

# Canada's Energy Efficiency Regulations

## Regulatory Update

### November 2011

The purpose of this update is to provide stakeholders with information on changes to the regulatory standards proposals contained in bulletins published in April-October 2010.

This document provides updates for the following products:

- 1) air handlers
- 2) commercial packaged gas and oil-fired boilers
- 3) commercial refrigerators
- 4) exit signs
- 5) general service incandescent reflector lamps
- 6) line-voltage thermostats
- 7) metal halide lamp ballasts (formally referred to as high intensity discharge lamp ballasts)
- 8) pre-rinse spray valves
- 9) water heaters

This update should be read in conjunction with the most recent bulletin for each product as it only outlines the changes made to the previously circulated bulletins.

Standards are also being proposed for the following products but there are no changes from proposals in the bulletins previously published:

- 1) air conditioners and heat pumps – packaged terminal
- 2) air source heat pumps
- 3) chillers
- 4) general service fluorescent lamps
- 5) mercury vapour lamp ballasts

NRCan is developing further proposals with respect to:

- 1) Lamp (Light Bulb) Labelling for Lighting Products
- 2) General Service Lamps (Light Bulbs) – Third Party Certification

Bulletins regarding these items will be distributed by the end of 2011.

The proposed Regulations will be pre-published in the *Canada Gazette*, Part I for a minimum 75 day comment period. They will then be published in the *Canada Gazette*, Part II and come into force 6 months after publication.

Previous bulletins are available at [http://oee.nrcan.gc.ca/regulations/home\\_page.cfm](http://oee.nrcan.gc.ca/regulations/home_page.cfm).

## 1) Air Handlers (Last Bulletin – June 2010)

Since the publication of the June 2010 Bulletin, NRCan intends to apply the reporting requirements to air handlers used in residential gas furnaces only, and intends to expand the requirements to air handlers used in other heating and cooling systems in a future amendment to the Regulations. The test method to be used is CSA C823-11 *Performance of air handlers in residential space conditioning systems*.

## 2) Commercial Packaged Gas and Oil-Fired Boilers (Last Bulletin – August 2010)

NRCan is considering the following approach to standards for commercial packaged boilers (changes from the May 2010 Bulletin are in bold and italic):

<b>Proposed Minimum Energy Performance Standard and Effective Dates for Commercial Boilers</b>			
<b>Boiler Type</b>	<b>Prescriptive Requirements</b>	<b>Minimum Efficiency</b>	<b>Date of Manufacture</b>
Small Gas Hot Water	No standing pilot	80% $E_T$	March 2, 2012
		<b><i>84% <math>E_T</math></i></b>	<b><i>March 2, 2015</i></b>
Small Gas Steam	No standing pilot	77% $E_T$	March 2, 2012
		79% $E_T$	March 2, 2015
Small Oil Hot Water	Nil	<b><i>82% <math>E_T</math></i></b>	<b><i>March 2, 2012</i></b>
Small Oil Steam	Nil	81% $E_T$	March 2, 2012
Large Gas Hot Water	No standing pilot	82% $E_C$	March 2, 2012
		<b><i>85% <math>E_C</math></i></b>	<b><i>March 2, 2015</i></b>
Large Oil Hot Water	Nil	<b><i>84% <math>E_C</math></i></b>	<b><i>March 2, 2012</i></b>
Large Gas Steam	No standing pilot	77% $E_T$	March 2, 2012
		79% $E_T$	March 2, 2015
Large Oil Steam	Nil	81% $E_T$	March 2, 2012

The changes from the previous bulletin are based on input from industry.

### **3) Commercial Refrigerators (Last Bulletin – May 2010)**

As discussed with stakeholders, NRCan is considering defining ice-cream freezer as a commercial freezer capable of maintaining the required test temperature of - 26.1°C.

NRCan is considering referencing the most current version AHRI Standard 1201 (SI)-2010 as the reference test procedure, since AHRI has updated Standard AHRI 1200-2008.

### **4) Exit Signs (no previous Bulletin)**

Changes adopted by the National Building Code of Canada, now allow for pictograms as an acceptable means of indicating exits to a building.

In order to include these signs in the current energy performance regulation, NRCan is considering a revision to the definition of “legend” to include a pictogram that may include additional letters, characters, or symbols, or a word, namely “EXIT” or “SORTIE”, appearing on an exit sign to indicate the way of egress.

A pictogram would be defined as the representation of a running man displayed on an exit sign as described in Annex B of CSA C22.2 No. 141.

### **5) General Service Incandescent Reflector Lamps (Last Bulletin – April 2010)**

Since the publication of the April 2010 Bulletin, corrections have been made to the definition of “*general service incandescent reflector lamps*”. NRCan is considering the following definition (same as published in Amendment 11):

A General Service Incandescent Reflector Lamp is an incandescent reflector lamp with a bulb shape as described in ANSI C79.1 or similar shape that has a medium screw base and a voltage between 100 and 130 volts, a diameter greater than 57 mm (2.25 inches), and a power between 40 and 205 watts.

The exempted products will also include:

1. a BR30 lamp or BR40 lamp with a power of up to 50 W, or 65 W
2. an R20 lamp with a power of not more than 45 W
3. a silver bowl lamp
4. a lamp for heat-sensitive applications

### **6) Line-Voltage Thermostats (Last Bulletin – May 2010)**

Since the publication of the May 2010 Bulletin, NRCan intends to clarify the scope of the proposed amendment. The proposed scope includes thermostats operating with resistive heaters including wall-mounted, built-in (up to 1500 Watts) and two component thermostats.

NRCAn also intends to update the minimum performance standards table.

	<b>Minimum Performance</b>
<b>Droop</b>	1.5°C
<b>Differential</b>	1.0°C for thermostats used on fan forced heaters 0.5°C for thermostats used on baseboard, panel convector, radiant floor heaters
<b>Precision</b>	±0.5°C of the original set point of 22°C at 50% duty cycle

## **7) Metal Halide Lamp Ballasts (formally referred to as High Intensity Discharge Lamp Ballasts) (Last Bulletin – May 2010)**

Since the publication of the May 2010 Bulletin, NRCAn intends to apply the standard only to: metal halide ballasts used in “new fixtures” and not ballasts intended for use as “replacement” ballasts, and ballasts that are used with lamps rated greater than or equal to 150 watts but less than or equal to 500 watts.

## **8) Pre-Rinse Spray Valves (Last Bulletin – October 2010)**

Since the publication of the October 2010 Bulletin and discussions with stakeholders, NRCAn is considering changes to the definition, test method, energy performance standard and reporting requirements for pre-rinse spray valves.

Pot fillers have been removed from the definition of pre-rinse spray valves.

NRCAn has removed the requirements for cleanability and has added the requirement that the testing procedure (ASTM test method: F2324-03 *Standard Test Method for Pre-Rinse Spray Valves*) be conducted without the use of a removable flow restrictor.

For the reporting requirements, type and cleanability have been removed and “nozzle spray pattern and angle” has been added.

## **9) Water Heaters (Last Bulletin – June 2010)**

Based on discussions with stakeholders, NRCAn is considering the following approach to standards for water heaters (changes from the last bulletin are in bold and italic):

<b>Water Heater type and size</b>	<b>Minimum Energy Performance Standards</b>	<b>Schedule</b>	<b>Test method</b>
Gas-fired tankless <250,000 Btu/h	EF reporting only	January 1, 2012	CSA P.7
	EF = 0.80	January 1, 2016	
Gas-fired tankless	Thermal Efficiency reporting only	January 1, 2012	CSA 4.3 / ANSI Z21.10.3

>250,000 Btu/h	Thermal Efficiency = 80%	January 1, 2016		
Gas-fired storage ≤75,000 Btu/h input (residential)	<b>EF = 0.67 - 0.0005 V<sub>r</sub></b>	<b>January 1, 2012</b>	CSA P.3	
	<b>EF = 0.75-0.0005 V<sub>r</sub></b>	<b>April 1, 2016</b>		
	<b>EF = 0.80</b>	<b>January 1, 2020</b>		
Gas-fired storage >75,000 Btu/h  (commercial)	<b>maximum standby loss in watts ≤ Q/800 + 16.57 √(V) (in Btu/h ≤ Q/800 + 110 √(volume in US gallons))</b>	Thermal Efficiency = 80%	January 1, 2012	CSA 4.3 / ANSI Z21.10.3
		Thermal Efficiency = 92%	<b>January 1, 2018</b>	
Oil – fired storage <105,000 Btu/h (residential)	EF = 0.59-0.0005 V <sub>r</sub>	January 1, 2012	B211-00	
	EF = 0.68-0.0005 V <sub>r</sub>	April 16, 2015		
Oil-fired storage >105,000 Btu/h (commercial)	Thermal Efficiency = 78%  <b>maximum standby loss in watts ≤ Q/800 + 16.57 √(V) (in Btu/h ≤ Q/800 + 110 √(volume in US gallons))</b>	January 1, 2012	CSA 4.3 / ANSI Z21.10.3	
Electric storage ≤ 12 kw and ≤ 454 litres	Additional reporting: - diffusion test volume - measured volume - standby loss tested on concrete base cooled to 14C	January 1, 2012	CSA C191	
Electric storage with >12 kw and > 454 litres (commercial)	<b>Max standby loss = 0.30+27/ V (%/hr)</b>	January 1, 2012	CSA 4.3 / ANSI Z21.10.3	

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