



Province of Alberta

SAFETY CODES ACT

PRESSURE EQUIPMENT SAFETY REGULATION

Alberta Regulation 49/2006

With amendments up to and including Alberta Regulation 195/2015

Office Consolidation

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(Consolidated up to 195/2015)

ALBERTA REGULATION 49/2006

Safety Codes Act

PRESSURE EQUIPMENT SAFETY REGULATION

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Interpretation

1(1) In this Regulation,

- (a) "Act" means the *Safety Codes Act*;
- (b) "Administrator" means the Administrator in the pressure equipment discipline appointed under the Act;
- (c) "Alberta identification number" means a number that is assigned by a safety codes officer to an item of pressure equipment that identifies the item in an information system under section 58 of the Act;
- (d) "alteration" means any change to an item of pressure equipment as described in the original manufacturer's data report that requires a change of design calculations or

otherwise affects the pressure-containing capability of the item of pressure equipment;

- (e) “ASME Code” means the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code or Pressure Piping Code declared in force applicable to the equipment;
- (f) “boiler” means a vessel in which steam or other vapour can be generated under pressure or in which a liquid can be put under pressure by the direct application of a heat source;
- (g) “certificate of authorization permit” means a permit issued pursuant to section 44 of the Act authorizing a person to carry out the activities stated on the certificate of authorization permit;
- (h) “certificate of inspection permit” means a permit issued pursuant to section 44 of the Act authorizing the operation of a boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system as stated on the certificate of inspection permit;
- (i) “competent”, in relation to a person, means possessing the appropriate qualifications, knowledge, skills and experience to perform the work safely and in accordance with the Act;
- (j) “CSA” means the Canadian Standards Association;
- (k) “equipment record” includes design information, data reports, inspection plans and integrity assessment, repair and alteration records;
- (l) “expansible fluid” means
 - (i) a vapour or gaseous fluid, or
 - (ii) a liquid under pressure and at a temperature at which the liquid changes to a gas or vapour when the pressure is reduced to atmospheric pressure or when the temperature is increased to ambient temperature;
- (m) “fired-heater pressure coil” means the total fluid-retaining system within the internally insulated enclosure and header boxes of a petroleum or chemical plant fired-heater, including tubes, return bends, crossover piping, inlet and outlet headers and manifolds;

- (n) “fitting” means a valve, gauge, regulating or controlling device, flange, pipe fitting or any other appurtenance that is attached to, or forms part of, a boiler, pressure vessel, fired-heater pressure coil, thermal liquid heating system or pressure piping system;
- (o) “heating plant” means
- (i) a boiler in which steam or other vapour can be generated at a pressure not exceeding 103 kilopascals and a temperature not exceeding 121 degrees Celsius,
 - (ii) a boiler in which liquid can be heated to a pressure not exceeding 1100 kilopascals and a temperature not exceeding 121 degrees Celsius at or near the outlet of the boiler, or
 - (iii) a system or arrangement of boilers described in subclause (i) or (ii),
- and the pressure vessels, pressure piping systems and fittings used in connection with one or more of the boilers;
- (p) “hydropneumatic tank” means a vessel in a non-expansile liquid system that contains air, nitrogen or an inert gas, the compression of which serves only as a cushion;
- (q) “integrity assessment” means an examination of an item of pressure equipment, related processes and documentation to determine its conformity to the requirements established by the *Safety Codes Act* and the regulations;
- (r) “integrity assessment program” means a program, described in section 41, with respect to pressure equipment;
- (s) “integrity management system” means a system for ensuring that pressure equipment is designed, constructed, installed, operated, maintained and decommissioned in accordance with this Regulation;
- (t) “liquefied petroleum gas” means any material that is composed predominately of propane, propylene, normal butane, isobutane and butylene either by themselves or in any mixture of them;

- (u) “manufacturer’s data report” means a manufacturer’s data report as defined in CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code;
- (v) “maximum allowable working pressure” means the pressure authorized on the design registration or a lesser pressure as indicated on the manufacturer’s data report;
- (w) “non-expansible fluid” means a fluid that is not an expansible fluid;
- (x) “operate” includes placing under pressure;
- (y) “power plant” means
 - (i) a boiler in which steam or other vapour can be generated at a pressure exceeding 103 kilopascals or a temperature exceeding 121 degrees Celsius,
 - (ii) a boiler in which liquid can be heated to a pressure exceeding 1100 kilopascals or a temperature exceeding 121 degrees Celsius, or both, or
 - (iii) a system or arrangement of boilers described in subclause (i) or (ii),

and the pressure vessels, pressure piping systems and fittings used in connection with one or more of the boilers;
- (z) “pressure” means pressure that is above atmospheric pressure unless stated otherwise;
- (aa) “pressure piping system” means pipes, tubes, conduits, fittings, gaskets, bolting and other components that make up a system for the conveyance of an expansible fluid under pressure and may also control the flow of that fluid;
- (bb) “pressure plant” means a pressure vessel or a system or arrangement of pressure vessels and the pressure piping system used in connection with the pressure vessel or the system or arrangement of pressure vessels;
- (cc) “pressure vessel” means a vessel used for containing, storing, distributing, processing or otherwise handling an expansible fluid under pressure;
- (dd) “registered by the Administrator” means a design registered in accordance with section 40 of the Act and recorded in the information system maintained pursuant to section 58 of the Act;

- (dd.1) “registered by a safety codes officer” means a design registered in accordance with section 40 of the Act and recorded in the information system maintained pursuant to section 58 of the Act;
- (ee) “safety codes officer” means a safety codes officer, designated under the Act, in the pressure equipment discipline;
- (ee.1) “shop inspection” means the inspection by a safety codes officer of any boiler or pressure vessel during, and upon completion of, construction in Alberta;
- (ff) “thermal liquid” means a non-expansible fluid other than water or a mixture of water and glycol that is used as a heat transfer medium without vaporization at the maximum design temperature and atmospheric pressure;
- (ff.1) “thermal liquid heating system” means one or more thermal liquid heaters, and any connected piping system or vessel, in which a thermal liquid that is not pressurized by the application of a heat source is used as the heat transfer medium;
- (gg) “volume” means the maximum volume of water that may be contained in an item of pressure equipment.

(2) In this Regulation, a reference to a professional engineer means a person who is registered as a professional engineer in a professional organization and authorized to practise engineering in any province or territory of Canada or in any state of the United States of America.

AR 49/2006 s1;138/2011;218/2013;195/2015

Paramountcy

2(1) If there is a conflict between a code or standard declared in force by this Regulation and another regulation under a statute of Alberta, the other regulation prevails over the code or standard.

(2) If there is a conflict between the provisions of the CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code, declared in force by this Regulation and any other code or standard declared in force by this Regulation, the provisions of the CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code prevail over the other code or standard.

3 Repealed AR 158/2014 s5.

Partial exemption

4(1) In this section, “DN” means a dimensionless designator used in the SI (metric) system to describe pipe size.

(2) Pressure piping

- (a) that does not exceed DN 50,
- (b) that has a maximum allowable working pressure not exceeding 1035 kilopascals,
- (c) that has a design minimum temperature no lower than minus 46 degrees Celsius and a design temperature not exceeding 186 degrees Celsius,
- (d) that contains air, nitrogen, argon, carbon dioxide, steam, hot water or water and glycol, and
- (e) that is constructed to the applicable ASME Code,

is exempt from all the other requirements of this Regulation except section 35.

AR 49/2006 s4;85/2014

Pressure vessels

5(1) The following types of pressure vessels, regardless of volume, must meet all the requirements for pressure vessels in this Regulation:

- (a) steam jacketed sterilizers;
- (b) autoclaves;
- (c) steam jacketed kettles;
- (d) air cooled heat exchanger headers;
- (e) compressor bottles;
- (f) hairpin type heat exchangers.

(2) A type of pressure vessel not listed in subsection (1) that has a volume not exceeding 42.5 litres shall not be manufactured or operated unless it is registered by the Administrator or a safety codes officer and it may be registered and manufactured as a fitting.

(3) If there is a dispute as to whether an item of pressure equipment may be registered by the Administrator or a safety codes officer and constructed or manufactured as a fitting or as a pressure

vessel, the dispute may be referred to the Administrator for a ruling.

(4) Hot water tanks and water heaters containing water at a temperature exceeding 65 degrees Celsius must meet all the requirements of the Regulation respecting pressure vessels.

AR 49/2006 s5;195/2015

Codes and standards

6 The following codes, standards and bodies of rules are declared in force as amended or replaced from time to time as they relate to pressure equipment:

- (a) the following provisions of the CSA Standard B51 - 14, Boiler, pressure vessel and pressure piping code, published by the CSA Group:
 - (i) Part 1, General requirements for boilers, pressure vessels, and pressure piping, including informative Annex E Inspection of welds in pressure coils exposed to direct radiant heat;
 - (ii) Part 2, High-pressure cylinders for the on-board storage of natural gas and hydrogen as fuels for automotive vehicles;
 - (iii) Part 3, Compressed natural gas and hydrogen refuelling station pressure piping systems and ground storage vessels;
- (b) CSA Standard B52 - 13, Mechanical refrigeration code, published by the CSA Group;
- (c) CSA Standard Z662 - 15, Oil and gas pipeline systems, published by the CSA Group;
- (d) ASME Boiler and Pressure Vessel Code - 2015, published by the American Society of Mechanical Engineers, except that Section VIII Rules for Construction of Pressure Vessels, Division 2 - Alternative Rules, Part 5 Design by Analysis Requirements cannot be used to override the requirements stated in other parts of ASME Boiler and Pressure Vessel Code - 2015, Section VIII, Division 2, unless such use meets the terms and conditions set out in a variance issued to the owner of the pressure vessel by the Administrator;
- (e) the following sections of the ASME Code for Pressure Piping, B31, published by the American Society of Mechanical Engineers:

- (i) B31.1 - 2014, Power Piping, including Mandatory Appendices A to G, J and Non-mandatory Appendices II and III;
- (ii) B31.3 - 2014, Process Piping, including Appendices A to E, K, L and X;
- (iii) B31.5 - 2013, Refrigeration Piping and Heat Transfer Components;
- (iv) B31.9 - 2014, Building Services Piping;
- (f) American National Standards Institute (ANSI) CGA G-2.1-2014 Safety Requirements for the Storage and Handling of Anhydrous Ammonia, published by the Compressed Gas Association;
- (g) NFPA 58, Liquefied Petroleum Gas Code, 2014 edition, published by the National Fire Protection Association;
- (h) NFPA 59, Utility LP-Gas Plant Code, 2015 edition, published by the National Fire Protection Association;
- (i) MSS Standard Practice SP-25-2013, Standard Marking System for Valves, Fittings, Flanges and Unions, published by the Manufacturers Standardization Society of the Valve and Fitting Industry;
- (j) TEMA Standards of Tubular Exchanger Manufacturers Association (9th edition), published by the Tubular Exchanger Manufacturers Association;
- (k) API Standard 661-2013, Air-Cooled Heat Exchangers for General Refinery Services (7th edition), published by the American Petroleum Institute;
- (l) ISO-16528 Boilers and Pressure Vessels - Part 1, 1st Edition, 2007, published by the International Organization for Standardization, for construction not addressed in the above codes and standards provided the same engineering philosophy, safety margins and administrative requirements in CSA B51 are followed.

AR 49/2006 s6;150/2008; 238/2009;138/2011;85/2014;
195/2015

Disclaimer

7 The codes and standards declared in force by this Regulation, and any codes and standards referenced in the codes and standards, do not make or imply any assurance or guarantee by the Crown

with respect to the life expectancy, durability or operating performance of equipment and materials referenced in the codes and standards.

Design and construction

8 A person who designs, constructs, manufactures or imports pressure equipment must ensure that

- (a) the pressure equipment is designed and constructed to prevent unintentional release of contained fluid,
- (b) the pressure equipment is designed and constructed so that integrity assessments required to determine its condition may be carried out,
- (c) if the pressure equipment has means of access to its interior, the access may be made safely, and
- (d) the pressure equipment is securely anchored so that there will be no displacement of the pressure equipment when pressure is released through a safety valve, rupture disk, vent or by any other intended or designed means of release.

Complex designs and projects

9 If, in the opinion of a safety codes officer, the size or complexity of a design or project involving pressure equipment may give rise to safety concerns, the safety codes officer may require that either or both of the following be undertaken:

- (a) all plans, documents and specifications, or any part of them, be affixed with the stamp or seal of a professional engineer;
- (b) the construction, installation, examination or testing of that pressure equipment be reviewed throughout the course of that work by a professional engineer.

Manhole opening requirement

10(1) Despite any code declared in force by this Regulation, all pressure vessels exceeding 914 millimetres in the inside diameter must have a manhole opening.

(2) All pressure vessels not exceeding 914 millimetres in the inside diameter must have inspection openings that meet the requirements of the applicable codes or standards declared in force by this Regulation.

- (3) Despite subsections (1) and (2), if a manhole opening or inspection opening is not considered to be justified because of the shape of the vessel or the service for which the vessel is to be used,
- (a) the Administrator or a safety codes officer may accept other options permitted by the applicable codes or standards declared in force by this Regulation, or
 - (b) an application may be made to the Administrator for a variance.

AR 49/2006 s10;195/2015

Quality Management Systems

Quality management system/Certificate of authorization permit

11(1) A person shall not

- (a) construct or manufacture pressure equipment,
- (b) repair or alter pressure equipment, or
- (c) service, repair, set or seal a pressure relief valve,

unless that person holds a certificate of authorization permit.

(2) The Administrator may require that a person who performs integrity assessments of pressure equipment must hold a certificate of authorization permit.

(3) The Administrator may require that an owner of pressure equipment must hold a certificate of authorization permit.

Application for authorization permit

12(1) An application to the Administrator, for a certificate of authorization permit, must be on a form satisfactory to the Administrator and must include the following:

- (a) the scope of work to be undertaken pursuant to the permit;
- (b) a written description of the quality management system;
- (c) a statement by a company officer committing to uphold the Quality Management System;
- (d) information with respect to the organization and procedures of the applicant;
- (e) any other information required by the Administrator.

(2) The Administrator may require an applicant to undertake an examination or evaluation by a safety codes officer with respect to any matter concerning the organization, operation and procedures of the applicant related to the application.

Authorization permit holder's duties

13 A person who holds a certificate of authorization permit must

- (a) establish and maintain a quality management system acceptable to the Administrator,
- (b) satisfy the Administrator that an appropriate organization and resources for managing the quality management system effectively are in place,
- (c) meet all the terms and conditions, if any, of the certificate of authorization permit, and
- (d) provide the Administrator with a written description of the quality management system for managing, controlling and documenting the processes or activities permitted by the certificate of authorization permit.

Registration

Pressure equipment design registration

14(1) No person shall

- (a) construct or manufacture for use in Alberta, or
- (b) import for use in Alberta

any pressure equipment unless the design of that pressure equipment is registered by the Administrator or a safety codes officer pursuant to section 40 of the Act and the design of the pressure equipment meets the requirements of this Regulation.

(2) A person who intends to bring into Alberta new or used pressure equipment, the design of which has not been registered by the Administrator or a safety codes officer, must ensure that the owner of the design, or the manufacturer of the boiler, pressure vessel, fired-heater pressure coil, thermal liquid heating system, pressure piping system or fitting obtains registration of the design of the pressure equipment.

(3) An applicant for the registration of a design pursuant to section 40 of the Act must submit the information that the Administrator or a safety codes officer requires.

- (4) The Administrator or a safety codes officer may include conditions in the registration of a design.
- (5) If a design is registered by the Administrator, the Administrator may specify the number of items of pressure equipment that are permitted to be constructed to that design.
- (5.1) If a design is registered by a safety codes officer, the safety codes officer may specify the number of items of pressure equipment that are permitted to be constructed to that design.
- (6) Despite subsections (1) and (2), the following are exempt from the requirement to have the design registered by the Administrator or a safety codes officer:
- (a) a pressure piping system having an aggregate internal volume not exceeding 500 litres;
 - (b) the design of a fitting that meets the requirements of this Regulation and the codes and standards declared in force under the Act and is registered in a central fitting registration program in accordance with CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code.

AR 49/2006 s14;195/2015

Boilers, pressure vessels, fired-heater pressure coils, thermal liquid heating systems design submissions

15(1) Pursuant to section 14(3), the drawings, specifications and other information to register the design of a boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system must be submitted to the Administrator in duplicate and must include the following:

- (a) the design pressure and temperature;
- (b) details of the arrangement and dimensions of all component parts;
- (c) ASME specification numbers for all materials;
- (d) weld joint details;
- (e) non-destructive examination details;
- (f) the welding procedure specification numbers;
- (g) the title of the applicable code or standard, including the relevant edition and addenda dates;
- (h) calculations;

- (i) a report of any physical tests conducted for the purpose of establishing the working pressure of the boiler or pressure vessel or any part of it;
 - (j) any other information that is necessary for the Administrator or a safety codes officer to survey the design and determine whether it is suitable for registration.
- (2) The drawings, specifications and information referred to in subsection (1) must bear the name of
- (a) the owner of the design, or
 - (b) the person who will be the manufacturer of the pressure equipment.

AR 49/2006 s15;195/2015

Pressure piping systems design submissions

16(1) Pursuant to section 14(3), the information to register the design of a pressure piping system must be submitted to the Administrator in duplicate and must include the following:

- (a) flow or line diagrams showing the general arrangement of all boilers, pressure vessels, pressure piping systems and fittings;
- (b) line identification lists showing the design pressures and temperatures for each pressure piping line;
- (c) a list of pressure relief devices, including the set pressures;
- (d) material specifications;
- (e) size, schedule and primary service rating of all pressure pipe fittings;
- (f) the welding procedure registration number;
- (g) the pressure pipe test procedure outlining the type, method, test medium, test pressure, test temperature, duration and safety precautions;
- (h) a form, provided by the Administrator, completed by the engineering designer or contractor that relates to the general engineering requirements for design and construction of pressure piping systems;

- (i) any other information that is necessary for the Administrator or safety codes officer to survey the design and determine whether it is suitable for registration.
- (2) The information referred to in subsection (1) must bear the stamp or seal of a professional engineer and the name of
 - (a) the owner of the design, or
 - (b) the person who will be the manufacturer of the pressure piping system.

AR 49/2006 s16;195/2015

Fittings designs submissions

17(1) Pursuant to section 14(3), the information to register the design of a fitting must be submitted to the Administrator in duplicate and must include the following:

- (a) a statutory declaration in a form provided by the Administrator completed by the manufacturer;
 - (b) supporting documents relating to the fitting, including, but not restricted to, drawings, catalogues, bulletins or brochures that list the manufacturer's rating specifications;
 - (c) any other information that is necessary for the Administrator or a safety codes officer to survey the design and determine whether it is suitable for registration.
- (2) Any fitting that is supplied by the applicant must be identified in accordance with the standard marking system outlined in MSS Standard Practice SP-25, Standard Marking System for Valves, Fittings, Flanges and Unions.
- (3) If the applicant for registration of a fittings design is unable to declare that the design of the fittings complies with a code or standard adopted by this Regulation, the Administrator or a safety codes officer may register the fittings designs, if the applicant satisfies the Administrator or a safety codes officer or a safety codes officer that the fittings have been satisfactorily tested in a manner acceptable to the Administrator or a safety codes officer.
- (4) The Administrator or a safety codes officer may require any manufacturer of fittings to submit samples for examination and testing.
- (5) Any samples submitted under subsection (4) will be returned to the manufacturer if the manufacturer within 90 days of submitting

the fitting requests it in writing and pays the costs of returning them and it is possible, safe and practical to return them.

(6) If the manufacturer does not request the return of samples in accordance with subsection (5) or it is impossible, unsafe or impractical to return them, the Administrator or a safety codes officer may dispose of the samples.

AR 49/2006 s17;195/2015

Welding, brazing and other joining procedures submissions

18(1) A person shall not construct or manufacture pressure equipment by welding, brazing or other joining procedures that require registration under this Regulation unless the welding, brazing or joining procedure is registered pursuant to section 40 of the Act and the procedure meets the requirements of this Regulation.

(2) The information to register a welding, brazing or other joining procedure that must be submitted to the Administrator pursuant to subsection (1) includes the following in duplicate:

- (a) the procedure specification;
- (b) supporting procedure qualification records;
- (c) any other information that is necessary for the Administrator or a safety codes officer to survey the procedure and determine whether it is suitable for registration.

AR 49/2006 s18;195/2015

Pressure equipment design registered

19(1) If the Administrator or a safety codes officer, on being satisfied that a design meets the requirements of this Regulation, approves the registration of the design of a boiler, pressure vessel, fired-heater pressure coil, thermal liquid heating system or pressure piping system, the Administrator or safety codes officer must

- (a) indicate approval of the registration of the design by placing a stamp on the design that indicates the registration number and the date of the registration,
- (b) sign the stamp, and
- (c) ensure that the following is entered into an information system:
 - (i) the registration number;

- (ii) the name of the owner of the design and, where applicable, the name of the manufacturer or contractor;
- (iii) a description of the boiler, pressure vessel, fired-heater pressure coil, thermal liquid heating system or pressure piping system;
- (iv) the dimensions or size, where applicable, of the boiler, pressure vessel, fired-heater pressure coil, thermal liquid heating system or pressure piping system;
- (v) maximum allowable pressure and the maximum and minimum working temperatures if applicable;
- (vi) the date the design was registered.

(2) When a design has been registered, the Administrator or safety codes officer must return a copy of the registered drawings, specifications or other design documents to the person who submitted the application for registration or to someone else designated by the person.

AR 49/2006 s19;195/2015

Fittings design registered

20(1) If the Administrator or a safety codes officer, on being satisfied that a design meets the requirements of this Regulation, approves the registration of the design of a fitting, the Administrator or safety codes officer must

- (a) indicate approval of the registration of the design by placing a stamp on the design that indicates the registration number and the date of registration,
- (b) sign the stamp, and
- (c) ensure that the following is entered into an information system:
 - (i) the registration number;
 - (ii) the name of the manufacturer of the fitting;
 - (iii) a description of the fitting or fittings;
 - (iv) the identification number of the catalogue or supporting documents;
 - (v) the date registered.

(2) Despite subsection (1), the Administrator or a safety codes officer may register the designs of fittings collectively under one registration number.

(3) When a design has been registered, the Administrator or a safety codes officer must return a copy of the registered design referred to in subsection (1)(a) to the person who submitted the application for registration or to someone else designated by the person.

AR 49/2006 s20;195/2015

Welding, brazing and other joining procedures registered

21(1) If the Administrator or a safety codes officer, on being satisfied that a welding, brazing or other joining procedure meets the requirements of this Regulation, approves the registration of the procedure, the Administrator or safety codes officer must

- (a) indicate the acceptance of the registration of the procedure by placing a stamp on the procedure that indicates the registration number and the date of the registration,
- (b) sign the stamp, and
- (c) ensure that the following is entered into an information system:
 - (i) the registration number;
 - (ii) the name of the owner of the procedure;
 - (iii) the date the procedure was registered;

(2) When a procedure has been registered, the Administrator or safety codes officer must return a copy of the registered procedure referred to in subsection (1)(a) to the person who submitted the application for registration or to someone else designated by the person.

AR 49/2006 s21;195/2015

Change to a design

22(1) If a person proposes to make a change to a pressure equipment design that has been registered by the Administrator or a safety codes officer, that person must submit drawings, specifications and other information concerning the change to the Administrator for review and registration of the change.

(2) If the Administrator considers the change to a design sufficiently extensive, the Administrator may require the same

information to be submitted as if the submission were a first application for registration of the design.

AR 49/2006 s22;195/2015

Alternative design codes and standards

23(1) The Administrator may accept designs of pressure equipment that are not designed in accordance with the codes and standards declared in force by this Regulation submitted for registration under section 40 of the Act if, in the opinion of the Administrator, they are of an equivalent standard of safety as those codes and bodies of rules declared in force by this Regulation and they meet the requirements for registration.

(2) A safety codes officer may accept designs of pressure equipment that are not designed in accordance with the codes and standards declared in force by this Regulation submitted for registration under section 40 of the Act if, in the opinion of the safety codes officer, they are of an equivalent standard of safety as those codes and bodies of rules declared in force by this Regulation and they meet the requirements for registration.

AR 49/2006 s23;195/2015

Notification of deregistration of design

24 On receipt of a notice that a design is deregistered, the person who submitted the design for registration must forward copies of the deregistration notice to every person who is permitted to construct the pressure equipment in accordance with the design referred to in the notice.

Construction

Construction or manufacturing

25 Any person who constructs or manufactures pressure equipment in Alberta must

- (a) hold a certificate of authorization permit described in section 11 and comply with section 13,
- (b) during the construction or manufacture, make available to a safety codes officer all drawings and specifications for that pressure equipment, and
- (c) ensure shop inspection is conducted by a safety codes officer when the manufacturer's data report must be certified.

AR 49/2006 s25;138/2011

Equipment constructed outside Alberta

26 No person shall use in Alberta any pressure equipment constructed outside Alberta unless the person constructing the boiler, pressure vessel, fired-heater pressure coil, thermal liquid heating system, pressure piping system or fitting satisfies a safety codes officer that

- (a) the construction was in accordance with the registered design,
- (b) the welding or brazing performance qualification tests of the welders or brazers who were engaged in the construction complied with the ASME Boiler and Pressure Vessel Code, Section IX, and
- (c) it was inspected and tested in the same way, or substantially the same way, that it would have been if it had been constructed in Alberta.

Welding, brazing and other joining procedures

27(1) A person who uses welding or brazing to construct or manufacture any pressure equipment

- (a) must comply with the requirements of the ASME Boiler and Pressure Vessel Code, Section IX, Welding and Brazing Qualifications, and
- (b) shall not construct or manufacture pressure equipment by welding or brazing unless the welding or brazing procedure is registered in accordance with section 18.

(2) If the code of construction for an item of pressure equipment requires qualification of a joining procedure other than welding or brazing, a person who uses that joining procedure to construct that pressure equipment

- (a) must comply with the requirements of the code of construction, and
- (b) shall not construct or manufacture that pressure equipment unless the joining procedure is registered in accordance with section 18.

(3) Despite subsections (1)(b) and (2)(b), the Administrator may waive the requirements regarding pressure equipment constructed or manufactured outside Alberta for use in Alberta if the welding, brazing or other joining procedure has been approved by an organization acceptable to the Administrator.

Stamping and nameplates

28(1) Stamping and nameplates must meet the requirements of CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code except as modified by this section.

(2) Subject to subsection (4), a boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system for use in Alberta that was constructed or manufactured in Canada must

- (a) have stamped on it the Canadian registration number in accordance with CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code, and
- (b) comply with the ASME Code marking requirements except that the official ASME Code symbol is not required.

(3) A boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system for use in Alberta that was constructed or manufactured outside Canada must

- (a) have stamped on it the Canadian registration number,
- (b) comply with the ASME Code marking requirements,
- (c) have the official ASME Code symbol stamped on it, and
- (d) be registered with the National Board of Boiler and Pressure Vessel Inspectors.

(4) All pressure vessels designed and constructed or manufactured to Section VIII, Division 2 or 3 of the ASME Boiler and Pressure Vessel Code must be stamped with the official ASME Code symbol.

Manufacturer's data report

29(1) The manufacturer of a boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system for use in Alberta must send to the Administrator a manufacturer's data report

- (a) that conforms to the requirements of the ASME Code, or
- (b) in a form acceptable to the Administrator.

(2) A vendor, owner or manufacturer who brings or causes to be brought into Alberta a boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system must ensure that the manufacturer's data report has been sent to the Administrator.

Pressure piping tests

30(1) All pressure piping leak tests must be conducted using the hydrostatic method.

(2) Despite subsection (1), the Administrator may accept, for a specific pressure piping system, alternative test methods that are allowed in a code or standard that is declared in force.

(3) A pressure piping system shall not be tested at a temperature that is colder than its minimum design temperature.

(4) When conducting pressure tests, the ductile-to-brittle transition temperature and the possibility of brittle fracture must be considered by the contractor.

Pressure piping data report

31(1) A pressure piping construction and test data report form must be

- (a) in a form acceptable to the Administrator,
- (b) completed and certified for all pressure piping constructed, and
- (c) retained on file by the owner for a period of not less than 5 years.

(2) Despite subsection (1), for piping constructed outside Alberta, the pressure piping construction and test data report form must be completed by the person who constructed the piping and must be certified by an inspector acceptable to the Administrator.

Completion of construction declaration

32 Before the initial operation of any pressure piping system that requires registration of its design, the person responsible for its construction must provide the Administrator with a declaration on a form acceptable to the Administrator confirming that the construction was carried out in accordance with this Regulation.

Operations**Certificate of inspection permit**

33(1) A boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system shall not be operated unless

- (a) a certificate of inspection permit has been issued in respect of it, and

- (b) all the terms and conditions, if any, of the permit have been met.

(2) Despite subsection (1), the following do not require a certificate of inspection permit but must meet all the other requirements of this Regulation:

- (a) a boiler that has a volume not exceeding 42.5 litres;
- (b) a pressure vessel that
 - (i) has a volume not exceeding 500 litres,
 - (ii) has a maximum allowable working pressure not exceeding 1725 kilopascals, and
 - (iii) is used as an air receiver, air and oil receiver, air filter, air dryer, cushion tank, hydropneumatic tank, hydropneumatic valve operating cylinder or pneumatic valve operating cylinder;
- (c) a pressure vessel that
 - (i) does not have a quick actuating closure,
 - (ii) is not required by the ASME Boiler and Pressure Vessel Code to be fully radiographed,
 - (iii) does not exceed 150 litres in volume and 1725 kilopascals design pressure or 85 litres in volume and 2415 kilopascals design pressure or 42.5 litres in volume and 4140 kilopascals design pressure or any intermediate combination of volume and pressure obtained by straight line interpolation between adjacent pairs of values, and
 - (iv) is not designed and constructed in accordance with Section VIII, Division 2 or 3 of the ASME Boiler and Pressure Vessel Code;
- (d) a pressure vessel that
 - (i) has a volume not exceeding 42.5 litres,
 - (ii) has an internal diameter not exceeding 152 millimetres, and
 - (iii) is not designed and constructed in accordance with Section VIII, Division 2 or 3 of the ASME Boiler and Pressure Vessel Code;

- (e) a liquefied petroleum gas storage tank that has a volume not exceeding 10 cubic metres;
- (f) a pressure vessel that
 - (i) contains liquefied petroleum gases or compressed natural gas,
 - (ii) has a volume not exceeding 1.15 cubic metres, and
 - (iii) is mounted on a vehicle and provides motor fuel for that vehicle, or is mounted on a vehicle subject to the *Motor Vehicle Transport Act, 1987* (Canada);
- (g) a boiler, hot water tank, water heater, cushion tank or heating plant that
 - (i) was installed, used, operated or placed under pressure on or before June 25, 1975, and
 - (ii) is located in a private residence that contains not more than 4 dwelling units.

Retention of certificates of inspection permit

34 A certificate of inspection permit must be retained in a manner acceptable to the Administrator.

Unsafe condition, accident or fire

35(1) The owner of pressure equipment must forthwith report to the Administrator under section 59 of the Act any unsafe condition, accident or fire that occurs with respect to that pressure equipment.

(2) If an accident involving pressure equipment occurs and the accident results in damage to property or an injury to or death of a person, the owner or person in charge must send a full report in writing to the Administrator as soon as possible after the accident and must specify in the report

- (a) the exact place of the accident,
- (b) the name of any person killed or injured as a result of the accident,
- (c) a description of any damage to the property,
- (d) the cause and particulars of the accident, as far as may be ascertained, and
- (e) any other information that may be required by the Administrator.

(3) If an accident or fire referred to in subsection (1) has occurred, no person shall remove or interfere with any thing in, on or about the place where the accident or fire occurred without the permission of a safety codes officer unless it is necessary to do so to prevent further injury or property damage.

Change of ownership or location

36(1) An owner or vendor must notify the Administrator in writing when

- (a) the owner or vendor sells, leases, exchanges, relocates or otherwise disposes of a new or used boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system, or
- (b) the owner or vendor brings a new or used boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system into Alberta.

(2) A notification under subsection (1) must identify the boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system, its location, the current owner and the date of the sale, lease, exchange, relocation, disposition or arrival in Alberta.

(3) An owner or vendor described in subsection (1)(a) must provide the equipment records for the boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system to the person who acquires it.

(4) An owner who acquires a new or used boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system must

- (a) ensure that the Administrator is notified in accordance with this section,
- (b) request the owner or vendor disposing of the boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system to provide the equipment records for the pressure equipment, and
- (c) ensure that the acquired pressure equipment meets the requirements of this Regulation and is in safe operating condition before using it or placing it in service.

(5) Subsection (1) does not apply to pressure equipment that is exempt from the requirement to have a certificate of inspection permit.

(6) An owner who offers pressure equipment for lease must

- (a) ensure that the pressure equipment meets the requirements of the Act and is safe for its intended use, and
- (b) provide suitable instructions for the safe operation of the pressure equipment.

Responsibility of owners

37 The owner of pressure equipment must ensure that

- (a) the pressure equipment meets the requirements of this Regulation,
- (b) an integrity management system is in place for the pressure equipment,
- (c) the pressure equipment and pressure relief devices, pressure gauges and regulating or controlling devices on them are maintained in good working order and are operated safely,
- (d) safe operating limits are established for the pressure equipment,
- (e) the pressure equipment is operated within established safe operating limits,
- (f) there are adequate and suitable instructions for the safe operation of the pressure equipment, and
- (g) the person operating the pressure equipment is competent.

Overpressure protection

38(1) An owner of pressure equipment must ensure it has overpressure protection that is

- (a) a pressure relief valve that meets the requirements of the ASME Code, or
- (b) other means of overpressure protection acceptable to the Administrator.

(2) A pressure relief device must be set to open before the pressure in the pressure equipment exceeds the maximum allowable working pressure of the pressure equipment.

(3) An owner of pressure equipment must ensure that the overpressure protection system is designed and maintained so that the maximum pressure in the pressure equipment does not exceed

the prescribed limit of overpressure allowed in the applicable code declared in force by this Regulation.

Pressure relief devices

39(1) Adjustable parts of a pressure relief device must be sealed at the time of servicing and remain sealed during operation.

(2) Seals must be installed in a manner that prevents changing the adjustment of a pressure relief device without breaking the seal.

(3) A pressure relief device must be serviced at an interval acceptable to the Administrator.

(4) A pressure relief valve may be serviced, repaired, set or sealed only by a person who holds a certificate of authorization permit described in section 11 and who complies with section 13.

Repairs and alterations

40(1) Pursuant to section 43 of the Act, repairs and alterations of pressure equipment installed in Alberta must be done by a person who holds a certificate of authorization permit under section 11 and who complies with section 13.

(2) The repair or alteration referred to in subsection (1) must be documented and certified on a form acceptable to the Administrator.

(3) Repairs or alterations to pressure equipment shall not be undertaken without the prior agreement of a safety codes officer.

(4) An owner of pressure equipment that is to be altered must ensure that the alteration design is registered by the Administrator, in accordance with section 14, prior to the commencement of the alteration.

(5) The Administrator or a safety codes officer may require the owner of pressure equipment that is to be repaired to submit a detailed work procedure or design details for acceptance prior to the commencement of the repair.

(6) If a boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system is to be repaired or altered, the owner of that pressure equipment must notify a safety codes officer reasonably in advance of the commencement of the alteration or repair unless otherwise provided for in a certificate of authorization permit referred to in section 11(3).

(7) Despite subsection (1), repairs and alterations done in another jurisdiction on pressure equipment that is to be brought into Alberta must

- (a) be done under a quality control program in accordance with CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code,
- (b) be inspected and certified by an inspector acceptable to the Administrator,
- (c) meet any other requirements of the Administrator, and
- (d) be documented in a manner acceptable to the Administrator.

(8) If pressure equipment needs repair, the Administrator or a safety codes officer may require the owner of that pressure equipment to submit a detailed report setting out the circumstances that led to the damage to the pressure equipment.

AR 49/2006 s40;195/2015

Integrity assessment programs

41 An integrity assessment program with respect to pressure equipment must include, but is not restricted to,

- (a) maintaining an inventory of all the pressure equipment,
- (b) assessing the pressure equipment in accordance with the integrity assessment requirements established by the Administrator,
- (c) maintaining equipment records for each item of pressure equipment,
- (d) maintaining records of maintenance, service and tests for pressure relief devices and other protective devices,
- (e) assessing the integrity assessment, maintenance and operating history of the pressure equipment to ensure that the equipment is safe for continued operation, and
- (f) any other matter required by the Administrator.

Owner's responsibility for integrity assessment

42(1) The owner of pressure equipment must, unless exempted by the Administrator, establish and maintain an integrity assessment program that is acceptable to the Administrator.

(2) When the owner of pressure equipment is requested to submit integrity assessment records to the Administrator, the records

- (a) must be submitted in a form acceptable to the Administrator, and
- (b) must be acceptable to the Administrator.

Qualifications of persons performing integrity assessments

43 A person shall not perform an integrity assessment of pressure equipment unless that person

- (a) holds qualifications that are acceptable to the Administrator, and
- (b) satisfies the conditions prescribed in the certificate of competency if such a certificate has been issued to the person.

Conducting an integrity assessment

44(1) An owner of pressure equipment must conduct an integrity assessment of pressure equipment when requested to do so by a safety codes officer.

(2) A safety codes officer may update an information system under section 58 of the Act regarding the pressure equipment.

Riveted lap joints

45(1) After a riveted longitudinal lap joint boiler's or pressure vessel's 20th year of age, the factor of safety must be increased by at least 0.1 each year.

(2) If a riveted longitudinal lap joint boiler or pressure vessel is moved to a new location, the owner shall not operate it or permit it to be operated at a pressure exceeding 103 kilopascals.

(3) Subsection (2) does not apply to a boiler or pressure vessel described in section 46.

Historical pressure equipment

46(1) The owner of any locomotive boiler, traction boiler or antique pressure vessel that is operated in a parade or is used for education or entertainment purposes must ensure

- (a) that it is inspected pursuant to the Act as considered necessary by a safety codes officer, and

(b) that a certificate of inspection permit has been issued within the 12-month period prior to its display in an operating condition.

(2) The owner or person in charge of a boiler in subsection (1) is responsible for ensuring that any steam engine and equipment connected to it is in safe working order before displaying it in an operating condition.

Coming into Force

47, 48 Repealed AR 195/2015 s18.

49 Repealed AR 227/2012 s7.

Coming into force

50 This Regulation comes into force on April 1, 2006.



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