

CSA B149.1-20 Natural gas and propane installation code

The CSA B149.1 Natural gas and propane installation code has the largest impact of the B149 series codes on the gas fitting industry in BC. This is because it affects the installation of natural gas and propane piping systems, appliances and accessories, venting systems, and air requirements. All gas fitters and gas contractors across the industry look to this code to provide the minimum installation requirements for gas system installations in BC.

Technical Safety BC plans to recommend the adoption of the 2020 edition of the CSA B149.1, with variations to Clause 5.6.4 and Clause 6.2.

Section or clause	Revision	Impact
General	Removal of bold and italicized text and symbols indicating revisions to improve accessibility by allowing for digital readers.	All code users: The codes are now accessible on electronic reading devices.
General	Updated scope to align with industry standards and clarify intended application of the code, specifically excluding propane used as a refrigerant.	Owners and contractors of propane refrigeration systems: Clarifies that when propane is used as a refrigerant, it falls under the scope of the Power Engineers, Boiler, Pressure Vessel, and Refrigeration Safety Regulation .
Section 2	Revised and added definitions to align with revisions throughout the code.	Training providers, all code users: New definitions must be integrated into existing and future training for industry.
Clause 4.7.4	Changes to bonding requirements for gas systems including specific requirements for CSST tubing.	Contractors and gas fitters: Improves on safety for installations of corrugated stainless-steel tubing. Requires further coordination between electrical and gas contractors.
Clause 4.22.2	Updated general requirements including electrical connections and components, and requirements for high altitude installations.	Contractors and gas fitters: Revised wording for appliances installed at high elevations and for bonding connections of all gas systems, to improve clarity.

Section or clause	Revision	Impact
Section 5	Revisions and updates to requirements for pressure regulators and overpressure protection devices to align with nationally recognized standards for line pressure regulators. Revisions and restructuring of this section are also to clarify requirements and remove ambiguity for line pressure regulators, overpressure protection devices, and venting of pressure control devices, including: • • Introducing pressure control requirements for systems with service regulator delivery pressure of 2 psi or less. • Introducing pressure control requirements for multi-stage regulation for systems with delivery pressure greater than 2 psi. • Recognizing and clarifying requirements for the installation of “vent-less” regulators • Clarifying where the vent lines from the relief device may be reduced based on the use of certified regulators with overpressure protection.	Contractors, gas fitters, and utilities: Requirements for overpressure protection for service regulators may impact utilities using specific types of overpressure protection cut-off devices. Training for implementing newly rewritten requirements for pressure regulators and overpressure relief devices will be required at all levels of users of the code, including gas fitter training, existing gas fitters, gas contractors, and Safety Officers.

Section or clause	Revision	Impact
Proposed variation Clause 5.6.4	Proposed variation to new clause to allow for reduced clearance from vent terminations of pressure control devices, for consistency in relief capacity. Reducing clearances from known hazards such as building openings, mechanical air intakes, and sources of ignition is intended for limited relief capacity devices. This proposed variation supports consistency across all regulator and overpressure protection devices.	Contractors and gas fitters: Can continue to terminate vents outdoors in accordance with clearances outlined in the code and directives.
Annex K	A new informative annex was developed and added containing explanatory information regarding the changes to section 5.	Contractors and gas fitters: Further supports the revisions to section 5 for regulators and overpressure protection. Explanatory information provided will assist in the development of training materials and better understanding of the revisions across industry.
Proposed variation Clause 6.2	Updates include adding coverage for emerging gas piping technologies, and alignment with nationally recognized standards for those technologies which includes press-connect piping systems. Proposed variation: Allow for up to 4" press connect fittings.	Contractors and gas fitters: Allows for the use of newly developed technologies. Also aligns with nationally recognized standards. Allowing up to 4" press connect fittings further aligns with developments in Canadian industry standards.
Section 6.23	Updated requirements for purging gas systems, including greater restrictions on purging indoors, and requiring purging twice, once with an inert gas and once with a fuel gas, for gas piping systems the size and length described in Table 6.4 and containing air.	Contractors and gas fitters: Will need to learn and follow updated requirements for purging for all sizes of gas piping systems. Additional requirements for purging of larger size piping systems may require additional training, time, and materials when placing a larger gas system into operation.

Section or clause	Revision	Impact
Clause 7	Updates for requirements for individual appliance types. Specific requirements for generators and stationary engines relocated to the B149.3 code for field approval of fuel burning appliances and equipment to align with the scope of the codes.	Owners of stationary engines and turbines: All stationary engines and turbines will need to be certified or approved, and will no longer be exempt from the Gas Safety Regulation .
Clause 6.9.4	Updated requirements for welding and weld inspections.	Contractors and owners: Revisions provide clarification and aligns code with nationally recognized piping standards and provincial regulatory requirements for pressure welding under the PEBPVRSR .
Clause 7.22	Clarification of requirements for Direct Fired Process Air heaters used in a spray application.	Owners in automotive industry: Improves operator/worker safety for this type of industrial equipment.
Annex M	The new mandatory annex M aligns with existing directive D-G5 051206-6, which outlines specific safety requirements for the operation of temporary installations of propane and associated appliances at shows, exhibitions, or other similar events.	Gas appliance suppliers: No change to requirements in existing directive. Having these requirements as part of the code enhances consistency and accessibility of the information for the intended user.

Note: By relocating code requirements for safety mobile food service units into a single annex, it will be easier for gas fitters to construct these units and for inspectors to assess compliance of the units. As well, it will improve overall safety of construction.. This new annex is part of the CSA B149.3 Code for field approval of fuel-burning appliances and equipment, but the B149.1 is also impacted as specific clauses from this code, which created challenges for industry, will no longer be utilized for mobile food service equipment (food trucks).