Regulatory Bulletin
Ministry of Energy, Mines and Petroleum Resources
Energy Efficiency Branch
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Energy Efficiency Standards Regulation Amendment

The Province of British Columbia has made changes to the Energy Efficiency Standards Regulation (EESR), under the *Energy Efficiency Act*, including new and updated standards for gas fireplaces, residential heat pumps, general service lighting, fenestration and consumer electronic products. These standards are summarized below. For detailed information on the standards, the consolidated Energy Efficiency Standards Regulation will be posted at this link when available. Note the amended consolidated regulation will be identified as "Deposited March 6, 2018."

General

Please note regulated products are required to display an energy efficiency verification label that indicates a designated tester has verified the energy device meets the applicable efficiency standard.

Gas Fireplaces

The B.C. gas fireplace standard defines vented gas fireplace heaters and vented decorative gas appliances based on the scope of CSA 2.33-2016 and CSA 2.22-2016 respectively. Gas fireplace standards are described in Part 5 of the EESR. Fireplace heaters manufactured on or after January 1, 2019, are subject to the efficiency standards summarized in Table 1 and are required to state the fireplace efficiency (FE) rating on the energy efficiency verification label. Decorative gas appliances manufactured on or after January 1, 2019, are subject to the efficiency standards summarized in Table 1 and are required to have an energy efficiency verification label which states the FE rating and indicates that it is a decorative product that is not intended to be used as a heating appliance. The energy efficiency verification label must be affixed to the rating plate. Products in sales displays must display the information required to be on the energy efficiency verification label near the display where it can be easily and readily seen.

Table 1 - Gas Fireplace Standards

Energy Device	Manufacturing Period	Efficiency Standard	Testing Procedure
Vented gas fireplace heaters	Products manufactured on or after January 1, 2019	FE Rating $\geq$ 50% Must have pilot-on-demand, interrupted or intermittent ignition system Must not have standing pilot light	CAN/CSA P.4.1-15
Vented decorative gas appliances	Products manufactured on or after January 1, 2019	Must have pilot-on-demand, interrupted or intermittent ignition system Must not have standing pilot light	CAN/CSA P.4.1-15

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Split-System Heat Pumps

These products are used for residential space heating and cooling and include centrally ducted heat pumps, ductless mini-splits and multi-splits. The standard defines this product as split-system heat pumps, which use either single-phase or three-phase electric current and have a rated capacity < 19 kW. Regulated products manufactured on or after June 2, 2018, are subject to the Tier 1 efficiency standards summarized in Table 2. The Tier 1 efficiency standard is aligned with the existing federal standard. Regulated products manufactured on or after January 1, 2020, will be subject to the Tier 2 efficiency standards summarized in Table 2. The HSPF must be calculated using the generalized climatic region information for Region V in testing procedure C656-14. The new standards are described in Part 5 of the EESR.

Table 2 - Split-System Heat Pump Standards

Energy Device	Manufacturing Period	Efficiency Standard	Testing Procedure
Single-phase and three-phase split-system heat pumps	Products manufactured between June 2, 2018 and December 31, 2019	Region V HSPF $\geq$ 7.1 (Tier 1)	C656-14
Single-phase and three-phase split-system heat pumps	Products manufactured on or after January 1, 2020	Region V HSPF $\geq$ 7.39 (Tier 2)	C656-14

Fenestration

The EESR regulates fenestration products at the point of manufacturing and sale, which covers new construction as well as replacement products. The fenestration standard update requires regulated smaller building fenestration products manufactured on or after June 2, 2018, to meet the efficiency standards summarized in Table 3. Smaller buildings are defined as residential buildings with less than five storeys, or non-residential buildings with floor space of 600m^2 or less. The new standard will change the requirements for energy devices under Part 3, Section 27, Items 3, 4, 5, 7, and 8 of the EESR. Product definitions are found in Section 16 and exemptions are found in Section 19. The efficiency standards for glazing products, door slabs, and larger building fenestration are not affected. The updated standard will align the EESR's point of manufacturing and sale requirements with the BC Building Code's current Part 9 requirements for fenestration.

Table 3 - Fenestration Standards

Energy Device	Manufacturing Period	Efficiency Standard	Testing Procedure
Windows, sliding glass doors, curtain walls, window walls, storefront windows, and hinged and bi-folding doors (for smaller buildings)	Products manufactured on or after June 2, 2018	U-value must be $\leq$ 1.80 W/m^{2}xK	CAN-CSA A440.2-14 / A440.3-14 Or NFRC 100-2014
Skylights (for smaller buildings)	Products manufactured on or after June 2, 2018	U-value must be $\leq$ 2.90 W/m^{2}xK	CAN-CSA A440.2-14 / A440.3-14 Or NFRC 100-2014

The fenestration update will also change the compliance pathway for regulated manufactured fenestration products designed for specific buildings. At present, there is no officially recognized approach for architects and glazing contractors to demonstrate that site-assembled fenestration products regulated under Part 3, Section 27, Items 6, 7, 9 and 10 of the EESR comply with thermal performance requirements. As of January 1, 2020, a National Fenestration Rating Council Component Modeling Approach (CMA) Label Certificate will be required for site-assembled fenestration. CMA Label Certificates will provide a systematic validation of compliance for site-assembled fenestration. More information on the CMA Label Certificate is available here.

Stakeholders are reminded that fenestration installed in buildings that meet ASHRAE 90.1 (2010, 2013 or 2016), NECB (2011 or 2015), or ASHRAE 189.1 (2014) are excluded from EESR requirements as they are "energy compliant buildings" under Section 16.

Note that this new standard will not be reflected in the consolidated EESR until it becomes effective January 1, 2020.

General Service Lighting

The general service lighting standard covers the four categories of lamps defined below. The standard applies to regulated products manufactured on or after January 2, 2020, and requires a minimum efficacy of 45 lumens per watt. The new efficiency standards under Part 7 of the EESR are summarized in Table 4. The efficiency standard for the four product categories defined below is harmonized with the U.S. *Energy Independence and Security Act* general service lighting "backstop" requirement of 45 lm/W, effective January 1, 2020.

"**Compact fluorescent lamp**" means a self-ballasted compact fluorescent lamp that incorporates a screw base.

"**General service incandescent lamp**" has the same meaning as "general service lamp" in the federal regulation but does not include a lamp described in Section 434 (2) (a) of that regulation.

"**General service LED lamp**" means a lamp that provides functional illumination, is screw based and has

a. a luminous flux of at least 310 lm but not more than 2 600 lm,
b. a nominal voltage of at least 110 volts but not more than 130 volts or a nominal voltage range that lies at least partially between those voltages, and
c. a light source that comes from light-emitting diodes,

but does not include a lamp described in any of paragraphs (a), (c) to (h), (k) to (o) or (q) of the definition of "general service lamp" in Section 433 (1) of the federal regulation.

"**Small diameter directional lamp**" means a lamp that is non-tubular and has

a. a diameter of not more than 57 mm,
b. at least 80% of light output within a solid angle of π steradians,

c. a base type of E26, G4, GU5.3, GU10 or GX5.3, and
d. a luminous flux of more than 150 lm,

but does not include

1. a multifaceted reflector shape lamp that has a first number symbol equal to 16; a nominal input voltage of 12 volts; and a luminous flux of 800 lm or more;
2. a reflector lamp that has a first number symbol less than 16, and does not have a screw base type of E26/E24, E26d, E26/50x39, E26/53x39, E29/28, E29/53x39, E39, E39d, EP39 or EX39;
3. a multifaceted reflector shape lamp that is designed and marketed for a specialty application that has a rated life of not more than 300 hours.

Table 4 - General Service Lighting Standard

Energy Device	Manufacturing Period	Efficiency Standard	Testing Procedure
Compact fluorescent lamp	Products manufactured on or after January 2, 2020	Efficacy $\geq$ 45 lm/W CRI $\geq$ 80 for lamps other than modified spectrum lamps CRI $\geq$ 75 for modified spectrum lamps a rated life of at least 1 000 hours	The procedures set out in all of the following: (a) CAN/CSA C861-10; (b) CIE 13.3-1995; (c) IES LM-65-14.
General service incandescent lamp	Products manufactured on or after January 2, 2020	Efficacy $\geq$ 45 lm/W CRI $\geq$ 80 for lamps other than modified spectrum lamps CRI $\geq$ 75 for modified spectrum lamps a rated life of at least 1 000 hours	The procedures set out in all of the following: (a) IES LM-45-15; (b) CIE 13.3-1995; (c) IES LM-49-12.
General service LED lamp	Products manufactured on or after January 2, 2020	Efficacy $\geq$ 45 lm/W CRI $\geq$ 80 for lamps other than modified spectrum lamps CRI $\geq$ 75 for modified spectrum lamps a rated life of at least 1 000 hours	The procedures set out in all of the following: (a) IES LM-79-08; (b) CIE 13.3-1995; (c) IES LM-84-14; (d) IES TM-28-14.
Small diameter directional lamp	Products manufactured on or after January 2, 2020	Efficacy $\geq$ 45 lm/W a rated life of at least 25 000 hours	The procedures set out in all of the following: (a) IES LM-79-08; (b) IES LM-84-14; (c) IES TM-28-14.

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Consumer Battery Charging Systems

The regulation defines this product as a battery charging system, including a battery charging system built into another product, that has an input capacity of <2kW and is distributed primarily for personal use by individuals. This update will revise the energy device categories, efficiency standard, as well as the labelling and verification requirements of currently regulated products manufactured on or after June 13, 2018. The scope of products regulated in B.C. will not change. The updated energy device categories (product classes) and corresponding efficiency standard (maximum Unit Energy Consumption) is aligned with the U.S. Department of Energy battery charger standard (Code of Federal Regulations 10 CFR 430.32 (z)). The testing procedure for all product categories is CSA C381.2-17 which is aligned with the U.S. DOE test standard (US Code of Federal Regulation Title 10, Part 430, Subpart B, Appendix Y).

Products manufactured on or after June 2, 2018, are exempt from the energy efficiency verification label requirement including verification by the designated tester that the product meets the efficiency standard. The label exemption allows products which are compliant with the U.S. DOE standards to be imported into B.C. without additional third-party testing. The new efficiency standards are described in Part 2 of the EESR.

Compact Audio Products, Televisions and Video Products

For regulated products manufactured on or after June 2, 2018, the testing procedure for compact audio, television and video products will be CAN/CSA C62301-11, tested at 115 volts regardless of the nominal voltage of the product. The new testing procedures are described in Part 2, Section 15 of the EESR. This update of the testing procedure will harmonize B.C.'s standard with the existing Canadian federal standard.

Questions

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