

CERTIFICATION AND REGISTRATION OF REFRIGERATION SYSTEMS**Date of Issue: December 31, 2024****No: D-BP 2024-05**

The following directive is being issued by a provincial safety manager pursuant to section 30 of the Safety Standards Act (the Act) to clarify the application of the requirements for design registration and certification of refrigeration systems.

Definitions

Refrigeration System: means a refrigeration plant.

Refrigeration Equipment: means machinery in which refrigerants are capable of being vaporized, compressed and liquified.

Refrigeration Plant: means an assembly of refrigeration equipment and includes a pressure plant connected to it.

General Details

Refrigeration systems and equipment are subject to the requirements of the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation (the regulation) unless specifically exempt from the application of the regulation under section [3\(2\)\(f\)](#), [3\(2\)\(j\)](#), or [3\(2\)\(r\)](#).

The CSA B52 which is adopted under the regulation sets out the minimum requirements for the design, construction, installation, inspection, and maintenance of refrigeration systems and equipment. Under the CSA B52 two acceptable pathways are established for the design of refrigeration systems and equipment:

1. Registration of the design with the authority having jurisdiction (Technical Safety BC), or
2. Certification of factory assembled refrigeration systems in accordance with clause 5.2.

This directive clarifies the application of and requirements applicable to these two pathways.

Specific Details**Registration of Refrigeration Systems and Equipment**

Refrigeration systems which are not factory assembled and certified in compliance with clause 5.2 and this directive must have their design registered with Technical Safety BC in accordance with clause 5.1 and 5.3 of CSA B52.

For details on the minimum documentation requirements for refrigeration design submissions see: [Information Bulletin: Design Registration of Refrigeration Plants and Systems](#).

Certified Factory Assembled Refrigeration Systems

Certified factory assembled refrigeration systems may have an alternative approach for design, construction, and testing in accordance with clause 5.2 of the CSA B52.

Factory assembled refrigeration systems which have been tested and certified by a certification agency accredited by the Standards Council of Canada are exempt from design registration (including piping and all categories of fittings but excluding pressure vessels) provided that the following requirements are met:

1. The refrigeration system total system prime mover capacity does not exceed:
 - 500 kW for systems utilizing A1 or A2L type refrigerants, or
 - 125 kW for systems utilizing a refrigerant type other than A1 or A2L.See directive [D-BP-2013-02](#) for more information on calculating the capacity of refrigeration systems.
2. The refrigeration system and all its components (except for the field installed piping and fittings) are:
 - Factory assembled,
 - Tested and certified by an accredited certification agency at the factory to one of the following Standards, and
 - CAN/CSA-C22.2 No. 60335-2-24
 - CAN/CSA-C22.2 No. 60335-2-40, CSA C22.2 No. 117, or CSA C22.2 No. 236
 - CAN/CSA-C22.2 No. 60335-2-89 or CSA C22.2 No. 120; and
 - CSA C22.2 No. 128
 - Bear evidence of certification through either a mark or label of the certification agency. Field testing using CSA SPE-1000 or other field evaluations are not acceptable for the purposes of certifying refrigeration systems.

Note: In accordance with [Safety Standards General Regulation section 2.11](#), a certification agency is an organization accredited by the “Standard Council of Canada” under the Standard Council of Canada Act as an organization engaged in conformity assessment. Visit the Standards Council of Canada website for a complete listing of accredited certification bodies (www.scc.ca).

3. The design of all pressure vessels is registered in accordance with the requirements of CSA B51.
4. Field installed piping connecting the factory assembled and certified components meet the requirements of ASME B31.5 for design, construction and testing. Pressure piping exceeding 3 NPS must also be registered in accordance with the requirements of the regulation and CSA B51.

Note: The alternative methods described in clause 5.2 apply only to the design, construction, and testing of factory assembled refrigeration systems. All other applicable requirements of the Safety Standards Act, regulations and applicable adopted codes must be complied with in relation to the equipment’s installation, operation, maintenance, repair, alteration and decommissioning.

Provincial Safety Manager – Boiler, Pressure Vessel, and Refrigeration.

References:

[Safety Standards Act](#)

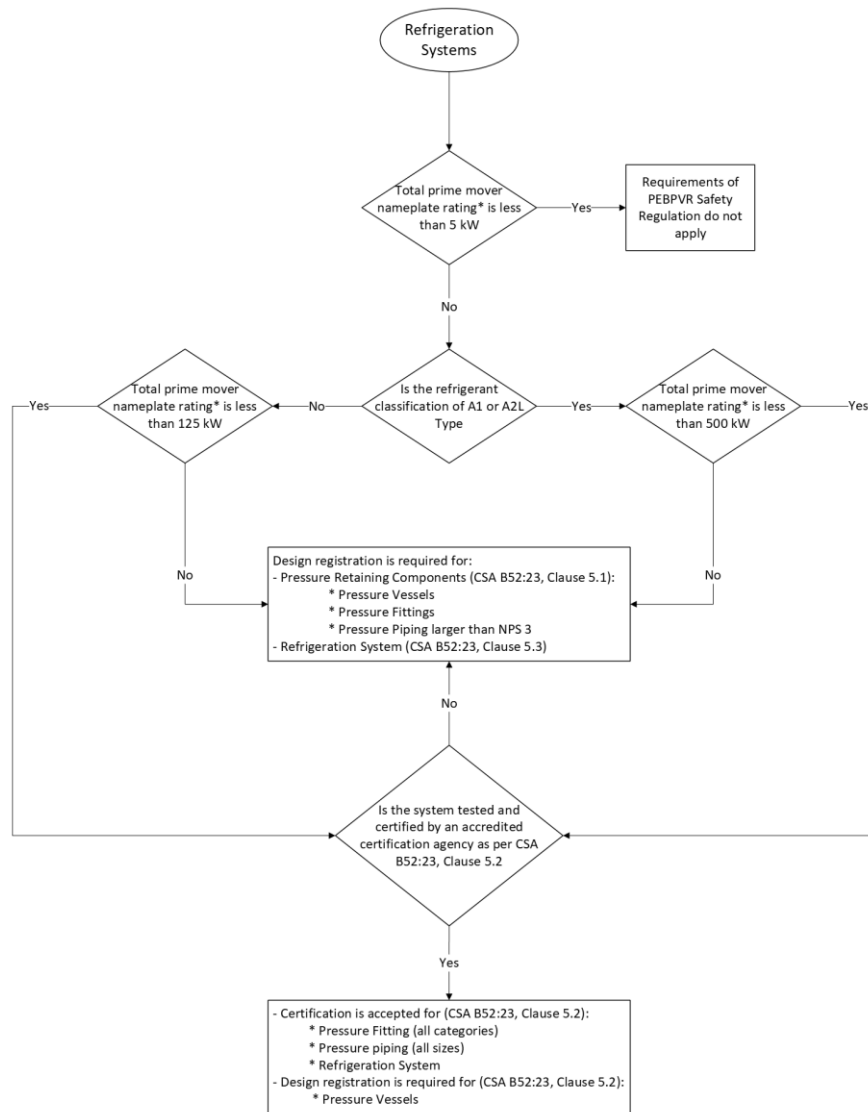
[Power Engineers, Boiler, Pressure Vessel & Refrigeration Safety Regulation](#)

CSA B52: 2023, Mechanical Refrigeration Code

CSA B51:24, Boiler, pressure vessel, and pressure piping code

ASME B31.5:2022, Refrigeration Piping and Heat Transfer Components

The following diagram depicts the two acceptable pathways established for the design of refrigeration systems and equipment:



*: for total nameplate rating calculation, please refer to directive D-BP-2013-02, Rev 1 (<https://www.technicalsafetybc.ca/regulatory-resources/regulatory-notices/directive-determining-capacity-refrigeration-systems>)