

DIRECTIVE

No: D-BP-2013-01
Revision 01

REGISTRATION AND PERMIT REQUIREMENTS FOR BOILERS IN HEATING PLANTS

This Directive is being issued by a provincial safety manager pursuant to section 30 of the Safety Standards Act.

Date of Issue: March 19, 2013

General Details

This directive is being issued to owners, licensed contractors, consulting engineers, manufacturers and designers of heating plants to clarify the requirements concerning the registration, permitting and staffing requirements for heating plants.

Specific Details

Design Registration Requirements

The *Power Engineers, Boiler, Pressure Vessel and Refrigeration Regulation* does not apply to heating plants with a heating surface of 3 m² or less. A "heating plant" is defined as a steam boiler not exceeding 103kPa (15 psig) or a hot water boiler not exceeding 1100 kPa(160 psig) and 121^oC (250^oF). The singular term "boiler" used in this definition is interpreted to include the plural term "boilers" and therefore a "heating plant" may consist of either a single individual boiler or an assembly of boilers.

If an individual boiler of 3 m² or less is the only boiler in a heating plant or is one of multiple boilers in a heating plant, that boiler is exempted from the requirements of the *Power Engineers, Boiler, Pressure Vessel and Refrigeration Regulation*. Individual boilers not exceeding 3m² of heating surface forming part of a heating plant are therefore exempted from the design registration requirements of the *Power Engineers, Boiler, Pressure Vessel and Refrigeration Regulation* even if the aggregate capacity of all boilers in the heating plant is greater than 3m².

A boiler with a heating surface not exceeding 3m² in a heating plant does not require registration of the design or a Canadian Registration Number (CRN) but must be certified in accordance with any other applicable legislation. Gas fired boilers and electric boilers not exceeding 3m² are within the jurisdiction of the *Gas Safety Regulation* and the *Electrical Safety Regulation*, respectively, and therefore must be certified to a Canadian standard in accordance with those regulations. Oil fired and solid fuel fired boilers, dependent on their capacity, output or size may be subject to the *British Columbia Building Code* and require certification to a Canadian standard as specified in the *British Columbia Building Code*. Persons installing these types of boilers in British Columbia are advised to seek out, and to ensure compliance with, any other legal requirements in addition to those in the *Safety Standards Act*.

A heating plant consisting of a single boiler or multiple boilers constitutes a boiler system. Individual boilers exceeding 3m², pressure vessels and pressure piping in the boiler system require design registration and CRN's.

Permit Requirements

Boiler installation and operating permits are required in accordance with the *Power Engineers, Boiler, Pressure Vessel and Refrigeration Regulation* for a boiler system when the total heating surface area of the boiler or boilers in the plant exceeds 3 m². Installation permits may also be required in accordance with the *Gas Safety Regulation* and/or the *Electrical Safety Regulation* for gas piping and/or wiring, respectively.

Individual gas fired and electrical boilers of 3 m² or less that are used in a heating plant that does not exceed a total capacity of 3 m² require installation permits in accordance with the *Gas Safety Regulation* and the *Electrical Safety Regulation*.

Staffing Requirements for Heating Plants

Section 44 of the *Power Engineers, Boiler, Pressure Vessel and Refrigeration Regulation* lays out the rules concerning power engineer certification requirements to operate all plants and the classification of power engineer required to operate a plant (including heating plants). For staffing purposes, and in accordance with section 44 (2) of the *Power Engineers, Boiler, Pressure Vessel and Refrigeration Regulation*, the classification of a heating plant shall be determined by the total capacity of all the boilers connected to the heating plant (i.e., regardless of whether any individual boiler is exempt from registration and/or permit requirements as above).

Registration, permit and staffing requirements for heating plants are summarized in the attached registration and permit chart.

A handwritten signature in blue ink that reads "Ed Hurd".

Ed Hurd P.Eng.
Provincial Safety Manager, Boilers

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Registration and Permit Chart

Description of Boiler	Design Registration or Product Certification	Required Installation and Operating Permits	Staffing Yes/No
Stand-alone steam or fluid heating boiler not exceeding 3m ² heating surface	Product certification in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable – or compliance with <i>BC Building Code</i> as applicable)	Installation permits required in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable)	No
Stand-alone steam or fluid heating boiler exceeding 3m ² but less than and not exceeding 30m ² (steam) or 150m ² (fluid)* heating surface	Design registration required <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i>	Installation and operating permits required in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i> Installation permits required in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable)	No
Stand-alone steam or fluid heating boiler exceeding 30m ² (steam) or 150m ² (fluid) heating surface	Design registration required in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i>	Installation and operating permits required in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i> Installation permits required in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable)	Yes
Steam or fluid heating boiler not exceeding 3m ² in grouping with total heating surface not exceeding 3m ² *	Product certification in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable – or compliance with <i>BC Building Code</i> as applicable)	Installation permits required in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable)	No
Steam or fluid heating boiler not exceeding 3m ² in grouping with total heating surface exceeding 3m ² but not exceeding 30m ² (steam) or 150m ² (fluid)*	Product certification for individual boiler not exceeding 3m ² in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> as applicable – or compliance with <i>BC Building Code</i> as applicable, design registration required for individual boiler exceeding 3m ² , pressure vessels and pressure piping in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i>	Installation and operating permits required in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i> for the boiler system Installation permits required in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable)	No
Steam or fluid heating boiler not exceeding 3m ² in grouping with total heating surface exceeding 30m ² (steam) or 150m ² (fluid)	Product certification for individual boiler not exceeding 3m ² <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable – or compliance with <i>BC Building Code</i> as applicable), design registration required for boiler system (boiler exceeding 3m ² , pressure vessels and pressure piping) in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i>	Installation and operating permits required in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i> Installation permits required in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable)	Yes
Steam or fluid heating boiler exceeding 3m ² in grouping with total heating surface exceeding 30m ² (steam) or 150m ² (fluid) and no boilers of 3m ² or less in heating plant)	Design registration required for boiler system (boiler exceeding 3m ² , pressure vessels and pressure piping) in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i>	Installation and operating permits required in accordance with <i>Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation</i> Installation permits required in accordance with <i>Gas Safety Regulation</i> or <i>Electrical Safety Regulation</i> (as applicable)	Yes

***Notes – 1.** These boilers are exempt from the *Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation* if they constitute all or part of a heating plant located in a building that contains 4 or fewer self-contained residential units. Boilers in this category must comply with requirements of the *Gas Safety Regulation*, *Electrical Safety Regulation* and/or the *BC Building Code* (as applicable).

2. Applicable to steam boilers not exceeding 103kPa (15 psig) and hot water boiler not exceeding 1100 kPa(160 psig) and 121°C (250°F)

References:

Relevant Legislation

Power Engineers, Boiler, Pressure Vessel & Refrigeration Safety Regulation

Definitions for the Act

1 For the purposes of the Act:

"**boiler**" means a vessel, in which by the application of heat,

- (a) gas, steam or vapour is capable of being generated and pressurized, or
- (b) a liquid is capable of being pressurized or heated

and includes fittings and boiler external piping associated with the vessel;

"**boiler system**" means a power plant, heating plant, low temperature low pressure fluid plant, low pressure thermal fluid plant, high pressure thermal fluid plant, oil well plant or pressure plant;

Definitions and interpretation for this regulation

2 (1) In this regulation:

"**fluid heating plant**" means a heating plant that heats fluid without vapourizing the fluid;

"**heating plant**" means

- (a) a boiler in which steam or other vapour may be generated at a pressure not exceeding 103 kPa, or
- (b) a boiler, other than a low-temperature, low-pressure boiler, in which water or an aqueous solution may be heated to a pressure not exceeding 1 100 kPa or a temperature not exceeding 121°C (250°F);

"**steam heating plant**" means a heating plant that generates steam or vapour;

Application of this regulation

3 (1) This regulation applies in respect of every boiler and boiler plant, every pressure plant, every pressure vessel, every pressure piping system, every fitting, every plant and all refrigeration equipment and refrigeration plants.

(2) Despite subsection (1), this regulation does not apply to any of the following:

- (a) a power plant with a heating surface of 2 m² or less;
- (b) a heating plant with a heating surface of 3 m² or less;

Plant classifications

44 (1) A plant classification referred to in this regulation requires a power engineer with a corresponding or higher class of certificate of qualification to be appointed as chief engineer of that plant.

(2) For the purposes of subsection (1), a plant is classified by the type and total capacity of the boiler or refrigeration equipment that is connected to the same header or refrigeration system, as the case may be.

Permits

62 (1) A person must have an installation permit to install or alter any of the following:

- (a) a boiler;
- (b) a refrigeration system or part of a refrigeration system.

(2) A person must hold an operating permit for each boiler, pressure vessel or refrigeration system.