



the pressure equipment safety authority

PRESSURE EQUIPMENT EXEMPTION ORDER

User Guide AB-529 REV. 2, 2018-08-13

User Guide for

Pressure Equipment Exemption Order

Alberta Regulation 56/2006

With amendments up to and including Alberta Regulation 158/2014

Exemption Order and Notes

NOTE: This document is unofficial, and does not reflect the opinions of Alberta Municipal Affairs

Introduction

Pressure equipment may contain a considerable amount of energy and, if it fails in use, it can seriously injure or kill people and cause major damage to property.

Pressure equipment is installed throughout Alberta in schools, shopping malls, buildings, industrial plants and other facilities. Anyone can be affected if pressure equipment fails in service.

The Alberta [Safety Codes Act](#) and regulations govern pressure equipment safety in Alberta. The pressure equipment regulations (*Pressure Equipment Safety Regulation*, *Pressure Welders Regulation* and *Power Engineers Regulation*) were developed to prevent pressure equipment accidents and incidents and to establish requirements that must be met by persons who own, operate, design, construct, install or maintain pressure equipment or provide related services. The *Pressure Equipment Exemption Order* (PEEO) was developed to provide users with exemptions from the requirements of the *Safety Codes Act* and the pressure equipment regulations where the potential hazards were deemed to be low or where the equipment is under other legislation.

It is important to consider that, even though certain pressure equipment may be exempted, pressure equipment still has potential to injure or kill or cause property damage. Even if the pressure equipment is exempted, it is necessary to apply appropriate standards for the design, construction, operation and maintenance to ensure that pressure equipment is not the cause of an accident.

The Pressure Equipment Exemption Order User Guide (PEEO User Guide) is intended to assist stakeholders in understanding the use of the exemptions allowed by the *Pressure Equipment Exemption Order*.

Legislation Governing Pressure Equipment in Alberta

In Alberta, the Minister of Municipal Affairs establishes public safety policy through the legislative and regulatory process. For pressure equipment safety, the legislation is the *Safety Codes Act* and the regulations under the Act.

Legislation that governs the pressure equipment discipline includes:

[Safety Codes Act](#)

- [Pressure Equipment Exemption Order](#) (Alberta Regulation 56/2006),
- [Pressure Equipment Safety Regulation](#) (Alberta Regulation 49/2006),
- [Power Engineers Regulation](#) (Alberta Regulation 85/2003),
- [Pressure Welders Regulation](#) (Alberta Regulation 169/2002), and
- [Administrative Items Regulation](#) (Alberta Regulation 16/2004).

Alberta Municipal Affairs

The Minister of Municipal Affairs is accountable for the administration of the *Safety Codes Act*. The Minister delegates the delivery of safety programs to ABSA through an Administration Agreement.

ABSA, the pressure equipment safety authority

The Boilers Delegated Administration Regulation defines the authority, power and duties for ABSA. ABSA is delegated by the Alberta Government for the delivery of the pressure equipment safety program services in Alberta and to carry out jurisdictional duties under the *Safety Codes Act*.

ABSA [contact information](#) and [office locations](#) are available on the ABSA website at www.absa.ca. ABSA's Edmonton and Calgary office locations are:

Edmonton Head Office
9410 – 20 Avenue,
Edmonton, Alberta T6N 0A4
Tel (780) 437-9100 / Fax (780) 437-7787

Calgary Office
Deerfoot Atrium South
Suite 380, 6715 8th Street NE
Calgary, Alberta T2E 7H7
Tel (403) 291-7070 / Fax (403) 291-4545

About this User Guide:

Text within boxes is quoted from the *Pressure Equipment Exemption Order*.

Text outside of boxes is unofficial and has no force under law. Contact ABSA for advice regarding specific situations.

This User Guide is only valid to the date indicated. The most current version is posted at www.absa.ca.

The purpose of this User Guide is to provide a better understanding of the intent and use of the *Pressure Equipment Exemption Order* and the User Guide cannot override legislation.

ABSA intends to update this User Guide as issues or improvements are identified. If you have any suggestions for improving this User Guide, please advise ABSA at antoniuk@absa.ca.

Pressure Equipment Exemption Order and Notes

The Pressure Equipment Exemption Order, Alberta Regulation 56/2006, (PEEO) provides exemptions from the *Safety Codes Act* (Act) and from the *Pressure Equipment Safety Regulation* (PESR), the *Pressure Welders Regulation* (PWR) and the *Power Engineers Regulation* (PER). An item that is exempt from the Act is also exempt from all regulations under the Act. An item of pressure equipment that is exempt only from the PESR, PWR or PER is subject to the *Safety Codes Act* and to all other regulations under the Act. There are also partial exemptions shown in the PESR.

These are exemptions only from the identified legislation under the Safety Codes Act. **There is other legislation that will require that persons responsible must ensure that the equipment is designed, constructed, operated and maintained so as not to endanger people or the environment.**

Items are exempted either because the item is subject to another jurisdiction or has low potential hazard. Most of the exemptions are a continuation of exemptions from legislation that preceded the PEEO.

Section 1: Definitions

1(1) In this Regulation,

(a) “fully vented” means open to atmosphere with no isolating device on the vent and with the vent sized and maintained so that the pressure in the pressure equipment does not exceed atmospheric pressure;

The vent size and location must be properly engineered to meet the requirement for exemption in Section 2(2)(d).

(b) “heating surface” means any part of the pressure boundary of a boiler that is in contact with a fluid under pressure on one side and the source of heat on the other side as calculated on the surface having the greater radii if the surface is curved.

(2) The definitions in the *Safety Codes Act* and the *Pressure Equipment Safety Regulation* apply to this Order.

Section 2: Exemptions

2(1) The Safety Codes Act does not apply to the following:

Items covered under this section are exempted from the Act because they are covered by other legislation or because they pose a low potential hazard.

The regulations under the Safety Codes Act are not applicable to the items exempted in clauses 2(1)(a) through (g).

(a) a boiler or pressure vessel subject to the *Transportation of Dangerous Goods Act, 1992 (Canada)* and the *Canada Shipping Act (Canada)*;

This is pressure equipment under Federal Government legislation. These would include gas cylinders and propane cylinders as well as cargo transports (eg. highway tanks for propane, anhydrous ammonia and compressed gases as well as anhydrous ammonia nurse tanks) used to transport dangerous goods.

(b) pressure equipment that is owned by the Government of Canada;

Pressure equipment owned by the Federal Government comes under Federal legislation. ABSA inspects this equipment under a memorandum of understanding with Public Works and Government Services Canada.

(c) air brake systems subject to the *Motor Vehicle Safety Regulations* under the *Motor Vehicle Safety Act (Canada)*;

Air brake systems on highway vehicles are subject to Federal Government legislation. This exemption is only for the air brake system. Unless exempt under clause (a) above, any other air receiver or other pressure vessel on these vehicles is subject to the Safety Codes Act and regulations.

(d) air brake systems for off-road vehicles;

This is an exemption for an air brake system on a vehicle that cannot be licensed for use on public roadways. This would include air brake systems on heavy haulers on mine sites. This exemption is only for the air brake system. Any

other air receiver or other pressure vessel on these vehicles is subject to the Safety Codes Act and regulations.

Note: Under a Directive issued by Workplace Health & Safety, any pressure vessel that is part of mobile mining equipment in Alberta must have a Canadian Registration Number (CRN) in order to be in compliance with the *Occupational Health and Safety Code*. See [Information Bulletin IB11-008](#) for the requirements.

(e) a pipeline as defined in the *Pipeline Act*, except for a boiler, pressure vessel, pressure plant, power plant or heating plant that forms the whole or any part of an installation, as defined in the *Pipeline Act*;

A pipeline as defined in the *Pipeline Act* is not subject to the *Safety Codes Act*, but pressure equipment that is part of an installation on the pipeline is subject to the *Safety Codes Act* and regulations. Also see the next clause (f) for exemptions for particular types of this pressure equipment.

Alberta Energy Regulator has issued Directive 077 which establishes requirements for steam pipelines used in recovery of hydrocarbons. In general, ABSA is responsible for design registration, construction, operation and maintenance of these steam pipelines. See [Information Bulletin IB10-006 Rev.3](#). Directive 077 also provides a description of the boundary between the Pipeline Act, the Safety Codes Act and the Oil and Gas Conservation Act.

Pipeline means pipe used to convey a substance or a combination of substances and includes installations associated with the pipe. (Pipeline Act section 1(1)(t))

Installation means any equipment incidental to the operation of a pipeline but does not include a refinery, processing plant, marketing plant or manufacturing plant. (Pipeline Act section 1(1)(l))

Pipeline Act section 2(d) - the Pipeline Act applies to all pipelines within Alberta other than a boiler, pressure vessel or pressure piping system within the meaning of the definitions under the Safety Codes Act.

A pipeline is exempt from the Safety Codes Act because it is subject to the Pipeline Act. But, a boiler, pressure vessel, pressure plant, power plant or heating plant that forms part of an installation, as defined in the Pipeline Act, is subject to the

Safety Codes Act and the pressure equipment regulations.
Some of this pressure equipment is exempted below.

(f) the following pressure equipment that forms the whole or part of a pipeline as defined in the Pipeline Act:

- (i) dust pot;
- (ii) gas drip;
- (iii) indirect fired heater coils;
- (iv) methanol injection tanks;
- (v) pig receiver;
- (vi) pig launcher;
- (vii) odorizer tanks.

The listed pressure equipment is exempt only if it is part of a pipeline. If they form part of a pressure plant, they are not exempt. If any of this equipment is required to be built to code, ABSA will be involved as the Authorized Inspection Agency.

"dust pot" means an installation designed to trap, filter or collect small amounts of undesirable solid particles from a gas stream to prevent interference with some phases of gas transmission and distribution.

"gas drip" means an installation between the wellhead of a well and the gas meter designed to collect small amounts of water and substances referred to as drips, condensate or natural gas liquids, which are components of the produced natural gas stream but which, because of their molecular structure, tend to separate from the stream as liquids.

Gas drip is not a separator, scrubber, or a liquid knockout.

"indirect fired heater coil" is a pressure coil submerged in a liquid that is heated by combustion in a fire tube. In the Alberta Energy Regulator Directive 077, this is referred to as "well site heater coil" in a line heater. The design of an indirect fired heater coil must be submitted to ABSA for registration.

"methanol injection tank" is a pressure vessel that is connected to a natural gas pipeline to inject methanol to prevent formation of hydrates in the pipeline.

“pig receiver” is a component (pig trap or scraper trap) of the pipeline that is used to receive or launch a device for cleaning or inspection of the inside of the pipeline. These components are built in accordance with CSA Z662.

“pig launcher” – see pig receiver above.

“odorizer tank” is a pressure vessel that is connected to a fuel gas pipeline to contain and inject an odorant into the gas.

(g) a pipeline as defined in the *Oil and Gas Conservation Act*.

Alberta Energy Regulator has issued Directive 077 which provides a description of the boundary between the Pipeline Act, the Safety Codes Act and the Oil and Gas Conservation Act and establishes requirements for steam pipelines used in recovery of hydrocarbons. See Clause (e) above.

A methanol injection tank that is installed on a pipeline as defined in the Oil and Gas Conservation Act may also be exempted under the Pressure Equipment Exemption Order sections 2(1)(g) and 2(1)(f)(iv) provided that the methanol injection tank is designed and constructed in accordance with CSA Z662 and CSA B51. ([INTERPRETATION, Information Bulletin IB15-002](#))

2(2) The Pressure Equipment Safety Regulation, the Pressure Welders Regulation and the Power Engineers Regulation do not apply to the following:

Items covered under this section are exempted from these regulations because they are covered by other legislation or because they pose a low potential hazard.

The Safety Codes Act and all other regulations apply unless there are exemptions in the other legislation.

- (a) a power boiler that forms the whole or part of a power plant and
- (i) has a heating surface not exceeding one square metre, or
 - (ii) has an electric power rating not exceeding 10 kilowatts;

This is an exemption for a small power boiler (steam or other vapour exceeding 103 kPa; liquid exceeding 1100 kPa or 121 Celsius, or both). See power plant definition in the PESR.

- (b) a boiler that forms the whole or part of a heating plant and
- (i) has a heating surface not exceeding two square metres, or
 - (ii) has an electric power rating not exceeding 20 kilowatts;

This exemption is for a small heating boiler (steam or other vapour not exceeding 103 kPa and 121 Celsius; liquid not exceeding 1100 kPa and 121 Celsius). See heating plant definition in the PESR.

- (c) a boiler that
- (i) is used in connection with a hot water heating system,
 - (ii) is connected to an expansion tank that is fully vented to atmosphere, and
 - (iii) has no valves or other obstructions to prevent circulation between the boiler and the expansion tank;

Exemption for a heating boiler that is fully vented to atmosphere with no valves or obstructions.

- (d) a pressure vessel or pressure piping system that
- (i) is fully vented or operating with one or more pressure relief devices with set pressure not exceeding 103 kilopascals and sized so that the operating pressure cannot exceed 103 kilopascals,
 - (ii) is not a blow-off vessel for a boiler that forms part of a power plant, and
 - (iii) does not have a differential pressure on the pressure boundary exceeding 103 kilopascals;

(i) Pressure vessel or pressure piping system that is fully vented to atmosphere or operating with pressure relief devices set at 103 kPa or less. This exemption cannot be used for a boiler or a thermal liquid heating system.

The owner must ensure that the overpressure protection is maintained so that the pressure cannot exceed 103 kPa. If a vessel is designed for a pressure greater than 103 kPa, exemption under this section must be requested by submitting a completed ABSA form AB-85, Request for Exemption, available at www.absa.ca.

(ii) Even though a blow-off or blowdown vessel is required to be fully vented, it cannot be exempted by this section if the vessel is used for a boiler that is part of a power plant. See power plant definition in the PESR.

A blowdown vessel is considered the same as a blow-off vessel for this Regulation.

(iii) If an item of pressure equipment contains an expansible fluid with a pressure of 103 kPa or less on one side and a vacuum on the other side such that the total differential pressure exceeds 103 kPa, this exemption cannot be applied.

(e) Repealed

Relocated to subsection (2.1) (a)

(f) a pressure vessel that

- (i) is used as a hot water tank, and
- (ii) has an internal diameter not exceeding 610 millimetres;

Exemption for a hot water storage vessel with an internal diameter not exceeding 610 millimetres.

Hot water tank - a pressure vessel that is used to store hot water and is not equipped with a heating unit. (CSA B51 Clause 3)

(g) a pressure vessel that

- (i) is used as a water heater, and
- (ii) has an internal diameter not exceeding 610 millimetres;

Exemption for a water heater vessel not exceeding an internal diameter of 610 millimetres. This would include most home-use water heaters.

Water heater – a pressure vessel in which potable water is heated by combustion of fuel, by electricity, or by any other

heat source, and from which the water is withdrawn for external use. (CSA B51 Clause 3)

(h) a hydropneumatic tank that

- (i) has an internal diameter not exceeding 610 millimetres, and
- (ii) has a volume not exceeding 450 litres;

This exemption for a hydropneumatic tank cannot be used if either the diameter or the volume limit is exceeded. Hydropneumatic tank is defined in the PESR as a non-expandable liquid system that contains air, nitrogen or an inert gas, the compression of which serves only as a cushion.

(i) Repealed

Relocated to subsection (2.1) (b)

(j) a pressure container that is an integral part of a rotating or reciprocating mechanical device, such as pump, compressor, turbine, generator, engine or hydraulic or pneumatic cylinder, where the primary design considerations or stresses of the device are derived from the functional requirements of the device;

Rotating or reciprocating mechanical devices would include pumps, compressors, turbines, generators, engines, and hydraulic or pneumatic cylinders. Registration of design and construction of the casings for these devices are not subject to the PESR. Note that the owner still has a responsibility to exercise due diligence to ensure that the device is safe for its intended use.

This exemption does not apply to items such as pulsation bottles, separators, intercoolers, aftercoolers or pressure piping (vent, drain and process piping) that are attached to these rotating or reciprocating mechanical devices.

(k) a pressure plant that has one or more pressure vessels and the total volume of all the vessels does not exceed 42.5 litres;

A pressure plant includes pressure vessels and pressure piping (see definition of pressure plant in the PESR). If the total volume of all pressure vessels exceeds 42.5 litres (1.5 cubic feet), this exemption does not apply.

(l) a single pressure vessel that is not connected to a pressure plant and that

(i) has a volume not exceeding 42.5 litres, or

(ii) has an internal diameter not exceeding 152 millimetres;

This exemption is only applicable to a stand-alone pressure vessel that is not connected to a pressure plant (does not have a pressure connection to pressure piping or to another pressure vessel). The vessel is exempt if either criterion is met. For example, a stand-alone vessel having a volume that does not exceed 42.5 litres is exempt even if its diameter is greater than 152 millimetres. Likewise, a stand-alone vessel having a diameter that does not exceed 152 millimetres is exempt even if its volume is greater than 42.5 litres. If a stand-alone pressure vessel exceeds a volume of 42.5 litres and exceeds an internal diameter of 152 millimetres, this exemption is not applicable.

(m) Repealed

Relocated to subsection (2.1) (c)

(n) pressure equipment, other than boilers, with a volume not exceeding 42.5 litres that

(i) is the subject of a research experiment in a research facility, or

(ii) is part of a temporary apparatus being used in a research experiment in a research facility;

This exemption cannot be applied to a boiler. It only applies to small volume pressure equipment in a research facility.

(o) non-circulating thermal liquid heating system;

This exemption could apply to the thermal bath (e.g. salt bath heater) for an indirect fired heater coil as long as it is open to atmosphere and is not a pumped system. The indirect fired heater coil is not exempt by this clause. The indirect fired heater coil must meet all of the requirements of the PESR.

(p) gas systems equipment used to convey gas exclusively for fuel purposes and that is subject to the *Gas Code Regulation*, AR 111/2010);

A gas system used exclusively for fuel purposes is subject to the Gas Code Regulation and is not subject to pressure equipment legislation. Plants may have pressure piping systems for process that also supply fuel to gas burning appliances – so, the process part is pressure equipment under ABSA’s authority and the portion used exclusively for fuel is under the Gas Code Regulation.

Alberta Municipal Affairs, Safety Services has issued an updated [STANDATA, G-03-11-ABSA \[Rev1\]](#), Fuel Gas Pressure Piping in Plants, to clarify the roles of the authorities having jurisdiction. There is a difference in requirements for plants that operate with an Integrity Management System Certificate of Authorization Permit (Owner-User) under PESR Section 11(3) versus plants that are not managed under a Certificate of Authorization Permit.

Gas piping used for fuel purposes is regulated under the *Gas Code Regulation* and is exempt from the *Pressure Equipment Safety Regulation*. Gas Safety administers the *Gas Code Regulation* and ABSA administers the *Pressure Equipment Safety Regulation* (PESR). In plants, gas piping may supply both process and fuel burning purposes. The portion of the gas piping that conveys fuel gas to fuel burning appliances is regulated by the *Gas Code Regulation*.

The STANDATA establishes that, for Owner-User plants, fuel gas piping for pressure exceeding 15 psi (103 kPa) shall be designed and constructed as pressure piping in accordance with the PESR. Design registration, construction, modification, and repair or alteration must be in compliance with the PESR.

The STANDATA establishes that, for non Owner-User plants, all of the gas piping that conveys fuel gas to fuel burning appliances must be constructed in accordance with the *Gas Code Regulation*.

Gas Safety has issued several STANDATAs to clarify requirements and to define the boundary between the Gas Code Regulation (Gas Safety’s jurisdiction) and the Pressure Equipment Safety Regulation (ABSA’s jurisdiction). At publication, those STANDATA include:

[Variance VAR-GAS-01-13 \[Rev1\], Engineered Designs for Site Specific Gas-Fired Process Equipment;](#)

[Information Bulletin G-02-13, Engineered Designs for Site Specific Gas-Fired Process Equipment;](#)

[Information Bulletin G-03-11-ABSA \[Rev1\], Fuel Gas Pressure Piping in Plants.](#)

(q) a piping system that is subject to the *CSA Standard Z7396.1, Medical Gas Pipeline Systems – Part 1: Pipelines for Medical Gases and Vacuums*;

A piping system that is subject to CSA Standard Z7396.1, Medical Gas Pipeline Systems is exempt from pressure equipment regulation requirements. However, any pressure vessel that supplies the piping is not exempt by this clause.

(r) a pressure piping system and the machinery and equipment ancillary to the pressure piping system, if the machinery and equipment

(i) vaporize, compress and liquefy refrigerants in the refrigerating cycle, and

(ii) have a refrigerating capacity not exceeding 10.5 kilowatts;

This exemption is for small capacity air conditioning or refrigeration systems.

10.5 kilowatts is approximately equivalent to 3 tons of refrigeration.

(s) gas filled electrical switchgear or controlgear.

Gas filled electrical switchgear or controlgear is considered electrical equipment.

2.1 The Pressure Equipment Safety Regulation (AR49/2006) and the Pressure Welders Regulation (AR169/2002) do not apply to the following:

Items covered under this section are exempted from these regulations because they are covered by other legislation or because they pose a low potential hazard.

The Safety Codes Act and all other regulations apply unless there are exemptions in the other legislation. These items are not exempt from supervision by a certified power engineer if they are part of a plant that requires supervision under the Power Engineers Regulation.

(a) a pressure vessel

- (i) that is installed in a closed hot water heating system,
- (ii) that has a working pressure not exceeding 207 kilopascals, and
- (iii) that has an internal diameter not exceeding 610 millimetres;

This is an exemption for a cushion tank (or expansion tank) in a closed hot water heating system. Note: if the pressure exceeds 207 kPa (30 psig), or the internal diameter exceeds 610 millimetres (24 inches), the exemption will not be applicable.

A cushion tank (or expansion tank) is a pressure vessel installed in a closed hot water heating system to provide a pneumatic cushion for the expansion of the water.

If the heating plant is subject to supervision under the Power Engineers Regulation, this vessel is included in the equipment to be supervised by the certified power engineer.

(b) a pressure piping system that forms part of a heating plant;

See “heating plant” definition in the PESR.

If the heating plant is subject to supervision under the Power Engineers Regulation, this piping is included in the equipment to be supervised by the certified power engineer.

(c) the following equipment used for clothing care whether or not it is located in a dry cleaning facility:

- (i) a steam chest not exceeding a volume of 42.5 litres and operating at a steam pressure not exceeding 1035 kilopascals;
- (ii) a press not exceeding a volume of 42.5 litres and operating at a steam pressure not exceeding 1035 kilopascals;
- (iii) a spray tank not exceeding a volume of 42.5 litres.

If the type of pressure equipment exceeds either the volume or pressure limits shown for that equipment, the exemption is not applicable.

If the plant is subject to supervision under the Power Engineers Regulation, this pressure equipment is included in the equipment to be supervised by the certified power engineer.

PEEO User Guide Revision Log

Revision No.	Revision Date	Key Changes	Reason for Changes
0	2015-12-08	First approved document	N.A.
1	2017-06-06	Contact Information, Calgary Address, 'or' added on page 11.	N.A.
1	2018-01-18	'and' removed on page 11.	N.A.
2	2018-08-13	Added examples to 2(2)(l) on page 11.	Further clarification