PRESSURE PIPING REGISTRATION AND INSPECTION

1. This circular details the requirements for the registration of designs, installation and inspection of pressure piping systems for use in British Columbia. Pressure piping systems are piping systems containing (a) an expansible fluid, or (b) a non-expansible fluid or thermal fluid (fluids other than water or aqueous solutions used for heat transfer) with an operating temperature exceeding 121°C or a working pressure exceeding 1100 kPa. An expansible fluid is any vapour, gas or liquid that will change to a vapour or gas at atmospheric conditions (14.7 psia and 70°F). Pressure piping systems shall be registered in accordance with CSA B51 "Boiler, Pressure Vessel and Pressure Piping Code". Registration submissions must be sent to:

BCSA
505 – SIXTH STREET, SUITE 200
NEW WESTMINSTER, B.C. V3L 0E1
Attention: Design Survey

2. The following pressure piping systems are exempted from the requirements of the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation:

(a) A pressure piping system operating at and with a relief valve or valves set at 103kPa or less.
(b) A pressure piping system external to the boiler proper in a low temperature low pressure fluid plant (a plant containing a liquid but not thermal fluids operating at a working pressure of 206 kPa or less and a temperature of 100°C or less).

3. The standards governing the design and construction of all pressure piping systems including piping that is NPS 3 or less are the ASME Code for Pressure Piping, B31 series. The design of pressure piping that is NPS 3 or less does not require registration however the piping system must comply with all other requirements of the Regulation and construction code

4. Design registration is required for piping systems greater than NPS 3. Sufficient documentation to verify that the design conforms to the applicable B31 piping code shall be submitted. As a minimum, the following information and documentation shall be submitted:

(a) A completed British Columbia *CRN application form (FRM-1171)*
(b) Design data such as ASME code specification, material specifications, pressure ratings, temperature ratings and type of service
(c) Two copies of PI & Ds or schematic drawings showing the specific lines to be registered, and two copies of line lists showing line numbers & sizes, design & test parameters
(d) ASME code calculations for expansion, flexibility and support for pipe diameters exceeding NPS 3.

5. The drawings should be identified by number and revision and indicate ASME code of construction (edition and addenda), non-destructive examination requirements, maximum allowable working pressure, minimum and maximum design temperatures, fluid service, heat treatment, impact testing, corrosion allowance, dimensions, flange, valve and fitting standards, CRNs for boilers, pressure vessels or fittings in the system and ASME material specifications.

505 – SIXTH STREET, SUITE 200, NEW WESTMINSTER, BRITISH COLUMBIA, CANADA V3L 0E1
Phone: (778) 396-2027 Fax: (778) 396-2064 Website: www.safetyauthority.ca

6. The drawings and calculations shall contain sufficient information to verify that all applicable requirements of the specified ASME code have been complied with. The calculations shall show the formulas used or reference the code section, which is the source of the appropriate formula. Where computer programs have been used for piping design, a complete program report is not required and only the name of the program utilized, input data and output results should be submitted.

7. Upon satisfactory review of the piping system design registration documentation, a design registration letter indicating the British Columbia piping registration number (P number), date of registration, description of the piping system, installation site, drawing numbers, registration fee and any other pertinent information will be sent to the applicant. A separate invoice will be forwarded for the registration fee. No other documents will be stamped or returned to the applicant.

8. Piping systems shall be constructed and installed by a licensed contractor. Prior to construction or installation the contractor shall notify a safety officer of the work. On the completion of construction or installation, the contractor must notify a safety officer that the work is complete and must complete a construction data report for all piping systems. The piping system may be inspected by a safety officer who may witness or require a pressure test report before the piping system is placed in service.

9. For construction data report, the following rules apply:

a) For piping systems manufactured in British Columbia , a *Construction Data Report For Piping Systems Manufactured Inside British Columbia (FRM-1329)* shall be completed and signed by the manufacturer and by the Safety Officer (BCSA Boiler Safety Officer).
b) A partial construction data report shall also be completed for parts of a piping system, such as pipe spools, fabricated at a location other than the piping installation or supplied by another manufacturer.
c) All applicable categories indicated by the manufacturer in the construction data report (Shop Construction, Field Construction, Final Data Report or Partial Data Report) shall be signed by a Safety Officer.
d) For piping systems manufactured outside of British Columbia a *Construction Data Report For Piping Systems Manufactured Outside British Columbia (FRM-1330)* shall be completed and signed by the manufacturer and by the Authorized Inspector.
e) All applicable piping system construction data reports shall be available for review by the Safety Officer at the installation site.

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