those that will apply in the United States on that date.

#### **Metal halide lamp ballasts**

Metal halide lamp ballasts are used to start and maintain the flow of electricity to metal halide lamps that are commonly used for large area overhead lighting of commercial, industrial, and public spaces, such as parking lots, sports arenas, factories, and retail stores. For metal halide lamp ballasts manufactured on or after February 10, 2017 (December 31, 2017, for 347 volt capable ballasts), not including replacement metal halide lamp ballasts, the Amendment will align the MEPS and test procedures with those applied in the United States on February 10, 2017.

#### **Microwave ovens**

Microwave ovens are used in residential applications to cook or heat food by means of microwave energy. For products manufactured on or after March 31, 2019, the Amendment will align the MEPS and test procedures with those applied in the United States on June 17, 2016.

#### **Small electric motors**

Small electric motors are used in commercial and industrial applications to convert electrical power into mechanical power for equipment such as compressors and pumps. They can operate on single or polyphase power and range in size from 0.18 kW (0.25 horsepower) up to 2.2 kW (3 horsepower). For products manufactured on or after March 9, 2015, the Amendment will align MEPS and test procedures with those applied in the United States on that date.

#### **Walk-in coolers and walk-in freezers**

Walk-in coolers and walk-in freezers are enclosed storage spaces of less than 278.71 m<sup>2</sup> used primarily in the food service and food sales industry to temporarily store refrigerated or frozen food or other perishable goods. The Amendment applies to walk-in panels, walk-in door assemblies and walk-in refrigeration systems.

- For walk-in panels and walk-in door assemblies manufactured on or after June 5, 2017, the Amendment will align the Canada's MEPS, test procedures and labelling with those of the United States.
- For walk-in refrigeration systems (dedicated condensing) manufactured on or after January 1, 2020, the Amendment will align the MEPS and test procedures with those that will be applied in the United States on that same date.

### ***(B) Introduce more stringent MEPS for currently regulated product categories***

#### **Ceiling fan light kits**

Ceiling fan light kits add a lighting function to a ceiling fan. For products manufactured on or after January 7, 2019, the Amendment will introduce more stringent MEPS to reduce the maximum power for lighting from 190 W to 70 W. These standards are not completely aligned with those in the United States, which require that these products be packaged with lamps to fill all sockets. Therefore, the U.S. standards prescribe minimum lamp efficacy rather than a maximum wattage that will be required by the Amendment. The Act does not provide Natural Resources Canada with the authority to require that lamps be included with ceiling fans for sale in Canada, but the Amendment will provide an equivalent degree of energy efficiency to that provided by the U.S. requirements.

#### **Commercial refrigerators, refrigerator-freezers and freezers**

Commercial refrigerators, refrigerator-freezers and freezers that are self-contained are used by commercial establishments to keep food cold or frozen. They are commonly found in convenience stores, grocery stores and restaurants, as well as a number of other businesses that sell food, such as drug stores and gas stations. The Amendment will expand the scope to include commercial refrigerators, freezers and refrigerator-freezers with remote condensing units, as well as ice-cream freezers, and will require that these products comply with MEPS that are equivalent to those in the United States since 2012. These products are often used in supermarkets to store and display refrigerated or frozen food, beverages or perishable goods. In addition, more stringent MEPS will be applied to all products in the expanded scope (both self-contained and remote) manufactured on or after March 27, 2017, to align the Canada's MEPS and test procedures with those applied in United States on that date.

#### **Dehumidifiers**

Dehumidifiers are used in residential applications to remove moisture from the air. For products manufactured on or after June 13, 2019, the Amendment will align MEPS and test procedures with those that will apply in the United States on that same date. This will include expanding the scope to include whole-home dehumidifiers that are designed to be installed with a ducted system.

#### **Dry-type transformers**

Dry-type transformers are used in commercial applications such as office buildings or hotels to change voltage, either to step up or step down, depending on the end-use requirement. For products manufactured on or after January 1, 2016, the Amendment will align Canada's MEPS and test procedures with those applied in the United States on that same date.

#### **External power supplies**

External power supplies (EPS) are used to supply power to a variety of electronic products such as laptop computers, printers and cordless phones. An EPS converts one type of electrical power into another that is suitable for the end-use product. For products manufactured on or after July 1, 2017, the Amendment will align the MEPS and test procedures with those of the United States. The Amendment will align Canada's periods of manufacture with those in Ontario. [footnote 7](#) This will include dividing the currently regulated energy-using products into "direct" and "indirect" EPS. The Amendment will expand the scope of direct EPS to include products with output power greater than 250 W, that supply multiple voltages, and that provide power to the battery chargers of motorized applications and detachable battery packs. Only the MEPS for direct EPS will be made more stringent.

#### **Fluorescent lamp ballasts**

Fluorescent lamp ballasts start and maintain the flow of electricity to tube lights that are commonly used for overhead lighting in offices and commercial spaces. For products manufactured on or after November 14, 2014, the Amendment will expand the scope of the category to align Canada's requirements with the current U.S. requirements.

#### **Gas furnaces**

Gas furnaces are used in residential applications to provide heat and are installed as part of a home's central heating system. For products

manufactured on or after July 3, 2019, the Amendment will align Canada's MEPS and test procedures applicable to the electrical consumption of a furnace fan with those that will apply in the United States on that date. The Amendment will not change the current minimum annual fuel utilization efficiency of gas furnaces.

#### **Large air conditioners**

Large air conditioners are used in commercial and industrial applications to remove heat from buildings (ranging from 19 kW [65 000 Btu/h] to 223 kW [760 000 Btu/h]).

- For air-cooled large air conditioners manufactured on or after January 1, 2018, the Amendment will align Canada's MEPS and test procedures with the MEPS and test procedures for integrated energy efficiency ratio (IEER) [footnote 8](#) that applied in the United States in 2018, in addition to the currently required energy efficiency ratio (EER).
- For water-cooled and evaporative-cooled large air conditioners manufactured on or after January 1, 2018, the Amendment will align Canada's MEPS and test procedures with those applied in the United States since 2013 and 2014 respectively.

#### **Large heat pumps**

Large heat pumps are used in commercial and industrial applications to heat and cool buildings (ranging from 19 kW [65 000 Btu/h] to 223 kW [760 000 Btu/h]). For products manufactured on or after January 1, 2018, the Amendment will align Canada's MEPS and test procedures for integrated energy efficiency ratio (IEER) that applied in the United States in 2018, in addition to the currently required energy efficiency ratio (EER) and the heating coefficient of performance at both 8.3 °C and -8.3 °C to account for Canadian conditions.

#### **Packaged terminal air conditioners**

Packaged terminal air conditioners are used for cooling commercial and institutional buildings such as hotels and nursing homes, where each room needs its own climate control. For products manufactured on or after January 1, 2017, the Amendment will align Canada's MEPS and test procedures with those applied in the United States on that date.

#### **Oil-fired furnaces**

Oil-fired furnaces are used in residential applications to provide heat and are installed as part of a home's central heating system.

- For products manufactured on or after January 1, 2017, and before July 3, 2019, the Amendment will align Canada's MEPS and test procedures with those applied in the United States since January 1, 2009. This will include changing the energy efficiency standard metric from seasonal energy utilization efficiency to annual fuel utilization efficiency.
- For products manufactured on or after July 3, 2019, the Amendment will align Canada's MEPS and test procedures with those that will be applied in the United States for furnace fan energy consumption on that same date.

### ***(C) Make minor changes to the scope of standards, test procedures or reporting requirements***

Minor changes made to currently regulated product categories are described below.

#### **Household appliances**

The Amendment will add water consumption limits for dishwashers, clothes washers and the clothes washer function of integrated clothes washer-dryers to match the water consumption limits in the United States. Imposing a maximum flow rate will limit the quantity of hot water passing through the product, reducing the energy used by the associated hot water heater.

#### **Chillers**

Chillers are used in large commercial and institutional buildings to provide space cooling. The scope of the current Regulations includes chillers that do not have an integral refrigerant condenser. Because manufacturers do not know which condenser will be matched with their products at a future date, the Amendment will reduce the product scope by excluding chillers that do not have an integral refrigerant condenser.

#### **Electronics — Audio, video and televisions**

The Amendment will update the standby mode definition to clarify that network connected standby, if applicable, is excluded. Since the introduction of standby MEPS for compact audio products, audio-visual products and televisions, new technologies and new products have become available that provide connectivity to a network. Definitions have been clarified to ensure that power consumption while data is being exchanged (i.e. when connected to a network) is not covered by the Regulations.

#### **Gas-fired storage water heaters and oil-fired water heaters**

Gas-fired storage and oil-fired water heaters provide domestic hot water for use in cooking, cleaning, and bathing, using natural gas, propane or oil as the fuel source. For products manufactured on or after January 1, 2018, the Amendment will introduce a new test procedure that has been mandatory for all products in the United States since January 1, 2018, called the Uniform Energy Factor (UEF) test. In Canada, products may be tested using the existing energy factor (EF) test procedure or the new UEF test procedure to demonstrate compliance to the MEPS. The current EF MEPS levels have been mathematically translated to UEF MEPS in a manner consistent with existing U.S. calculations.

#### **General service incandescent reflector lamps**

The Amendment modifies the exclusions to Canada's scope to ensure alignment with that of the United States.

#### **Large condensing units**

Large condensing units are used for space cooling in commercial and industrial buildings. The current Regulations apply to large condensing units with a cooling capacity of at least 19 kW (65 000 Btu/h) but not more than 70 kW (240 000 Btu/h). Following a request by industry to maintain alignment with ASHRAE standard 90.1, the Amendment will limit the scope of large condensing units to those with a cooling capacity of at least 40 kW (135 000 Btu/h) but not more than 70 kW (240 000 Btu/h).

#### **Electric motors**

The Amendment will correct the definition of electric motors. The intent of the definition is that an electric motor must contain all of the characteristics listed in items (a) through (k) and not just a minimum of one.

#### **Traffic signal modules**

The Amendment will modify the definition of traffic signal module to reflect nominal dimensions in line with the Institute of Transportation Engineers' standard entitled *Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement* in order to align with those of the United States.

**Updated standards**

In addition, there are eight [footnote 9](#) product categories for which incorporated standards will be updated to refer to a newer version of those standards (Canadian Standards Association, American National Standards Institute or Illumination Engineering Society).

***(D) Provide flexibility for testing requirements and remove import reporting requirements for certain product categories*****Mathematical model**

Canada's energy efficiency compliance and enforcement regime relies on third-party verification to ensure that all energy-using products imported into Canada and shipped between provinces are compliant with the standards referenced in the Regulations. This approach requires that most prescribed products bear an energy efficiency verification mark issued by a certification body accredited by the Standards Council of Canada. This Amendment will allow certification bodies greater flexibility in determining compliance with energy efficiency standards and verifying information related to a product's energy performance by using mathematical models. This Amendment will allow certification bodies to align their programs with the U.S. regulatory alternative or alternate efficiency determination methods (AEDM) or other best practices. Certification bodies will continue to be responsible for the integrity of their verification mark and its use. This provision comes into force upon publication.

**Import reporting – Incorporated products**

The Amendment will provide a limited exception to import reporting for certain energy-using products that are incorporated in any other product. Natural Resources Canada has determined that import reporting is not the most effective monitoring option, and other means of monitoring compliance are available for these products. To that end, the Amendment will remove import reporting for external power supplies, motors and fluorescent lamp ballasts that are imported as a component of another product. Battery chargers and small electric motors are being added in this Amendment and will follow the same approach. Upon publication of the Amendment, Natural Resources Canada will coordinate with the Canada Border Services Agency to remove the harmonization system codes that have been flagged. This provision comes into force upon publication.

**Incorporation by reference – Repeal and revoke**

In the event that a jurisdiction repeals or revokes a standard or test procedure set out in its laws that is incorporated by reference in the Regulations, the Amendment will introduce a provision to ensure that the repealed standard or test procedure continues to apply for the purposes of the Regulations. This matches the approach taken by the Province of Ontario, [footnote 10](#) which has adopted a similar clause in its energy efficiency regulations.

**Regulatory and non-regulatory options considered*****Maintaining the status quo***

Maintaining the status quo would lead to fewer reductions in GHG emissions and energy consumption than taking regulatory action, and will not address the compliance costs associated with unnecessary regulatory differences between Canada and the United States.

Since 2010, the market share of product models that meet the more stringent MEPS in the Amendment has increased under the status quo. These changes in market share can be attributed to a combination of the regulated industry making changes to its product offerings in response to signals from Natural Resources Canada that regulatory changes could be made, and the regulated industry providing Canada with product models that would comply with more stringent U.S. MEPS. While the market share of more efficient products has increased, many products that do not meet the more stringent MEPS remain in the Canadian market. A regulatory approach will provide incremental benefits to the status quo approach, since it will ensure that all products imported or shipped interprovincially meet the more stringent MEPS.

The status quo option would also maintain an uneven playing field across regulated markets. Businesses that updated product offerings in preparation for regulatory changes have made investments that, in some cases, direct competitors did not. Further, as new regulations have come into effect in the United States, the number of unnecessary regulatory differences between the two countries has increased.

***Voluntary approach (repeal the Regulations)***

Under this approach, Canada would repeal the Regulations and rely on voluntary measures to reduce GHG emissions and energy consumption associated with energy-using products. This option would eliminate compliance costs associated with unnecessary regulatory differences; however, it will not address GHG emissions and energy consumption to the extent that a regulatory approach would. It will also be a significant departure from Canada's approach to advance energy efficiency and the intent of the Act.

A voluntary approach would result in fewer GHG emission reductions than remaining with the status quo or taking a regulatory approach. Studies have shown that in countries where MEPS have been introduced for the first time, significant energy efficiency improvements have been observed. For example, a 32% energy efficiency improvement was achieved in one year (1994–1995) when Mexico first implemented MEPS for four product categories. [footnote 11](#) Such improvements have translated into large reductions in energy consumption and GHG emissions. Globally, the most mature national MEPS and labelling programs covering a broad range of products are estimated to save between 10% and 25% of national energy consumption. [footnote 12](#) There is strong evidence to show that significant and sustained improvements in energy efficiency occur where MEPS are subject to ongoing revision and updating to keep pace with the rate of improvement in new product models entering a market. [footnote 13](#) Given the global evidence of the significant benefits of MEPS, a voluntary approach would mean that these benefits would not be realized.

Incremental compliance costs associated with unnecessary regulatory differences between Canada and the United States occur only in situations where both countries enforce mandatory requirements. There are product categories currently regulated in the United States that are not regulated in Canada. In these cases, the regulatory regimes are different in each country, but do not create a burden for industry, since no energy efficiency requirements need to be satisfied in Canada.

***Regulatory action***

Taking regulatory action to increase the stringency of MEPS for the 17 product categories affected by the Amendment will lead to incremental benefits beyond the status quo.

Regulatory action will reduce compliance costs associated with unnecessary regulatory differences, since it will align requirements for 17 product categories with those of the United States. As a result, it will reduce the burden for companies that offer the same products in the United States and Canada.

This option addresses costs associated with unnecessary regulatory differences; however, subsequent amendments will probably be required to maintain alignment where it makes sense. This option also provides the largest reductions in GHG emissions and energy consumption of the three options considered.

**Benefits and costs*****Summary***

Reduced energy consumption, lower GHG emissions and fewer unnecessary regulatory differences will result in significant net benefits over the lifetime of affected product models. The benefits vary by individual user depending on end-use sector, geographical location and operational

practices.

Annual reductions in energy consumption associated with the Amendment are estimated to be 3.76 petajoules (PJ) in 2020, and to reach 15.76 PJ in 2030 as the sale of more efficient equipment steadily replaces the pre-regulation stock.

Annual reductions in GHG emissions resulting from these reductions in energy consumption are estimated to be 0.36 Mt in 2020, and to reach 1.54 Mt in 2030. It is estimated that, by applying a social cost of carbon to these reductions, the cumulative present value of economic benefits associated with GHG emission reductions will be \$899 million by 2030. [footnote 14](#)

Canadian consumers will also realize economic co-benefits in the form of reduced energy costs due to the implementation of the Amendment. It is estimated that almost \$5 billion in cumulative present value energy savings will be realized by 2030.

The cumulative present value of incremental technology costs and costs to Government associated with the Amendment are estimated to be \$1.2 billion and \$0.1 million, respectively, by 2030.

The present value of net benefits of the Amendment is estimated to be \$4.55 billion by 2030, with total benefits exceeding total costs by a ratio of almost five to one. By 2030, the present value of benefits and costs from the Amendment is estimated to be \$5.75 billion and \$1.20 billion, respectively.

For all product categories affected by the Amendment, the analysis found that the reduction in energy costs over the lifetime of the product will be greater than any additional costs to manufacturers to bring non-compliant product models into compliance with the MEPS. The retail prices for some product models may increase if incremental technology costs are passed on to consumers. These costs will be more than recovered through energy savings during the life of the product. [footnote 15](#) The analysis found payback periods of fewer than eight years for all product categories, with nine product categories having payback period of two years or fewer.

Benefits and costs associated with the Amendment are presented in Table 1.

**Table 1: Summary of benefits and costs associated with the Amendment**

| Monetized benefits                              | Costs (as applicable)         | Quantified benefits |
|---|-------------------------------|---------------------|
| Energy (gas and electricity) savings            | Technology and installation   | Energy savings (PJ) |
| Avoided damages because of GHG reductions       | Compliance and administrative | GHG savings (Mt)    |
| Avoided costs associated with removal of burden | Government administration     |                     |

Interested parties seeking more details on this analysis can request a copy of the cost-benefit analysis document by contacting the individual named at the end of this document.

### **Methodology, assumptions and data**

Natural Resources Canada analyzed the economic gains to be made through the more stringent MEPS and the impact on Canadian society within a cost-benefit analysis framework. The costs and benefits associated with the Amendment were obtained by comparing the following scenarios:

- the business-as-usual case (i.e. excluding the Amendment); and
- the policy case (i.e. the business-as-usual case including the Amendment).

#### **Business-as-usual case**

The Canadian and U.S. markets for regulated product categories are highly integrated. When the same MEPS are implemented in both countries, it is generally assumed that the same product models will be available to Canadian and American consumers. Each country develops regulatory amendments independently and undertakes separate analyses of the potential economic impacts of any changes, even in cases where MEPS are aligned. For analyses conducted in support of previous amendments to the Regulations, it was assumed that incremental costs and benefits in Canada were fully the result of the Canadian amendments, with no spillover effects from the United States. This assumption is consistent with other recent federal regulations [footnote 16](#) and provides an assessment of the full economic impacts of regulatory changes affecting Canadians. Canada and the United States do not account for costs and benefits outside their borders as a result of their regulations. It is recognized that this assumption may underestimate or overestimate changes in the market that occur in one country in response to similar regulations being announced or implemented in the other. These changes in the market are difficult to estimate but were considered in a sensitivity analysis.

For the purpose of this analysis, the business-as-usual case was defined in terms of Canadian market conditions assessed in 2016. This base case also includes an estimate of costs, if any, associated with unnecessary regulatory differences.

#### **Policy case**

The policy case is defined as the application of the more stringent MEPS across 17 product categories relative to markets defined by studies completed in 2016. The policy case for product categories for which U.S. regulations are already in effect includes the benefits, if any, associated with the reduced compliance costs resulting from the removal of unnecessary regulatory differences.

#### **Benchmarks**

For all product categories, benchmarks are chosen to represent the product models that do not meet the more stringent MEPS. Within those benchmarks, two efficiency levels are considered: (1) the least efficient; and (2) the efficiency of the average unit impacted. Where relevant, regional sensitivities were evaluated (e.g. a heat pump would save more energy per year in a colder location).

#### **Social cost of carbon**

The social cost of carbon was used to quantify the economic benefits of reducing GHG emissions. It represents an estimate of the economic value of avoided climate change damages at the global level for current and future generations as a result of reducing GHG emissions. The estimated values of the social cost of carbon used in this assessment draw on ongoing work undertaken by Environment and Climate Change Canada [footnote 17](#) in collaboration with a federal interdepartmental working group and in consultation with a number of external academic experts. This work involves reviewing existing literature and other countries' approaches to valuing GHG emissions. Preliminary recommendations, based on current literature and in line with the approach adopted by the U.S. Interagency Working Group on the Social Cost of Carbon, [footnote 18](#) are that it is reasonable to estimate social cost of carbon values at \$37.4/tonne of carbon dioxide equivalent in 2013 (in 2012\$), increasing each year with the expected growth in damages.

#### **Methodology to estimate costs**

The additional or "incremental" costs associated with the Amendment were determined as the difference between the cost of the inefficient product model, represented by the selected benchmark, and the cost of a modified version of that product model that would meet the more stringent MEPS. For each product category, the potential cost of modifying the benchmark product model so that it meets the more stringent MEPS was estimated (e.g. cost of adding extra insulation to a water heater; cost of replacing an inefficient compressor in an air conditioner). These costs were then multiplied by the number of shipments of the product models in the business-as-usual case that were estimated to have an energy performance that is worse than what is required by the MEPS. Results were combined across all affected product categories to arrive at the estimate of total costs.

Additional incremental costs related to installation and maintenance costs or to the lifetime of the product were also evaluated, as applicable. Total costs reported as being attributable to the Amendment include manufacturing, compliance and administrative costs as well as those incurred by Government to implement the changes.

### Methodology to estimate benefits

Energy savings for each product category were estimated by calculating the energy used by the selected benchmark product model, by simulating how it would be normally used in a year (e.g. number of operating days). The result is compared to the energy used by the modified version of that product model that would meet the more stringent MEPS. The difference was multiplied by the number of shipments of the product models in the business-as-usual case that were estimated to have an energy performance that is worse than what is required by the MEPS and the number of years the product is expected to last, in order to arrive at the total energy savings. Results were summed across all affected product categories to arrive at the estimate of total energy saved. This was then monetized by multiplying the results by the cost of energy per unit of energy saved (i.e. dollars per kilowatt-hour).

The reductions in GHG emissions were calculated by applying fuel-specific emissions factors, consistent with those published by Environment and Climate Change Canada, to the resulting energy savings. To remain consistent with the U.S. methodology and produce more realistic GHG savings, the reductions attributable to diminished electricity consumption were calculated by applying the emission factors associated with the marginal fuels [footnote 19](#) used to generate the electricity that will be saved through implementation of the Amendment. To allow comparison with outcomes reported under the Pan-Canadian Framework on Clean Growth and Climate Change, the reductions in GHG emissions were also calculated by applying an average emission factor. Annual reductions in GHG emissions with the average emission factor are estimated to be 0.11 Mt in 2020, increasing to 0.45 Mt in 2030 for a cumulative reduction of 3.46 Mt by 2030. GHG emissions were monetized and incorporated into the analysis using a social cost of carbon, as calculated by Environment and Climate Change Canada.

### Assumptions

Key assumptions include the following:

- Business-as-usual case reflects Canadian market conditions in 2016;
- Benefits and costs are measured in real constant 2015 dollars;
- A 3% real discount rate; [footnote 20](#)
- Canadian average energy prices, based on data from the reference case of the National Energy Board *Canada's Energy Future 2016: Energy Supply and Demand Projections to 2040*;
- Valuation of the GHG emissions incorporated into the analysis is based on the social cost of carbon as calculated by Environment and Climate Change Canada;
- Incremental costs for more efficient technology are assumed to be passed on to consumers or end-users; and
- Incremental costs associated with more efficient technology were estimated in 2016 and are assumed to be constant, despite evidence [footnote 21](#) that such costs come down with time, owing to improvements in manufacturing processes and economies of scale, as higher volumes of product models with new technology enter the market. This assumption could lead to overestimates of manufacturing costs; however, it provides a conservative assessment of overall net benefits.

### Data collection and sources

Data is collected on a product-by-product basis, through market studies. It provides key inputs to the analysis such as market size; the portion of the market that does not meet the more stringent MEPS; the benchmarks that best represent that portion of the market; energy savings from the business-as-usual case to the policy case; costs of moving from the business-as-usual case to the policy case; product lifetime; and installation costs.

### Results

The methodology described above was applied to all product categories to develop an estimate of the benefits and costs attributable to the Amendment. The results vary by product category depending on the magnitude of the increase in stringency of the MEPS and the estimated portion of the market that will be impacted by the Amendment. The estimated benefits and costs for each product category are presented in Table 2. These results were then aggregated to present the overall impacts of the Amendment in Table 3.

**Table 2: Benefits and costs per product category**

| Product category           | Cumulative total for product shipped by 2030 (millions of dollars) |  |                      |
|----------------------------|--|--|----------------------|
|                            | Product costs <a href="#">table 1 note *</a>                       | Product benefits <a href="#">table 1 note **</a> | Product net benefits |
| Battery chargers           | \$21   | \$88   | \$66                 |
| Ceiling fan light kits     | \$-0.3   | \$64   | \$64                 |
| Commercial refrigeration   | Remote \$72  | \$251  | \$178                |
|                            | Self-contained \$101   | \$1,188  | \$1,087              |
| Dehumidifiers              | \$12   | \$30   | \$18                 |
| Dry-type transformers      | \$13   | \$45   | \$33                 |
| External power supplies    | \$97   | \$187  | \$89                 |
| Fluorescent lamp ballasts  | \$8  | \$180  | \$172                |
| Gas furnaces               | \$246  | \$765  | \$519                |
| Large air conditioners     | \$127  | \$405  | \$278                |
| Large heat pumps           | \$6  | \$19   | \$13                 |
| Metal halide lamp ballasts | \$3  | \$11   | \$8                  |
| Oil-fired furnaces         | \$0  | \$1  | \$1                  |
| Small electric motors      | \$250  | \$712  | \$461                |
| Pre-rinse spray valves     | Tier I \$0   | \$212  | \$212                |
|                            | Tier II \$0  | \$77   | \$77                 |

#### Table 1 Notes

Table 1 Note \*

Costs for technology and installation.

[Return to table 1 note \\* referrer](#)

Table 1 Note \*\*

Benefits from energy savings and GHG emission reductions.

[Return to table 1 note \\*\\* referrer](#)

|  |         |                |                |                |
|--|---------|----------------|----------------|----------------|
| Walk-in coolers/freezers               | Doors   | \$150          | \$320          | \$169          |
|  | Systems | \$95           | \$1,194        | \$1,099        |
| <b>Total of all product categories</b> |         | <b>\$1,202</b> | <b>\$5,747</b> | <b>\$4,545</b> |

**Table 1 Notes**

Table 1 Note \*

Costs for technology and installation.

[Return to table 1 note \\* referrer](#)

Table 1 Note \*\*

Benefits from energy savings and GHG emission reductions.

[Return to table 1 note \\*\\* referrer](#)

Note: Numbers may not add up to totals due to rounding.

**Table 3: Summary of benefits and costs to Canadians**

| Costs, benefits and distribution                              |   |            | Aggregate annual totals |              | Total cumulative present value | Average annualized over period to 2030 |
|---|---|------------|-------------------------|--------------|--------------------------------|--|
|   |   |            | 2020                    | 2030         | By 2030                        |  |
| <b>A. Quantified impacts (\$) [millions in 2015 prices]</b>   |   |            |                         |              |                                |  |
| <b>Benefits</b>   | Energy (gas and electricity) savings                                      | Canadians  | \$511                   | \$517        | \$4,849                        | \$610                                  |
|   | Avoided damages because of GHG reductions                                 | Canadians  | \$90                    | \$102        | \$899                          | \$113                                  |
|   | Avoided costs associated with removal of burden for incorporated products | Canadians  | \$0.6                   | \$0.6        | \$6.6                          | \$0.8                                  |
|   | <b>Total benefits</b>   |            | <b>\$602</b>            | <b>\$620</b> | <b>\$5,754</b>                 | <b>\$724</b>                           |
| <b>Costs</b>  | Technology and installation costs   | Canadians  | \$128                   | \$126        | \$1,202                        | \$151                                  |
|   | Compliance and administrative costs                                       | Canadians  | \$0.1                   | \$0.1        | \$1                            | \$0.1                                  |
|   | Government administration   | Government | \$0.1                   | \$0          | \$0.1                          | \$0.01                                 |
|   | <b>Total costs</b>  |            | <b>\$129</b>            | <b>\$126</b> | <b>\$1,203</b>                 | <b>\$152</b>                           |
|   | <b>Net benefits</b>   |            |                         |              |                                | <b>\$4,550</b>                         |
| <b>B. Quantified impacts (in non-<math>\text{\\$}</math>)</b> |   |            |                         |              |                                |  |
| Positive impacts on Canadians                                 | Energy savings (petajoules)   |            | 3.76                    | 15.76        | 121.23                         | —                                      |
|   | GHG emission reductions (megatonnes)                                      |            | 0.36                    | 1.54         | 11.78                          | —                                      |

Note: Numbers may not add up to totals due to rounding.

**Sensitivity analysis**

As discussed above, the analysis assumed that incremental costs and benefits in Canada were fully the result of the Canadian amendments with no spillover effects from the United States. It is recognized that this assumption could underestimate or overestimate changes in the market that might occur in one country in response to similar regulations being announced or implemented in the other. To assess the sensitivity of the total results of this assumption, the number of product models in the Canadian market that will be impacted by the Amendment was reduced by 25% and 50% for the 11 MEPS [footnote 22](#) that, at the point of this analysis, are not yet in force in either Canada or the United States. The results show the level to which the total costs could be overestimated due to this analytical assumption.

Table 4 shows how the costs and benefits change under each of these scenarios. Even if only 50% of the product models are impacted by the Amendment, the total benefit to total cost ratio remains close to four to one (total benefits: \$3,435; total costs: \$785). The sensitivity analysis was not applied to the other MEPS since they are already in effect in the United States. In those cases, the business-as-usual case represents the Canadian market after it has been influenced by U.S. regulations.

**Table 4: Business-as-usual case sensitivity analysis**

| Reduction in the number of product models impacted by the Amendment | Costs (millions) |       |       | Benefits (millions) |         |         | Net benefits (millions) |         |         |
|---|------------------|-------|-------|---------------------|---------|---------|-------------------------|---------|---------|
|   | 0%               | 25%   | 50%   | 0%                  | 25%     | 50%     | 0%                      | 25%     | 50%     |
| <b>Total of product categories subject to sensitivity analysis</b>  | \$833            | \$626 | \$417 | \$4,623             | \$3,468 | \$2,312 | \$3,789                 | \$2,842 | \$1,895 |
| <b>Total of all product categories</b>                              | \$1,202          | \$994 | \$785 | \$5,747             | \$4,591 | \$3,435 | \$4,545                 | \$3,597 | \$2,650 |

Note: Figures may not add up to totals due to rounding.

**Additional benefits and costs**

For industries using affected energy-using products in their operations, an improvement in energy performance translates into energy and operating cost savings, increased productivity and competitiveness and improved environmental performance. When such companies spend these energy savings on expanding their businesses or factories, they create greater demand. This generates additional economic growth and creates more jobs throughout the economy. [footnote 23](#) Reduced electricity consumption from regulated energy-using products also benefits the utilities by reducing peak loads and the need to add more generating capacity.

The analysis has quantified costs and benefits for each product category relative to a business-as-usual case defined by market conditions assessed in 2016. In the case of three product categories (microwave ovens, packaged terminal air conditioners and heat pumps), the assessment showed that all product models being imported into Canada or shipped from provinces comply with the more stringent MEPS. While the analysis does not attribute any costs or benefits to the implementation of the MEPS for these three product categories, this Amendment will prevent future dumping of low-efficiency product models into the Canadian market.

Another benefit of the Amendment is related to the verified energy efficiency performance data of energy-using products that is collected by Natural Resources Canada through its compliance program. The data for new energy-using products will be posted to the Natural Resources Canada website [footnote 24](#) and provide readily accessible information to consumers or businesses. Consumers benefit from this information since it provides them with detailed information to make informed purchase decisions. Utilities and retailers also benefit from this information, since it supports

programming to promote the sale of highefficiency products.

### “One-for-One” Rule

It is estimated that this Amendment will generate an increase in administrative burden of \$96,280 created by the introduction of regulatory requirements for new product categories. Dealers of these new products will be required to learn about the requirements of the Regulations and submit information before and at the time of importation in accordance with subsection 5(1) of the Act.

This Amendment is proposing to reduce administrative burden by approximately \$640,000 by removing the requirement for reporting information at the time of importation for three existing energy-using products (electric motors, fluorescent lamp ballasts and external power supplies) when they are incorporated into any other product. This modification will not affect dealers’ obligation to comply with all other regulatory requirements of the Regulations.

The Amendment is therefore overall considered an “OUT” under the “One-for-One” Rule because it will decrease the administrative burden and result in net annualized savings of \$543,896.

### Assumptions underlying administrative burden estimates

#### Familiarization with the Amendment

Familiarization with new information obligations is a one-time internal administrative function for manufacturers of new energy-using products. The task involves reviewing the new requirements of the Regulations and the energy efficiency reporting form which Natural Resources Canada provides each stakeholder. This one-time event is estimated to take two hours and to be undertaken by someone with a technical background with a wage rate of approximately \$42. The number of stakeholders impacted is estimated at 665, which represents the total number of manufacturers identified using the 34 ten-digit harmonized system codes identified for affected products.

#### Submitting information

The Amendment would introduce new import reporting requirements for certain new energy-using products. Importers of these new products will carry an incremental ongoing administrative burden, as they will be required to enter two data elements (brand name and model number) into the Canada Border Services Agency customs documentation. To estimate the frequency and time associated with this administrative action, Natural Resources Canada analyzed Canada Border Services Agency import data from four recent years (2012–2015). Based on this analysis, it is estimated that 22 189 businesses will be affected by this incremental activity, which will take 0.02 hours per event, and occur 11 times per year. It is assumed that clerical staff with a wage rate of approximately \$30 will undertake this task.

The Amendment would also reduce import reporting requirements for certain energy-using products. Importers of these specific products will benefit from a reduction in ongoing administrative burden, as they will no longer be required to enter two data elements (brand name and model number) into the Canada Border Services Agency customs documentation. It is estimated that 37 795 stakeholders will save 0.02 hours per event, occurring 43 times per year. It is assumed that clerical staff with a wage rate of approximately \$30 would have been undertaking this task.

#### Consultations

No comments were received from stakeholders on the impacts of the Amendment on administrative burden. In general, stakeholders were supportive of the approach to achieve alignment with U.S. regulations across these product categories, which includes the alignment of reporting requirements.

#### Small business lens

While the small business lens does apply, the overall impact of the Amendment will be positive (estimated cost savings of \$544,000) due to the elimination of import reporting for some energy-using products that are incorporated in any other end-use product. The benefits from the reduction in reporting requirements apply to all businesses (37 795), especially small ones (26 456).

Natural Resources Canada consulted with the Canadian Federation of Independent Business to confirm the number of small businesses potentially affected by this proposal. The Canadian Federation of Independent Business was unable to provide an exact count; however, it did provide very useful data to assist in the development of the burden calculation methodology. While the impacts of the Amendment are estimated to result in a new reduction in administrative costs, the Canadian Federation of Independent Business also highlighted that the main challenge for small businesses results from a lack of awareness of new requirements and when they come into effect. Natural Resources Canada will undertake supplemental outreach activities specific to the Amendment, to educate importers and mitigate the risk that goods are refused entry into Canada due to the unintentional omission of data.

#### Consultation

Natural Resources Canada has ongoing activities that provide numerous opportunities to gather feedback from stakeholders and to inform them:

- *Energy Efficiency Regulations* web page of the Natural Resources Canada website at <http://www.nrcan.gc.ca/energy/regulations-codes-standards/6845>.
- *Ongoing bilateral discussions.* Natural Resources Canada is in close contact with the industry through major industry associations to discuss changes and updates to the products.
- *National Standards System.* The relevant Canadian Standards Association steering committees, technical committees and technical subcommittees, comprising stakeholders (including manufacturers, industry associations and other interested groups), provided input, and reviewed and voted upon changes to the test standards.
- *Market studies* to support decision making were conducted by third-party consultants who worked with manufacturers and industry associations to gather information.
- Stakeholders also receive information via targeted emails to key market channels. Many of these individuals and organizations in turn forwarded the information to provide access to a larger audience of stakeholders.

#### Consultation chronology

Stakeholders <sup>footnote 25</sup> were informed of the changes being considered in the Amendment and were provided opportunities to comment at several points since 2016, including the Forward Regulatory Plan, publication of a notice of intent in the *Canada Gazette*, Part I, detailed technical bulletins and webinars. These consultations evolved with time, and the content of the Amendment was modified accordingly prior to its publication in the *Canada Gazette*, Part I.

The Amendment was prepublished in the *Canada Gazette*, Part I, on March 31, 2018. The following outlines the key consultation activities that Natural Resources Canada undertook during the 75-day comment period:

- **April 2018:** An announcement was released to over 6 800 stakeholders inviting comments on the proposed regulatory text during the 75-day comment period.
- **April 2018:** A technical bulletin providing notice of an alternative energy efficiency verification scheme for battery chargers that was developed in consultation with certification bodies was posted to the website and distributed to interested stakeholders.
- **April 2018:** A webinar was hosted for Canadian lighting industry stakeholders including two industry associations. Approximately 40 stakeholders participated in discussions which included this Amendment.
- **April, May, July 2018:** Two conference calls and a bilateral meeting on battery chargers took place with two industry associations and their



members. Approximately 50 stakeholders participated in discussions which included verification requirements and cost-benefit analysis methodology.

- **May 2018:** A webinar was hosted for the water heating industry attended by an industry association and two manufacturers to discuss the addition of the UEF test method to rate gas and oil-fired storage water heaters.
- **July 2018:** A webinar was hosted to discuss comments received on dry-type transformers with an industry association and their members. More than 20 stakeholders participated in discussions.

### **Canada Gazette, Part I, consultation — 75-day comment period**

Natural Resources Canada received written submissions from 34 organizations during the 75-day period from March 31, 2018, through to June 14, 2018, from stakeholders, representing industry/retail associations, manufacturers/suppliers, certification bodies, standards development committees, utilities, general interest organizations and governments. Most of the submissions required only clarifications related to the period of manufacture, test procedures, verification for new energy-using products and import reporting. In total 20 stakeholders (10 industry associations, a standards development committee and 9 manufacturers) expressed a mix of support and/or concerns about the regulatory text and its implications for specific products or issues. A general interest group provided a letter of general support for the Amendment. Six industry associations expressed their support for the Amendment and in particular with Canada's alignment with energy efficiency standards in the United States.

The following paragraphs summarize the major comments and topics of clarification raised by stakeholders during the comment period and Natural Resources Canada's views on each of them. No major comments were received for the following products with first time or more stringent MEPS: commercial pre-rinse spray valves, fluorescent lamp ballasts, packaged terminal air conditioners, oil-fired furnaces, small electric motors or components of walk-in coolers and walk-in freezers.

#### **General comments**

##### **Coming into force upon publication — water heaters, import reporting for incorporated products and mathematical model**

Natural Resources Canada received support from three industry associations for removing the six-month coming-into-force date for water heater provisions, which would allow manufacturers more flexibility in bringing new models into Canada. Natural Resources Canada agrees and has changed the coming-into-force date to the date of publication in the *Canada Gazette*, Part II, for the sections related to water heaters. Natural Resources Canada also determined that two other provisions would benefit from coming into force earlier where flexibilities are being introduced to benefit the industry and a six-month period is not required by dealers to adapt to new requirements. These provisions related to the option to use a mathematical model as an alternative to testing with the identified standard for the provision of information in respect of energy efficiency and to the removal of import reporting for five product categories when they are incorporated into any other product. The provision for removal of import reporting is in force upon publication and although Canada Border Services Agency requires an 8- to 12-week implementation period to update their systems and inform affected stakeholders, importers are not required to provide Natural Resources Canada's other government department information for the affected Harmonized System codes.

##### **Period of manufacture — aligned with the United States**

Natural Resources Canada's general policy is to align Canada's periods of manufacture with U.S. dates even if those dates are in the past (see previous "Description" section). Three industry associations and a manufacturer raised concerns that this policy might cause confusion and recommended changes. Natural Resources Canada continues to support this policy in general, but will consider different periods of manufacture, specific to the Canadian market, on a case-by-case basis as discussed below for external power supplies and microwave ovens. After the Amendment is published, dealers will have six months before it comes into force (in accordance with World Trade Organization/Technical Barriers to Trade commitments) to ensure that energy-using products that are imported or shipped between provinces comply with the Regulations.

##### **Energy Efficiency Act — implementing new authority**

Five industry associations submitted a joint letter requesting that Natural Resources Canada, under the amended Act, [footnote 26](#) exercise the new ministerial regulating powers in order to more effectively maintain alignment with other jurisdictions. Natural Resources Canada agrees that aligning standards is a priority to meet commitments under the Canada–United States Regulatory Cooperation Council and federal-provincial-territorial collaboration under the Energy and Mines Ministers' Conference. However, in keeping with good regulatory practice, a broad stakeholder consultation must be conducted to understand when and how to use this new authority effectively. The outcomes of this consultation would be considered in future amendments to the Regulations.

##### **Import reporting — incorporated products**

An industry association supported the exception to import reporting for incorporated products and, along with a manufacturer, a government department and another industry association, requested clarification on the scope and implementation of the exception. Natural Resources Canada clarified that the exception is only from import reporting and then only if at the time of importation, external power supplies, battery chargers, electric motors, small electric motors, or fluorescent lamp ballasts are incorporated into or packaged for sale with their end-use product (not just with other energy-using products).

##### **Verification — costs and alternative scheme for battery chargers**

A number of stakeholders including three industry associations inquired or raised concerns over verification and its associated costs.

Canada's compliance approach differs from that taken in the United States, which allows manufacturers to directly submit test results along with a statement that attests that the product model is in compliance with all requirements.

Natural Resources Canada intends to continue to require a verification mark issued by a certification body accredited by the Standards Council of Canada, as the means of assessing compliance with the Regulations because it provides a level of independence, transparency and credibility to the regulatory program. By requiring verification, manufacturers are assured of a level playing field upfront, in that all products are treated with the same level of scrutiny and are assessed the same way. Natural Resources Canada does not assess costs of verification since these vary by product, dealer and certification body.

While Natural Resources Canada maintains that verification is key to the integrity of its compliance regime, it also recognizes the need to make the process as efficient as possible for certain products, specifically low-cost/high-volume/high-turnover products, such as battery chargers. To this end, Natural Resources Canada worked closely with certification bodies and the Standards Council of Canada to make an alternate energy efficiency verification scheme available to certification bodies for the verification of battery chargers. This scheme is both cost-effective and supports the integrity of Natural Resources Canada's energy efficiency compliance system.

#### **Product-specific comments**

##### **Battery chargers**

- Requests for replacement, service or spare parts to be excluded from the definition of a battery charger were received from two industry associations. Natural Resources Canada will continue to align with the United States definition, and therefore there is no change.
- An industry association and a manufacturer requested clarification as to whether inductive wireless battery chargers in a wet environment were included in the definition. Natural Resources Canada agrees with the comments and has made changes to indicate that inductive wireless battery chargers in a wet environment are included in the scope of battery chargers. This aligns with the United States.
- One industry association claimed that the data in the battery charger cost-benefit analysis is out-of-date and not representative of today's

market. Natural Resources Canada disagrees as the cost-benefit analysis is based on a 2016 market study that used U.S. Department of Energy market data. This information is the most robust and accurate possible, given that battery charger regulations have only recently come into effect (June 13, 2018). The regulatory landscape has not changed since 2016.

#### Ceiling fan light kits

- Natural Resources Canada received conflicting comments on the period of manufacture for the application of the revised standard. One manufacturer and a retail industry association commented that they would prefer that Canada's periods of manufacture for ceiling fan light kits align with the U.S. date of January 21, 2020. [footnote 27](#) Another manufacturer and a lighting industry association, representing a broad base of manufacturers, supported Canada's proposed period of manufacture of January 7, 2019. Natural Resources Canada agrees with maintaining the proposed date given that the revised standard provides dealers with increased flexibility with regards to compliance.

#### Commercial refrigerators, refrigerator-freezers and freezers

- One manufacturer commented that the Canadian Standards Association (CSA) test procedure referenced in the Regulations has some minor irregularities and that it does not align fully with a test procedure clarification for how to determine total display area, published by the U.S. Department of Energy. Natural Resources Canada agrees and is working with the national standards system to issue an amendment to the test procedure to reflect the clarification, before it comes into force.

#### Dehumidifiers

- One industry association requested delaying the period of manufacture to align with purchasing cycles. Since the proposed period of manufacture is aligned with the United States and not until June 13, 2019, this was deemed as providing sufficient time to comply and no change was made.

#### Dry-type transformers

- Two industry associations supported Canada's intent to align regulations with the provinces and the United States, and one also requested that Natural Resources Canada not delay in publishing the Amendment.
- One manufacturer requested an exclusion for transformers having a low voltage winding with a basic impulse insulation level greater than 30 kV. Although these products have been included in the scope of the Regulations since they were introduced in 2006, they have been excluded from the test standard CSA C802.2. This has caused some confusion and, with the introduction of higher MEPS, some concern for the industry for a very small subset of this product category. Natural Resources Canada will not make changes at this time as there is not enough information available to assess the implications of this suggested change nor the risks of misalignment with provinces and the United States. However, Natural Resources Canada acknowledges the concern and will investigate further with the intent to make changes as appropriate in a future amendment.
- The Canadian standards development committee (representing a number of stakeholders) requested that transformers with two or more independent windings for more than one independent output voltage be excluded from the Regulations since the testing standard is unclear as to how they are to be tested and which MEPS apply. Natural Resources Canada is not providing an exemption for transformers with multiple output windings at this time but may re-examine the test method in a future Amendment. Natural Resources Canada hereby clarifies that units should be tested and meet the MEPS in the configuration that results in the highest losses. This clarification is aligned with the energy efficiency regulations of the provinces and the United States. Natural Resources Canada also clarifies that the Regulations are intended to cover products used for mains power transformation and does not intend to cover windings used to power small auxiliary devices.

#### External power supplies

- Two industry associations requested that external power supply drivers for solid-state lighting and ceiling fan motors be excluded from the Regulations. On January 12, 2018, the United States approved a bill [footnote 28](#) that modifies the definition of external power supplies to exclude a power supply circuit, driver, or device that is designed to exclusively power solid-state lighting or a ceiling fan that uses a direct current motor. Natural Resources Canada agrees and has amended the definition to maintain alignment with the United States.
- One industry association recommended delaying the period of manufacture of February 10, 2016, to 2019. One industry association recommended aligning the period of manufacture with Ontario. Natural Resources has changed the date from February 10, 2016, to July 1, 2017, to align with Ontario. [footnote 29](#)

#### Gas furnaces

- One manufacturer suggested that because Canada already has more stringent standards for the fuel efficiency of gas furnaces than the United States that aligning with the U.S. MEPS for the fan energy rating (FER) will again significantly increase consumer costs and further limit choice in the Canadian market, resulting in potential fuel switching or consumers choosing lower fuel efficient models. Natural Resources Canada disagrees that consumers will fuel switch or make different purchasing decisions due to the incremental cost of a more efficient fan motor and has not made changes to the Amendment.

#### Gas-fired storage water heaters

- Stakeholders support the Amendment to allow testing and reporting of water heaters to the new UEF rating metric (see previous "Coming into force upon publication — water heaters, import reporting for incorporated products and mathematical model" section). Three industry associations and two manufacturers requested support from Natural Resources Canada to educate consumers on the new rating metric. Natural Resources Canada agrees that it has a role to play in consumer awareness and will work with the industry.
- Three industry associations and one manufacturer requested clarification regarding the use of measured and nominal volume in the Amendment and recommended following U.S. tolerance limits for measured volume. Natural Resources Canada agrees and will provide guidance on this matter in the Guide to the Regulations.
- Three industry associations raised concerns regarding how the metric conversions were calculated for volume correction in the MEPS equations. Natural Resources Canada reviewed the conversions and adjusted the MEPS equations to make them equivalent to U.S. imperial measurements.
- Three industry associations and one manufacturer raised concerns about the accuracy of the UEF MEPS equation for models with volumes greater than 208 L (55 US gallons). The industry is concerned that the testing completed by Natural Resources Canada might not be sufficient to be statistically valid. Natural Resources Canada is confident that the UEF MEPS equation is valid. Additionally, dealers can continue to report EF ratings for these models.
- Three industry associations and one manufacturer recommended that the Amendment allow EF ratings to continue only for existing models, and that all new models entering the market be required to rate with UEF. The Amendment provides flexibility to report either UEF or EF. Natural Resources Canada expects that new models entering the market will be predominantly rated using the UEF metric and as such disagrees that there is a need to limit the flexibility provided in the Amendment.

#### Large air conditioners and heat pumps

- Two industry associations and one manufacturer sought to remove the EER metric and retain only the IEER metric to align with the United States. Natural Resources Canada does not agree to remove the EER metric given that it is used by the industry to better understand peak load requirements, is already reported to Natural Resources Canada and does not add incremental testing requirements since it is measured as part of the IEER metric.
- Two industry associations recommended that water-cooled products over 70 kW and evaporative-cooled products be eliminated from the scope of the Regulations because they are not currently covered under the scope of their certification program. Natural Resources Canada disagrees with this recommendation and will continue to align the Canadian scope with that of the United States.

- Two industry associations and one manufacturer recommended that in order to align with U.S. requirements, Natural Resources Canada only specify coefficient of performance (COP) values at 8.3 °C for large heat pumps, rather than at both 8.3 °C and –8.3 °C, as is currently required in Canada. Natural Resources Canada does not agree to remove the –8.3 °C COP metric, given that it is used by the industry for the sizing and the selection of heat pumps in Canada and is already reported to Natural Resources Canada.
- Two industry associations requested that Natural Resources Canada suspend any labelling requirements for dedicated outdoor air systems. Natural Resources Canada issued a letter of clarification in January 2018 where they clarified the regulatory requirements for make-up air-conditioners and direct expansion dedicated outdoor air systems.

#### **Metal halide lamp ballasts**

- One industry association and one manufacturer requested an extension to the period of manufacture for all metal halide lamp ballasts capable of operating at 347 V. Natural Resources Canada agrees and has changed the period of manufacture for metal halide lamp ballasts capable of operating at 347 V from February 10, 2017, to December 31, 2019, to allow manufacturers time to adapt their production for ballasts using this unique Canadian voltage.
- One industry association requested that replacement metal halide lamp ballasts, which are not subject to MEPS, not be subject to reporting requirements to align with the United States. Natural Resources Canada agrees and has made modifications to the regulatory text to exclude replacement metal halide lamp ballasts from the energy-using product definition, but will continue to monitor the market for replacement metal halide lamp ballasts.

#### **Microwave ovens**

- One industry association put forward a request to change the period of manufacture. Natural Resources Canada agrees and has changed the date from June 17, 2016, to March 31, 2019.

### **Regulatory cooperation**

The Amendment has resulted from significant cooperation — both with the United States and domestically — to contribute to the achievement of domestic goals for the reduction of GHG emissions and energy consumption.

In August 2014, Natural Resources Canada and the U.S. Department of Energy established a goal of aligning new and updated energy efficiency standards and test methods for energy-using equipment through enhanced information sharing and cooperative development and implementation, to the extent practicable and permitted by law. This included a commitment to annually share work plans for test procedures and standards; develop guidelines for frequency of interaction and information sharing (e.g. test data, market analyses); mutually participate in the process to establish standards and testing requirements; and leverage multilateral initiatives to advance energy efficiency objectives. [footnote 30](#)

The Amendment also supports the objectives of the *Memorandum of Understanding between the Treasury Board of Canada Secretariat and the United States Office of Information and Regulatory Affairs Regarding the Canada-United States Regulatory Cooperation Council* [footnote 31](#) signed in June 2018.

In August 2016, federal, provincial and territorial energy ministers published a framework and action plan for energy efficiency standards under the Energy and Mines Ministers' Conference. The framework outlines an approach by which federal, provincial and territorial governments collaborate to achieve greater harmonization on energy efficiency standards. The Amendment will reduce regulatory differences that exist between federal and provincial regulations by adding energy-using products to the Regulations that would otherwise be only regulated in one or a few provinces.

### **Rationale**

The Amendment will benefit Canadians by both reducing GHG emissions and removing unnecessary regulatory differences between Canada and the United States.

According to the International Energy Agency, policies and programs that address energy efficiency are the most cost-effective way to lower GHG emissions and could complement carbon pricing schemes as an overall strategy to effectively achieve climate change policy objectives. [footnote 32](#) Improving energy efficiency also provides economic benefits to consumers and businesses through lower energy bills.

In the absence of a regulatory approach, a market for low-efficiency products will continue. Consumers who purchase such products could be motivated by lower purchase costs even though they would pay higher operational costs over the life of the product. The analysis of the Amendment has shown that more stringent MEPS for all products will generate reductions in GHG emissions and energy consumption. The associated energy savings will generate net monetary benefits for Canadian consumers. The analysis has shown that the costs of technologies that will be required to bring low-efficiency products into compliance with the MEPS are outweighed by the benefits attributable to those technologies.

The development of the Amendment was informed by stakeholder views. Industry supports an approach that is aligned with that of the United States since most product models are designed to serve the Canada–United States market. Provinces support federal regulatory action on energy efficiency.

The *Energy Efficiency Regulations* were first introduced in 1995 and including the Regulations, have been amended 13 times to increase the stringency of existing MEPS and introduce MEPS for new product categories. Through the use of third-party verification and regular post-market compliance activities, a high compliance rate with regulated requirements has been observed. This provides confidence that estimated outcomes are being achieved and that Canadians are experiencing the associated benefits.

### **Implementation, enforcement and service standards**

Some provisions of the Amendment will come into force upon publication in the *Canada Gazette*, Part II, while the rest of the Amendment will come into force six months after publication in the *Canada Gazette*, Part II. The requirements will apply to the prescribed energy-using products based on their period of manufacture or date of import or interprovincial shipment.

The compliance and enforcement procedures already in place for all products prescribed under the Regulations will continue to be used following the coming-into-force dates of this Amendment. The main features of this system are as follows.

#### **Verification marking and energy efficiency reporting**

For products prescribed under the Regulations, Natural Resources Canada employs a third-party verification system using the services of certification bodies accredited by the Standards Council of Canada. Verified energy performance data is submitted to Natural Resources Canada by the dealer in an energy efficiency report as specified in the Regulations. This is required once for each product model before first importation or interprovincial shipment.

#### **Import reporting and monitoring**

Natural Resources Canada procedures already in place for the collection of information for commercial imports of prescribed products will apply to products affected by the Regulations. These procedures involve crosschecking required import data received from customs release documents with the energy efficiency reports that dealers have submitted to Natural Resources Canada. This crosschecking ensures that the compliance of prescribed products imported into Canada can be verified.

The Regulations will continue to require dealers of prescribed products to provide the information needed for customs monitoring.

### **Direct fieldwork: market survey and product testing**

In addition to ongoing compliance and marketplace monitoring activities, Natural Resources Canada surveys and tests products in the context of monitoring compliance outcomes with product-specific compliance audits. Depending on the product, in-store audits and/or testing of products are also conducted.

Natural Resources Canada also conducts product testing on a complaint-driven basis. The market is highly competitive and suppliers are cognizant of performance claims made by their competitors. Challenge procedures by which performance claims can be questioned exist in all verification programs.

### **Performance measurement and evaluation**

The desired outcomes of the Regulations are presented in the following table along with the information that will be tracked to measure performance.

**Table 5: Measuring performance of the Regulations**

| <b>Outcome</b>  | <b>Indicators</b>                                    | <b>Information to measure performance</b>   |
|---|--|---|
| GHG emissions are reduced to contribute to Canada's goal to reduce GHG emissions by at least 30% below 2005 levels by 2030                    |  | Energy efficiency reports<br>Import reports |
| Consumers and businesses save money by purchasing higher efficiency product models that have lower costs over their lifetime                  | Percentage of product models that meet MEPS          | Market data (shipments, trends)             |
| Electricity demand associated with space and water heating is reduced to contribute capacity to the electrification of other economic sectors |  | Lab testing                                 |
| Businesses using regulated energy-using products experience cost savings that can lead to increased productivity and competitiveness          |  | Emission factors<br>Energy prices           |
| Compliance costs associated with unnecessary regulatory differences are removed   | Number of unnecessary regulatory differences removed | Comparison of Canadian and U.S. regulations |

Performance will be monitored through a combination of product-specific compliance reporting, supported by third-party verification of energy efficiency performance, and ongoing collection of market data to assess broader trends affecting outcomes.

Information collected on the energy efficiency performance of regulated energy-using products informs both GHG emission impacts and consumer savings, since both are calculated as a function of changes in the amount of energy consumed by these products. [footnote 33](#)

A high compliance rate with the Regulations will be achieved through support from manufacturers, third-party verification, customs monitoring, cooperation with regulating provinces, communication activities, market surveys, and product testing, as required.

The standards contained in the Amendment are being implemented under the federal energy efficiency equipment standards and labelling program. Detailed accounts of progress towards achieving the objectives of this initiative will be found in departmental business plans, reports on plans and priorities, and the Report to Parliament under the *Energy Efficiency Act*.

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