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## ***Safety Standards Act***

# **GAS SAFETY REGULATION**

**Note:** Check the Cumulative Regulation Bulletin 2012 and 2013

for any non-consolidated amendments to this regulation that may be in effect.

[includes amendments up to B.C. Reg. 150/2011, August 12, 2011]

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## Definitions for the Act

1 For the purposes of the Act:

**"gas equipment"** means anything used or designed to be used in connection with gas and includes any of the following:

- (a) piping;
- (b) appliances;
- (c) fuel containers;
- (d) vents;

**"gas system"** means a system of gas equipment that

- (a) is installed in premises and is downstream of an outlet of a service meter,
- (b) uses liquefied petroleum gas and is downstream of a second stage regulator,
- (c) is installed other than by or on behalf of a gas company and is upstream of the outlet of a meter or upstream of a second stage regulator,
- (d) is installed at a propane bulk plant,
- (e) is a vehicle fuel system or a vehicle gas system, or
- (f) is used for the production, handling and utilization of digester gas in a wastewater treatment plant or landfill gas at a landfill site.

## Definitions for this regulation

2 In this regulation:

**"Act"** means the *Safety Standards Act*;

**"appliance"** means a regulated product that converts gas into energy and includes any valves, controls, fittings and components attached to or connected to it or intended to be attached to or connected to it;

**"B.C. Natural Gas and Propane Code"** means the code adopted under section 30 (2);

**"city gate"** means the plant or premises where gas received from a pipeline is metered, reduced in pressure and prepared for distribution to individual users of the gas;

**"conversion burner"** means a burner designed to supply gaseous fuel to an appliance originally designed to use another fuel;

**"digester gas"** means a gas produced from the biological treatment of sewage and which is composed of methane, carbon dioxide and hydrogen sulphide or any combination of them;

**"distribution main"** means a pipe used for the transmission and distribution of gas

at a pressure of 700 kPa gauge or less for any distance between a city gate and a service pipe;

**"fan assisted appliance"** means a Category 1 appliance as defined in CSA B149.1;

**"fully detached dwelling"** means any detached building containing only one dwelling unit if occupied or intended by the owner to be occupied as a permanent residence;

**"gas"** means any of the following:

(a) natural gas, manufactured gas, liquefied petroleum gas, digester gas, landfill gas or a mixture or dilution of any of them;

(b) hydrogen;

**"gas company"** means a person engaged in the sale or distribution of gas in British Columbia;

**"gas fitter"** means an individual who has obtained a certificate of qualification as a gas fitter under this regulation;

**"gas installation"** means a facility or system, including fittings, that is owned or operated by a gas company and is used to store, convey, measure or regulate gas;

**"gas utility"** means a gas company that owns or operates a gas installation for conveying gas from a city gate or bulk storage facility to the outlet of an individual user's meter set;

**"homeowner"** means the owner of a fully detached dwelling who lives in or intends to live in that dwelling as a permanent residence;

**"industry training credential"** has the meaning in the *Industry Training Authority Act*;

**"landfill gas"** means a gas composed of methane, carbon dioxide, water and hydrogen sulphide, or any combination of them, produced from the decomposition of organic waste material at a landfill site;

**"licence"** means a licence issued by a provincial safety manager in respect of gas systems and gas equipment;

**"licensed gas contractor"** means a person who holds a licence as a licensed contractor in respect of gas systems;

**"liquefied petroleum gas"** means a gas composed of a mixture of propane, propylene, butane and butylenes and other hydrocarbons that are gaseous under normal atmospheric conditions of pressure and temperature but can be liquefied under moderate pressure at ambient temperatures;

**"manufactured gas"** means a gas obtained by the destructive distillation of carbon derived from coal, coke or oil;

**"meter"** means a device that measures the volume of gas passing through it, and includes any components that are attached or connected to it;

**"natural draft appliance"** means a Category 1 appliance as defined in CSA B149.1 that has a draft hood or draft diverter and is not equipped with a mechanical device for supplying combustion air;

**"natural gas"** means a naturally occurring mixture of hydrocarbon gases composed predominantly of methane but which may also contain ethane, nitrogen and propane;

**"pipeline"** has the meaning in the *Oil and Gas Activities Act*;

**"propane bulk plant"** means a facility that is used primarily for the storage of liquefied petroleum gas before distribution to persons or places outside the facility;

**"regulatory authority"** means the ministry or a local government which provides for an inspection service and has authority to require inspection of regulated work in respect of gas in an area of British Columbia;

**"service meter"** means a meter that is installed by or on behalf of a gas company;

**"service pipe"** means a pipe installed by or on behalf of a gas company for the transmission of gas from a distribution main to a meter on the land or premises of the purchaser of the gas;

**"trainee"** has the meaning in the *Industry Training Authority Act*;

**"vehicle"** has the meaning in the *Motor Vehicle Act*;

**"vehicle fuel system"** means gas equipment installed on a vehicle for the provision of motive power;

**"vehicle gas system"** means gas equipment used for purposes other than motive power and which is

(a) used or designed to be used in connection with or for the purpose of the use, distribution or storage of gas, and

(b) installed on any vehicle or used or designed to be used to supply or dispense gas for use in, on or by a vehicle;

**"vehicle refuelling appliance"** means a natural gas compressor package, not containing storage, that is designed for use for unattended refuelling of vehicle fuel systems;

**"vent"** means a conduit or passageway for conveying the products of combustion from a gas appliance to the outside air.

[am. B.C. Reg. 290/2010.]

### **Application of this regulation**

**3** This regulation does not apply to any of the following:

(a) a pressure vessel as defined in the Power Engineer, Boiler, Pressure Vessel and Refrigeration Safety Regulation;

- (b) any pipe in which anything is transmitted at a pressure of greater than 700 kPa gauge, other than gas equipment installed in premises downstream of an outlet of a gas company's service meter or gas equipment in a vehicle gas system or vehicle fuel system;
- (c) a piping system used to refine or process gas in any way;
- (d) an internal combustion engine, turbine or any other prime mover;
- (e) a pipeline;
- (f) a vehicle fuel system approved under the *Motor Vehicle Safety Act* (Canada).

## **Relation to the Safety Standards General Regulation**

**3.1** This regulation is subject to the Safety Standards General Regulation.

[en. B.C. Reg. 134/2009, s. 4.]

## **Part 1 — General Qualification and Licensing Provisions**

### **Division 1 — Individuals Who May Perform Regulated Work**

#### **Individuals who may perform regulated work**

- 4** (1) An individual must not perform regulated work in respect of a gas system or gas equipment unless the individual
- (a) holds a certificate of qualification issued under this Part,
  - (b) is authorized to perform regulated work in respect of gas without holding a certificate of qualification,
  - (c) has successfully completed a training program recognized by a provincial safety manager,
  - (d) holds another certificate of qualification to perform limited work in respect of gas under the Act,
  - (e) is a homeowner acting in accordance with section 24, or
  - (f) is permitted to do so in accordance with section 5 of the Safety Standards General Regulation.
- (2) An authorized employee of a gas company or an individual who has permission from a gas company may work only with the equipment owned by the gas utility.
- (3) An individual must not do welding on metallic gas piping unless the individual holds a pressure welder's certificate of qualification issued under the Act.
- (4) An individual must not install or interconnect any non-metallic pipe unless the individual has successfully completed training recognized by the provincial safety manager.

- (5) A provincial safety manager may, in a permit, require that the regulated work be done by an individual with special welding skills or other skills that are necessary to complete the regulated work safely.

## **Division 2 — Certificates of Qualification**

### **What all applicants for a certificate of qualification must do**

- 5 (1) All applicants for a certificate of qualification, except applicants for a special purpose certificate, must
- (a) pass an examination for that class of certificate, and
  - (b) fulfill any other requirements for that class of certificate as detailed in this regulation.
- (2) A provincial safety manager may set terms and conditions for the renewal or maintenance of any class of certificate of qualification issued under this Division.

### **Class A gas fitter certificate of qualification**

- 6 (1) An applicant for a class A gas fitter's certificate of qualification must have
- (a) successfully completed training in a gas fitting program recognized by a provincial safety manager, and
  - (b) held a class B gas fitter's certificate of qualification for at least 2 years.
- (2) A class A gas fitter certificate of qualification entitles the holder to perform the installation or alteration of any gas system, except vehicle fuel systems, under an appropriate permit.

[am. B.C. Reg. 134/2009, s. 5.]

### **Class B gas fitter certificate of qualification**

- 7 (1) An applicant for a class B certificate of qualification must
- (a) be the holder of an industry training credential in plumbing, steamfitting, refrigeration or sprinkler fitting,
  - (b) be a trainee in a gas fitting program recognized by a provincial safety manager,
  - (c) have held a gas utility certificate of qualification for at least 2 years, or
  - (d) have an equivalent combination of experience and training acceptable to a provincial safety manager and have attained the standing acceptable to a provincial safety manager in a gas fitting course and examination that have been approved by a provincial safety manager.
- (2) A class B gas fitter certificate of qualification entitles the holder to perform the installation or alteration of the following gas systems under an appropriate permit:
- (a) an appliance with an input of 120 kW or less that displays a label or mark

as follows:

- (i) a certification mark;
- (ii) an approval mark issued under section 10 of the Act;

(b) piping and vents.

(c) Repealed. [B.C. Reg. 150/2011, s. 1.]

(3) Despite subsection (2) (a), a person who holds a valid class B gas fitter certificate of qualification issued before April 1, 2009, is entitled to perform, in addition to the work referred to in subsection (2), the installation or alteration, under an appropriate permit, of

(a) a fan assisted appliance or a natural draft appliance, and

(b) an appliance, other than an appliance referred to in paragraph (a), with an input of 220 kW or less,

if the appliance displays a label or mark as follows:

(c) a certification mark;

(d) an approval mark issued under section 10 of the Act.

(4) Despite subsection (2) (a), a person who holds a valid class B gas fitter certificate of qualification issued or renewed on or after April 1, 2009, is entitled to perform, in addition to the work referred to in subsection (2), the work referred to in subsection (3) if

(a) the person has the combination of experience and training acceptable to a provincial safety manager to perform that work, and

(b) either the person

(i) was enrolled in training as a class B gas fitter before April 1, 2009, or

(ii) held on March 31, 2009, a class B gas fitter certificate of qualification that entitled the person to perform the work referred to in subsection (3).

[am. B.C. Regs. 134/2009, s. 6; 150/2011, ss. 1 to 3.]

### **Class A or B gas fitter may do limited electrical work**

**8** (1) The holder of a class A or class B gas fitter's certificate of qualification may, while employed by a licensed gas contractor or working under an operating permit, perform electrical work that is restricted to the installation, repair and maintenance of electrical wiring for solid, liquid and gaseous-fuel-fired heating equipment for any of the following:

(a) connecting branch circuit wiring to the heating equipment integral connection box from a junction box or disconnect mounted in close proximity to the heating equipment;

(b) class 2 circuit wiring up to a rated output of 100 Volt amps;



(c) low voltage controls or 24 volt thermostats;

(d) Repealed. [B.C. Reg. 134/2009, s. 8.]

- (2) The holder of a class A gas fitter's certificate of qualification may, in the circumstances described in subsection (1), perform electrical work that is restricted to the installation, repair and maintenance of electrical wiring for solid, liquid and gaseous-fuel-fired heating equipment for 3 phase motors or controllers integral to the heating equipment.

[am. B.C. Reg. 134/2009, s. 7.]

### **Duty of gas fitter to notify of need to repair**

- 9 If it comes to the attention of a gas fitter that there is a need to have regulated work done by a gas company to any part of a supply system containing unmeasured gas, the gas fitter must immediately notify the gas company of that need.

### **Gas fitter may make temporary repairs**

- 10 If it comes to the attention of a gas fitter that gas is leaking from any part of a gas supply system containing unmeasured gas, the gas fitter must notify the gas company that permanent repairs are necessary and
- (a) safely isolate the system until repairs can be made, or
  - (b) make necessary temporary repairs.

### **Gas appliance service certificate of qualification**

- 11 (1) An applicant for an appliance service certificate of qualification must have successfully completed a course in gas appliance service training acceptable to a provincial safety manager.
- (2) A gas appliance service certificate of qualification entitles the holder to perform the servicing of the following gas systems while employed by a licensed gas contractor or under an appropriate permit:
- (a) gas appliances installed for residential use;
  - (b) light commercial appliances up to an input of 82 kW.

### **Gas piping certificate of qualification**

- 12 (1) An applicant for a gas piping certificate of qualification must
- (a) be the holder of a piping industry training credential acceptable to a provincial safety manager, or
  - (b) have had a minimum of 2 years gas fitting experience acceptable to a provincial safety manager.
- (2) A gas piping certificate of qualification entitles the holder to install and test gas piping under an appropriate permit.

- (3) The holder of a gas piping certificate of qualification must not install, service or commission gas appliances.

### **Recreation vehicle installation and service certificate of qualification**

- 13** (1) An applicant for a recreation vehicle installation and service certificate of qualification must
  - (a) provide documented evidence, acceptable to a provincial safety manager, of a minimum of 2 years experience in the installation or repair of recreation vehicle appliances and piping, and
  - (b) have successfully completed a course in recreation vehicle appliance installation and servicing that is acceptable to a provincial safety manager.
- (2) A recreation vehicle installation and service certificate of qualification entitles the holder to maintain, alter, repair and install vehicle gas systems in recreational vehicles under an appropriate permit.

### **Liquefied petroleum gas vehicle conversion certificate of qualification**

- 14** (1) An applicant for a liquefied petroleum gas vehicle conversion certificate of qualification must have successfully completed a course in the conversion of vehicles to liquefied petroleum gas that is acceptable to a provincial safety manager and
  - (a) be the holder of a 3 year automotive industry training credential or an equivalent 3 year automotive trade certificate, or
  - (b) provide documented evidence, acceptable to a provincial safety manager, of a minimum of 3 years of automotive tune-up experience.
- (2) A liquefied petroleum gas vehicle conversion certificate of qualification entitles the holder to maintain, alter, repair and install liquefied petroleum gas vehicle fuel systems under an appropriate permit.

### **Compressed natural gas vehicle conversion certificate of qualification**

- 15** (1) An applicant for a compressed natural gas vehicle conversion certificate of qualification must
  - (a) be the holder of a 3 year automotive industry training credential or an equivalent 3 year automotive trade, or
  - (b) have documented evidence, acceptable to a provincial safety manager, of a minimum of 3 years of automotive tune-up experience, and
  - (c) have successfully completed a course in the conversion of vehicles to compressed natural gas that is acceptable to a provincial safety manager.
- (2) A compressed natural gas vehicle conversion certificate of qualification entitles the holder to maintain, alter, repair and install compressed natural gas vehicle fuel systems under an operating permit.

## **Compressed natural gas and liquefied petroleum gas vehicle conversion certificate of qualification**

- 16** (1) An applicant for a compressed natural gas and liquefied petroleum gas vehicle conversion certificate of qualification must have successfully completed a course in the conversion of vehicles to compressed natural gas and liquefied petroleum gas that is acceptable to a provincial safety manager and
- (a) be the holder of a 3 year automotive industry training credential or an equivalent 3 year automotive trade certificate, or
  - (b) provide documented evidence of a minimum of 3 years of automotive tune-up experience.
- (2) A compressed natural gas and liquefied petroleum gas vehicle conversion certificate of qualification entitles the holder to maintain, alter, repair and install compressed natural gas and liquefied petroleum gas vehicle fuel systems under an operating permit.

## **Gas venting certificate of qualification**

- 17** (1) An applicant for a gas venting certificate of qualification must
- (a) be the holder of an industry training credential in sheet metal, plumbing, steamfitting, refrigeration or sprinkler fitting acceptable to a provincial safety manager, or
  - (b) have an equivalent combination of experience and training acceptable to a provincial safety manager.
- (2) A gas venting certificate of qualification entitles the holder to alter, repair and install venting under an appropriate permit.

[am. B.C. Reg. 150/2011, s. 4.]

## **Gas utility certificate of qualification**

- 18** (1) An applicant for a gas utility certificate of qualification must have successfully completed 2 years of training in utility installations satisfactory to a provincial safety manager.
- (2) A gas utility certificate of qualification entitles the holder, while employed by a gas utility and after gas service is interrupted, to do any of the following:
- (a) relight gas equipment with an input of 120 kW or less;
  - (b) replace thermocouples;
  - (c) make other minor repairs;
  - (d) do safety checks.

## **Special purpose gas certificate of qualification**

- 19** A special purpose certificate of qualification entitles the holder to perform only the regulated work specified by the certificate and only under the conditions specifically endorsed on the certificate.

## **Repealed**

20 Repealed. [B.C. Reg. 134/2009, s. 8.]

### **Division 3 – Contractor's Licence**

#### **Field safety representative not required for gas contractor's licence**

21 Section 6 (a) of the Safety Standards General Regulation does not apply to an application for a gas contractor's licence under this Division.

### **Division 4 – Duties of Licensed Gas Contractor and Permit Holder**

#### **Duties of a licensed gas contractor and permit holder**

22 A licensed gas contractor or holder of a permit must not allow an individual to do the regulated work coming within the scope of the licence or permit unless the individual is authorized to do so in accordance with this Part.

## **Part 2 – Requirements for Permits**

#### **Permits that may be issued by a local government**

23 If a local government administers a gas inspection service under an agreement under section 5 of the Act, a safety officer appointed by the local government may issue an installation permit for only the following kinds of regulated work in respect of gas equipment or gas systems:

- (a) regulated work in a fully detached dwelling serviced by an individual service meter and supplied with gas at a pressure of 14.0 kPa gauge or less;
- (b) regulated work in any premises other than a fully detached dwelling, if
  - (i) the meter is supplied with gas at a pressure of 14.0 kPa gauge or less, and
  - (ii) the total connected load for the meter is 120 kW or less.

[am. B.C. Reg. 475/2004, Sch. 3, s. 1.]

#### **Homeowner may perform work under a permit**

24 (1) A homeowner may apply for an installation permit to perform regulated work with respect to gas equipment in a fully detached dwelling if

- (a) no person is being paid to do, or assist the owner in doing, the work, and
- (b) no part of the dwelling is rented to any person.

(2) Section 26 does not apply to a homeowner who performs regulated work under this section.

#### **Drawings to accompany installation permit application**

- 25** An applicant for an installation permit for a gas system or proposed gas system must, if required by a provincial safety manager, provide drawings in support of the application and pay any required fees.

### **Installation permit is also authorization**

- 26** (1) Unless otherwise provided in the installation permit, if the holder of an installation permit complies with section 34, an installation permit issued for regulated work in respect of a gas system is sufficient authorization for the use of the gas system.
- (2) An installation permit for any of the following is authorization to begin the installation or reinstallation of the appliance but not to test or use the appliance until it has passed inspection or an inspection has been waived by the regulatory authority on conditions specified by the regulatory authority:
- (a) any direct-fired non-recirculating type make-up heater;
  - (b) a conversion burner, except if it is to be installed in a single family dwelling and has an input of 120 kW or less;
  - (c) a commercial or industrial conversion burner;
  - (d) any direct fired equipment;
  - (e) a forced draft appliance over 409 600 BTU/hour.
- (3) Despite subsection (2) a provincial safety manager may include in an installation permit permission to ignite or operate a regulated product before inspection under conditions specified in the permit.

### **Field safety representative not required for installation permit**

- 27** An installation permit issued under this regulation is not required to name a field safety representative.

### **Requirements concerning operating permits**

- 28** (1) The owner of any of the following must apply to a provincial safety manager for an operating permit:
- (a) an industrial or commercial establishment with appliances used for processing or process water heating with a total input greater than 1 500 kW used for purposes other than space heating or domestic water heating;
  - (b) a propane bulk plant;
  - (c) an establishment for filling cylinders or vehicle tanks with gas;
  - (d) an establishment where regulated products are installed on vehicles as part of the vehicle fuel system;
  - (e) an establishment where regulated products are installed on vehicles for purposes other than vehicle fuel systems;
  - (f) an establishment that maintains portable heating appliances of input equal

to or less than 300 kW;

(g) a portable appliance with an input greater than 300 kW that can be transported from site to site;

(h) a gas utility.

- (2) All regulated work under an operating permit under subsection (1) (a), (b) or (g) must be performed by a gas fitter or under the direct supervision of a gas fitter and the gas fitter or field safety representative must complete any records required by the permit.
- (3) An individual who performs regulated work under an operating permit issued under subsection (1) (d) or (e) must hold the appropriate certificate of qualification and must complete and maintain any records required by the permit.
- (4) The operator of an establishment who applies for a permit under subsection (1) (d) or (e) must provide, in the required form, a bond, in an amount specified by a provincial safety manager, before being issued an operating permit.
- (5) The holder of an operating permit must keep an accurate record of all regulated work authorized under the permit, including the location and types of the appliances on which regulated work is performed, and must maintain those records for a period of 7 years.
- (6) If an operating permit has been issued under subsection (1) (g) the appliance may be operated only by an individual who has been appropriately trained by
  - (a) the manufacturer of the appliance, or
  - (b) the manufacturer's representative.
- (7) The holder of an operating permit issued under subsection (1) (a) or (b) must notify a safety manager in writing of any addition to the gas system.
- (8) An individual must not transfer liquefied petroleum gas from one container to another unless the individual has successfully completed a training course that has been approved by a provincial safety manager and holds a certificate issued following that training course.
- (9) The owner of portable equipment that is covered under an operating permit issued under subsection (1) (g) must, in writing, notify a safety officer of the location and relocation of the portable equipment each time that the portable equipment is moved to a new site.

## **Duties of owners and licensed gas contractors in commercial and industrial buildings**

**29** (1) In this section:

**"commercial building"** has the meaning in CSA B149.1;

**"industrial building"** has the meaning in CSA B149.1.

- (2) Owners of commercial or industrial buildings that contain appliances with total inputs of 1 500 kW or less but greater than 220 kW must ensure that those appliances are properly serviced, repaired and maintained by a licensed gas contractor.

- (3) An owner of a commercial or industrial building must, on the request of a safety manager or safety officer, supply accurate records of any servicing or repairs done in respect to the appliances in subsection (2).
- (4) A licensed gas contractor must, on an annual basis, supply a provincial safety manager with documentation, in a form that is acceptable to the safety manager, in respect of any regulated work referred to in subsection (2) unless that work is exempted under the regulations from requiring inspection requests or reporting procedures.

## **Part 3 — Regulated Product Standards and Certification**

### **Canadian gas standards adopted as B.C. Natural Gas and Propane Code**

- 30** (1) In this section, "**national code**" means the following codes or standards:
- (a) CSA-B149.1-10 Natural gas and propane installation code;
  - (b) CSA-B149.2-10 Propane storage and handling code;
  - (c) CSA-B149.3-10 Code for the field approval of fuel-related components on appliances and equipment;
  - (d) CSA-B149.5-10 Installation code for propane fuel systems and tanks on highway vehicles;
  - (e) CSA-B109-01 Natural Gas for Vehicles Installation Code;
  - (f) CSA-Z662-07, Oil and gas pipeline systems;
  - (g) CAN/CGA-B105-M93 (R2007) Code for Digester Gas and Landfill Gas Installations.
- (2) The national code is adopted by reference, with the changes set out in the Schedule, as the B.C. Natural Gas and Propane Code.

[en. B.C. Reg. 50/2007, Sch. 1; am. B.C. Reg. 150/2011, s. 5.]

### **No installation of gas appliances unless certified or approved**

- 31** (1) An appliance must not be installed in British Columbia unless the appliance displays a label or mark as follows:
- (a) a certification mark;
  - (b) an approval mark issued under section 10 of the Act.
- (2) Subsection (1) does not apply to an appliance with a maximum input below 120 kW which is being reinstalled, but no appliance may be reinstalled unless it has been examined and repaired if necessary and certified to be in safe working condition by a gas fitter.
- (3) A person must not use a portable heater for temporary heating unless the heater bears a current decal, valid for 2 years, applied by a gas fitter certifying as to its safety and operation.

## **Certification agencies**

- 32** An organization accredited by the Standards Council of Canada under the *Standards Council of Canada Act* as an organization engaged in conformity assessment is a certification agency for the purposes of this regulation.

[en. B.C. Reg. 327/2005, Sch. 3, s. 2.]

## **Dealers to maintain records of gas appliances**

- 33** A dealer must keep, for a period of at least 7 years, a record respecting every gas appliance that the dealer sells, showing the following:
- (a) the name and address of the purchaser;
  - (b) the place of installation;
  - (c) the type and model number of the appliance.

## **Part 4 — Inspections**

### **Duty to inform regulatory authority of completion of work for inspection**

- 34** (1) On completion of each phase of the gas system authorized by a permit, the holder of the permit, the gas fitter or the field safety representative that represents the holder of the permit must immediately inform the regulatory authority that the regulated work has been performed in accordance with the Act and request an inspection.
- (2) On final completion of the regulated work authorized by a permit, the holder of the permit must immediately complete a notification of completion, installation or alteration form and mail or deliver the completed form to the appropriate regulatory authority.

## **Part 5 — Safety Officers**

### **Safety officer's certificate of qualification**

- 35** An application for a gas safety officer's certificate of qualification must include proof, acceptable to a provincial safety manager, that the applicant has been the holder of a class A or class B gas fitter's certificate of qualification and employed as a gas fitter for a minimum of 5 years.

## **Part 6 — Technical Requirements**

### **Division 1 — Requirements and Procedures for Installation and Excavations**

#### **Connection for pressure gauge to be satisfactory**



- 36** If a safety officer requests a connection for a pressure gauge or a pressure recorder, a person who installs a gas installation must supply the pressure gauge or connection.

### **Procedures for a gas installation in vicinity of underground structures**

- 37** (1) A person must not install a gas installation or allow one to be installed so that the gas installation passes through or interferes with any underground structure that is not solely for the use of a gas installation without the written permission of the owner of the underground structure.
- (2) A person, unless allowed to do so as a condition of a permit to perform regulated work with respect to gas, must not begin to install or construct an underground structure that will interfere with a gas installation by passing over, passing under or enclosing the gas installation until an agreement has been entered into with the gas company for the removal or alteration of the gas installation.

### **Duties of persons intending to construct near gas installation**

- 38** A person who intends to construct an underground structure within one metre of a gas installation must notify the gas company operating in the area at least 2 business days before starting the excavation for the structure.

[am. B.C. Reg. 475/2004, Sch. 3, s. 2.]

### **Procedures for excavations**

- 39** (1) A person must not excavate or cause any excavating to be done in the vicinity of a gas installation that is or could be in any way damaging or dangerous to a gas installation.
- (2) A person who intends to excavate must, at least 2 business days before the person intends to excavate, request from the gas company serving that area, or its agent, information on the location of all underground gas installations in the vicinity of the proposed excavation.
- (3) A person must not excavate until
- (a) the person ascertains that a request has been made under subsection (2) and
    - (i) the information was provided by the gas company under subsection (5) and that information revealed that there is no gas installation in the vicinity, or
    - (ii) the information was provided by the gas company under subsection (5) and that information revealed that there is a gas installation in the vicinity and that installation has been indicated in accordance with subsection (5), and
  - (b) the person ascertains that information provided by the gas company in respect of the lack of indicators under paragraph (a) (i) or the presence of indicators under paragraph (a) (ii) was supplied by the gas company within 10 days before beginning of the excavation.

- (4) If the excavator is not satisfied under subsection (3) (b), the person must verify the information with the gas company before excavating.
- (5) On receiving a request under subsection (2) a gas company must
  - (a) provide the information requested within 2 business days, and
  - (b) in a manner that is clear and easily understood, indicate the location of gas installations owned or operated by it in the area where the excavation is intended to be made by one or more of the following methods as appropriate for conditions at the excavation site:
    - (i) providing a plan or listing of facility locations by measurement from an ascertainable point on the surface;
    - (ii) surface staking;
    - (iii) surface marking.
- (6) Prelocated or marked gas installations must be considered to lie within a zone equal to the diameter of the gas installation plus one metre on either side of the location indicated by the gas company under subsection (5).
- (7) The indicated location of gas installations must be confirmed by the excavator by means of hand digging and the excavator must expose the gas installations at a sufficient number of locations to determine their exact positions and depths before using mechanized excavation equipment for any purpose other than breaking the surface cover.
- (8) For existing gas installations of non-metallic material not provided with tracer wires, the gas company must, on request, indicate the location, including all changes in direction, of the installation by stakes or paint or both, at intervals not exceeding 100 metres, and subsection (7) applies.
- (9) If an excavator finds that the gas installation is not within the limits described by the gas company,
  - (a) the excavator must so advise the gas company,
  - (b) the gas company must immediately assist in locating and exposing the installation for the excavator, and
  - (c) mechanized excavation must not be carried on in the vicinity until the installation has been located and exposed.
- (10) As the excavation work progresses, the excavator must
  - (a) maintain and keep visible all markings placed by the gas company that identify the location of the gas installation, or
  - (b) if it is impractical to maintain the markings, make other arrangements to ensure that the location of the gas installation is obvious to any observer.

[am. B.C. Reg. 475/2004, Sch. 3, ss. 2 and 3.]

## **No probing to locate gas installations**

**40** A person must not probe with pointed tools to locate gas installations.

### **Requirements for blasting in vicinity of gas installation**

- 41** (1) A person who intends to blast in the vicinity of a gas installation must
- (a) comply with sections 37 to 39, and
  - (b) notify the relevant gas company at least 3 business days before blasting.
- (2) If a person has already complied with sections 37 to 39 and discovers in the process of construction that blasting is required, the person must notify the relevant gas company at least 24 hours, counted only on business days, before blasting is to start.

### **Emergency excavation procedures**

- 42** (1) Sections 37 to 40 do not apply to emergency excavations if there may be an imminent danger to life, health or property.
- (2) A person who excavates under subsection (1) must give notice of the excavation to the relevant gas company operating in that area as soon as practicable.

### **Procedure for backfilling an excavation when gas installation exposed**

- 43** A person who backfills an excavation that has exposed a gas installation must do all of the following:
- (a) take care not to damage the installation, its protective wrapping or any cathodic protection devices;
  - (b) thoroughly tamp the backfill under the gas installation;
  - (c) adequately support the gas installation to the satisfaction of the gas company and ensure that it will remain in its original line and grade during settlement of the backfill;
  - (d) ensure that the backfilling will not diminish lateral support for unexposed parts of the gas installation.

### **Procedure if gas escapes**

- 44** A person who causes damage to a gas installation which results in the escape of gas must immediately take the steps reasonable in the circumstances to do all of the following:
- (a) notify the persons in any premises that may be affected;
  - (b) notify the gas company;
  - (c) warn all persons in any nearby building in which a gas odour is present to evacuate the building;
  - (d) notify a member of the police force having jurisdiction in the place where the installation is located;
  - (e) extinguish all flames and sources of ignition in the vicinity of the

installation;

(f) notify the nearest fire department;

(g) warn traffic, vehicles and pedestrians not to enter the area rendered hazardous by the damage.

### **Procedure if there is damage to gas installation**

**45** (1) A person who causes damage to a gas installation, whether or not gas is escaping as a result, must immediately notify the relevant gas company of the damage.

(2) Serious damage reported to a gas company under subsection (1) must promptly be reported by the gas company to a provincial safety manager.

### **Procedure when gas installation exposed**

**46** A person who exposes more than 3 metres of a gas installation must immediately notify the relevant gas company and securely support the gas installation, to the satisfaction of the gas company, on its original line and grade at intervals of not more than 3 metres.

### **Procedure if gas fittings exposed**

**47** A person who exposes any bell and spigot joints, mechanical couplings, valves or line insulators must immediately notify the relevant gas company and adequately support the exposed fittings, to the satisfaction of the gas company, such that no strain is placed on the gas installation.

### **Procedures in respect of cathodic protection devices**

**48** (1) A person working in the vicinity of a gas installation must take all necessary precautions to ensure that no damage is done to insulators, test wires, sacrificial anodes, anode beds, rectifier wires and other cathodic protection devices.

(2) If damage is done to any cathodic protection device the person who causes the damage must immediately report the damage to the relevant gas company.

### **Procedure if damage to protective wrapping occurs**

**49** If a person has in any way damaged protective wrapping on a gas installation the person must do all of the following:

(a) report the damage to the gas company before the damage is repaired;

(b) rewrap the gas installation in accordance with the current standards of the gas company;

(c) ensure that the rewrapped section is not backfilled until the gas company authorizes the backfilling.

### **Test charts or reports to be provided on request**

**50** (1) A gas company or gas equipment installer must, on the request of a provincial safety

manager, provide copies of test pressure charts or test reports, or both, for any gas installation that the gas company or gas installer is responsible for.

- (2) A gas company must provide a report of the total length of distribution gas line extension installed by the gas company in any calendar year to a provincial safety manager.

### **Provincial safety manager may require pressure tests**

- 51 A provincial safety manager may, at any reasonable time, require that a pressure test of a gas installation be conducted by a gas company in the presence of a safety officer.

### **Duty of gas company to file construction standards with provincial safety manager**

- 52 (1) A gas company must file with a provincial safety manager its standards of construction and any amendments made to the standards.
- (2) On request of a safety officer, a gas company must make any gas installation plan for which the gas company is responsible available to the safety officer within 24 hours.

## **Division 2 — Installation and Repair Procedures for Appliances and Gas Systems**

### **Turning gas supply on and off**

- 53 (1) A person must not turn off a gas supply unless there is an imminent safety hazard and the person notifies all affected consumers.
- (2) If a gas supply has been turned off, a person must not turn the supply on again until the person
  - (a) notifies all affected consumers, and
  - (b) carefully checks all outlets and pilots to ascertain that they are relighted or turned off.

### **Unrepairable appliance**

- 54 (1) A person who finds any appliance or gas equipment beyond repair or in an unsafe condition must
  - (a) place the appliance or gas equipment out of service, and
  - (b) promptly notify a safety officer of its condition and location.
- (2) If the initial notification under subsection (1) (b) is verbal, it must be promptly confirmed by a written statement setting out the facts.

### **Duties of owner of rental premises concerning gas appliances**

- 55 The owner of rental premises must
  - (a) post a notice, of a permanent nature, respecting the safe operation of an appliance, on the premises in a conspicuous location where it can be seen by

any person using the appliance,

(b) ensure that appliances on the rental premises are maintained in a safe condition, and

(c) maintain accurate records of maintenance and servicing performed on the gas system on the rental premises.

### **Gas fitter's tag to be affixed on completion of work**

**56** When a gas system installation has been completed, a gas fitter must affix a tag, bearing the gas fitter's name, certificate of qualification number, type of appliance and date of affixation,

(a) if there is a building, to a pipe of that gas system at the point of entry into the building or at the point where the gas pipe enters the appliance, or

(b) if there is no building, at the gas meter or at the point where the gas pipe enters the appliance.

### **Adjustments on connection to gas line**

**57** A person who connects gas to an appliance must do all of the following:

(a) adjust and test each appliance the person connects so that it will operate in accordance with the manufacturer's specifications;

(b) adjust the input rate to the required rate by

(i) replacing a fixed orifice size,

(ii) changing the adjustment of an adjustable orifice, or

(iii) if a regulator is provided, by readjusting the gas pressure regulator outlet;

(c) ensure that the appliance vents in a safe and proper manner.

### **Testing after disconnection**

**58** If a person disconnects the outlet of a service meter from the house piping the person must

(a) remake the joint at the service meter outlet, and

(b) turn the service meter on again only after testing the house piping and ensuring that no other outlets are open.

### **Notice to gas company if input greater than 45 kW**

**59** (1) A person must not install an appliance or cause an appliance to be installed on a gas system without first giving notice to the gas company that supplies that gas if

(a) the installation of the appliance will increase the total connected hourly input ratings of the appliances served by a service meter to greater than 45 kW, or

(b) the total connected hourly input rating of the appliances served by a service meter is greater than 45 kW.

(2) A notice under subsection (1) must state the type and input rating of the appliance and the address of the premises in which the appliance is to be installed.

(3) This section does not apply to

(a) a vehicle gas system, or

(b) gas equipment at a propane bulk plant.

## **Odorization**

**60** (1) All gas that does not naturally possess a distinctive odour so that its presence in the atmosphere is readily detectable at all gas concentrations equal to or higher than 1/5 of the lower explosive limit must have an odorant added to make it so detectable.

(2) Subsection (1) does not apply to gas delivered for further processing or for use if

(a) the gas equipment is equipped with gas detection devices that will detect any gas leakage at an atmospheric concentration equal to or higher than 1/5 of the lower explosive limit, or

(b) the odorant would serve no useful purpose as a warning agent.

## **Part 7 — Information Requests for Existing Gas System**

### **Information requests for an existing gas system**

**61** A person who requests information from a provincial safety manager about an existing gas system must

(a) provide the written consent of the owner of the premises where the gas system is installed, and

(b) pay any required fee.

### **Schedule**

[am. B.C. Reg. 475/2004, Sch. 3, s. 4; updated May 2005; am. B.C. Reg. 150/2011, s. 6.]

### **Variations for B.C. Natural Gas and Propane Code**

#### **to the National Code**

***1 Paragraph (b) of Clause 4.14.6 of CSA-B149.1-10 Natural gas and propane installation code, is repealed and the following substituted:***

(b) the clearance between the appliance and the edge of the roof or other hazard shall be at least 6 feet (2 m), but this clearance may be reduced to 3 feet (1 m) if a permanent guard rail or equivalent protection is provided; and.

**2 The following clause is added after Clause 4.14.7 of CSA-B149.1-05:**

**4.14.8** When it is considered necessary to install an appliance within screening or within a roof well (a depressed area on a roof), the following additional requirements apply:

- (a) screening shall have a free opening of not less than 50% of the area of each side;
- (b) there shall be no roof, cover or screens over the well enclosure;
- (c) each appliance shall be installed with not less than
  - (i) 36 inches (90 cm) clearance from any side of the appliance, or
  - (ii) the clearance required by the manufacturer of the appliance,whichever is greater;
- (d) the walls of a screen or roof well shall
  - (i) be no higher than the height of the appliance when it is vented atmospherically, or
  - (ii) not exceed an angle of 45° from the top of the screen or roof well to the vent outlet of a power or fan assisted venting system;
- (e) when an appliance is installed with screening consisting of 2 solid walls or is installed in a roof well, fresh air shall not be taken from within the enclosure unless a 20 foot (6 m) separation can be maintained between the vent outlet and the fresh air inlet;
- (f) an appliance installed outdoors in an area which is subject to an ambient temperature lower than -40°F (-40°C) shall be approved by a recognized testing agency for -60°F (-51.1°C), or be an appliance approved for operation to -40°F (-40°C) and equipped with a low ambient temperature switch.

**2.1 The following clause is added after Clause 4.24.2 of CSA-B149.1-10:**

**4.25** Hydronic Heating Appliances and Equipment

**4.25.1** All hydronic heating appliances and equipment must be installed and used in accordance with the manufacturer's instructions, this Code, and clauses 4.5.3.2, 4.5.4, 5.1, 5.3.1, 5.3.2 and 12.4 of the CSA-B214-07 Installation code for hydronic heating systems.

**3 The following clauses are added after Clause 6.15.14 of CSA-B149.1-10:**

**6.15.15** A metallic piping system laid underground shall be cathodically protected regardless of pressure. The only exceptions are construction camps (if the system is to be used for a limited time), nonmetallic pipe and copper pipe or tube.

**6.15.16** To ensure electrical continuity when a mechanical fitting is used, each fitting shall be



bonded over by No. 6TW cable attached to the piping by either

- (a) cadwelding, or
- (b) brazing.

**6.15.17** Cathodically protected underground piping shall be buried not less than 12 inches (300 mm) horizontally from all other underground pipes or conduits, except by special permission.

**6.15.18** Where an underground gas pipe crosses another underground pipe or conduit, a minimum clearance of 2 inches (50 mm) shall be provided either above or below the gas line in accordance with the requirements of section 5.15.

**6.15.19** All piping in the protected system shall be electrically insulated from all other piping by means of suitable electrical insulating fittings. Anodes shall be magnesium.

***4 The following clauses are added after Clause 7.18.7 of CSA-B149.1-10:***

(c) The instructions to the lessee by the lessor shall include, but not be restricted to, the following:

- (i) replacement of tanks and cylinders;
- (ii) operation of the construction heater;
- (iii) specific tools to be used;
- (iv) clearances required from combustible materials;
- (v) shutting off the construction heater;
- (vi) checking for leaks;
- (vii) moving the construction heater from location to location.

(d) Maintenance of the construction heater must be performed by the lessor. This work shall include the regulator, hose and fittings.

***5 The following clause is added after Clause 7.18.10 of CSA-B149.1-10:***

**7.18.11** A piping permit is required for the laying of temporary gas piping to connect a construction heater. This work shall be done by a qualified gas fitter.

***6 Clause 7.24.4 of CSA-B149.1-10 is repealed.***

***7 The following clauses are added after Clause 7.24.5 of CSA-B149.1-10:***

**7.24A** Gas Appliances Installed in Bedrooms and Bathrooms

**7.24A.1** A gas appliance installed in a bathroom with a door shall be of the direct vent type only.

**7.24A.2** A gas appliance installed in a closet or a small room having access only through a

bathroom, bedroom or bed-sitting room shall be of the direct vent type or have combustion and ventilation air supplied to the closet or small room. If any exhaust fan affects the operation of a gas appliance, the gas appliance shall be isolated from the bathroom using a sealed opening or door closer.

**7.24A.3** A gas appliance installed in a bedroom shall meet all of the following requirements:

- (a) the appliance must be of the automatic temperature controlled type;
- (b) the appliance must be equipped with a pressure regulator;
- (c) the appliance must have a 100% safety shut-off control valve;
- (d) the appliance must be vented and meet the requirements for combustion air specified by section 7.

**7.24A.4** A gas appliance (fireplace) installed as a divider between a bedroom and bathroom shall meet all the requirements for an installation in a bedroom. In addition, the gas appliance shall be sealed from the bathroom using material that is impact resistant and thermal shock proof. Clearance to the tub must be maintained to prevent accidental injury from the hot surface of the appliance.

**8 Clause 8.3.6 of CSA-B149.1-10 is repealed and the following substituted:**

**8.3.6** An air supply inlet opening from the outdoors shall

- (a) have a minimum vertical distance of 24 inches (600 mm) between the bottom of the intake grill and the finished grade at the point of intake in order to prevent obstruction of the combustion air intake by snow or other material, and
- (b) not be taken from a car port.

**9 The following clause is added after Clause 8.8.2 of CSA-B149.1-10:**

**8.8.3** When the air supply is provided by mechanical means from the outdoors for natural draft, partial fan assisted, fan assisted or power draft assisted burners, the air quantity supplied by the fan shall be based on 30 cubic feet (0.85 cubic meters) of outside air for each 1 000 BTU/hour of gas supplied to the burners.

**10 The following sections are added after Clause 8.14.12 of CSA-B149.1-10:**

**8.14A** Direct Vent Fireplace Vents

**8.14A.1** A direct vent fireplace terminal location shall not be installed in any area which is not allocated to the occupancy in which the fireplace is installed.

**8.14A.2** In a structure with 3 walls and a roof, the terminal shall not be installed

- (a) more than 72 inches (183 cm) from the outside opening,

(b) on any wall that has an opening between the terminal and the open side of the structure, or

(c) below 84 inches (218 cm) from a deck, patio or balcony without a certified guard.

**8.14A.3** A direct vent fireplace shall not be installed

(a) less than 24 inches below a ceiling or soffit that has perforations (openings) unless the ceiling or soffit is sealed for a distance of 24 inches (61 cm) on either side of the centre line of the vent termination,

(b) less than 6 feet (183 cm) under a window that opens on a horizontal plane, or

(c) directly under a balcony or deck constructed such that there are openings in the deck surface.

***11 Clause 5.13.4 of CSA-B149.5-10, Installation code for propane fuel systems and tanks on highway vehicles, is repealed.***

[Provisions relevant to the enactment of this regulation: *Safety Standards Act*, S.B.C. 2003, c. 39, section 88]