



Fuels Safety Program	Ref. No.: FS-255-21
<b>Gaseous Fuels Code Adoption Document Amendment</b>	<b>Publication Date:</b> March 1, 2021 <b>Effective Date:</b> May 1, 2021

IN THE MATTER OF:

*Technical Standards and Safety Act 2000, S.O. 2000, c. 16,*  
Ontario Regulation 223/01 (Codes and Standards Adopted by Reference), *and*  
Ontario Regulation 212/01 (Gaseous Fuels)

The Director for the purposes of Ontario Regulation 212/01 (Gaseous Fuels), pursuant to section 6(1) of Ontario Regulation 223/01 (Codes and Standards Adopted by Reference), hereby provides notice that the GASEOUS FUELS CODE ADOPTION DOCUMENT published by the Technical Standards and Safety Authority and dated June 1, 2001, as amended, is further amended as follows:

**All sections of the Code Adoption Document dated June 1, 2001 are revoked and replaced with the following:**

**Background to Code Adoption Document Amendment FS-255-21**

This Code Adoption Document (CAD) amendment supersedes FS-225-17 (dated April 10, 2017). This amendment will become **effective May 1, 2021**. CAD amendment FS-225-17 will continue to apply until this date.

Provisions that are changed by this amendment are marked with a delta ( $\Delta$ ) and new text is underlined. Background information is provided for revisions introduced by this amendment.

Significant changes made by this amendment include:

- Adoption of B149.1-20 Natural gas and propane installation code (with Ontario amendments including the addition of: Annex O "Field Approval of Special Effects"; Annex P "Installation of piping or tubing in rocky areas"; Annex Q "Mandatory Safety Checks for Residential (one or two family dwelling) Natural Draft Boilers Equipped with a Draft Control Device 300,000 Btuh or less"; Annex R "Existing B-Vent (not certified for exterior applications) which has been installed outdoors"; Annex S "Mobile Food Service Equipment".
- Adoption of TSSA Field Approval Code TSSA-FA-2020 (which adopts B149.3-20)
- Adoption of TSSA Digester, Landfill & Biogas Code TSSA-DLB-2020 (which adopts B149.6-20)
- Adoption of TSSA High Pressure piping Code TSSA-HPP-2020
- Adoption of TSSA Field Approval Code for Mobile Food Service Equipment", TSSA-MFSE-2020

- $\Delta$  1. The National Standard of Canada B149.1-20 entitled "Natural gas and propane installation code" prepared by the Canadian Standards Association is adopted with the following amendments:

**1.1** Section 2 is amended by adding the following references:

CSA-6.19-17

Residential carbon monoxide alarming devices

ANSI Z21.5.1-/CSA 7.1

Gas clothes dryers, volume I, type 1 clothes dryers

ANSI Z21.5.2/CSA 7.2

Gas clothes dryers, volume II, type 2 clothes dryers

CGSB 41-GP-25M (withdrawn)

Pipe, Polyethylene, for the Transport of Liquids

CAN/ULC S508-02

Standard for the Rating and Fire Testing of Fire Extinguishers

NFPA 160

Standard for the use of Flame Effects Before an Audience, 2001 Edition

**1.2** Section 3 is amended by revoking the definitions of "Appliance" and "Approved" and replacing the definitions with the definitions provided in Ontario Regulation 212/01 (Gaseous Fuels).

**1.3** Section 3 is amended by revoking the definition of "Authority having jurisdiction" and replacing it as follows:

**Authority having jurisdiction** means the Director designated for the purposes of the Act.

**1.4** Section 3 is amended by adding the following definitions:

**Clothes dryer** - an appliance used to dry wet laundry by means of heat derived from the combustion of fuel gases. Dryer classifications are as follows:

Type 1 Household

1. Intended for use in residential homes
2. Gas supply pressure not exceeding 0.5 psi

Type 1 Commercial

1. Intended for intermittent duty in common laundry facilities of multifamily dwellings with or without payment collection means
2. May include installations requiring the appliance to be fastened to the building structure
3. Gas supply pressure not exceeding 0.5 psi

Type 2

1. Intended for continuous duty in multiple family and commercial applications with or without payment collection means
2. May include installations requiring the appliance to be fastened to the building structure
3. Gas supply pressure not exceeding 0.5 psi

**Mobile Food Service Equipment (MFSE)** is mobile equipment containing propane or other hydrocarbon fuel fired cooking appliances, a means of water heating or power

generation and, if applicable, associated fuel storage. For the purposes of this document MFSE includes (but is not limited to) the following types of equipment (except as noted under Exemptions):

- (a) a self-propelled vehicle such as a truck or van fitted with food service equipment and either equipped with propane supply cylinders or intended for connection to propane supply cylinders at the operation site.
- (b) a trailer or cart fitted with food service equipment intended to be towed to the operation site and either equipped with propane supply cylinders or intended for connection to a propane supply cylinder at the operation site.
- (c) a portable cart fitted with food service equipment that is not towed but may be transported to an operation site and provided with a propane supply cylinder that may be enclosed in the cart.

**Exemptions:**

In some cases, a self-propelled vehicle or a trailer may be located at a fixed site and is not intended to be relocated. Such units are not considered MFSE if they meet the following criteria:

- 1. A municipal licence has been issued to permit operation in a permanent location only; or,
- 2. Where there is no municipal licence issued, but the unit has been installed as follows:
  - (a) the vehicle has been fitted to a foundation or has been raised on concrete blocks, jack stands or equivalent;
  - (b) all wheels have been removed;
  - (c) tongues or tow bars have been removed; and,
  - (d) the vehicle is connected to one or more utility services:
    - (i) electricity - no plugs or generators and is approved by the authority having jurisdiction;
    - (ii) water,
    - (iii) sewers or septic systems;
    - (iv) natural gas or propane if it is hard piped to a 420 lb cylinder or larger).

**Notes:**

- 1. *If the vehicle attends various events at different locations such as fairs, rib festivals, etc. it will be considered a MFSE.*
- 2. *Units deemed to qualify under the exemptions above are nevertheless required to meet the applicable provisions on CSA B149.1 Natural Gas and Propane Installation Code and CSA B149.2 Propane Storage and Handling Code.*

**1.5** Clause 4.1.4 is revoked and the following substituted for it:

**4.1.4**

Where a conflict exists between the manufacturer's certified installation instructions and this Code, the most stringent of the two shall prevail.

**1.6** Clause 4.2.3 is revoked and the following is substituted for it:

**4.2.3**

The approval of the assembly or construction of an appliance is subject to the authority having jurisdiction and shall comply with Section 3 of this Code Adoption Document.

**1.7** Clause 4.3.5 is revoked and the following is substituted for it:

#### 4.3.5

When the installation or conversion of an appliance constitutes a conversion from another form of energy the installer shall, at the time of installation or conversion,

- (a) in the case of a fuel oil tank,
  - (i) remove the fill pipe and cap or plug the exposed fill pipe opening to an inside tank; however, do not remove the tank vent pipe.
  - (ii) shut off the tank outlet **valve**, remove the filter, and plug or cap the **valve** outlet;
  - (iii) where the tank is located outdoors, disconnect all exposed piping or tubing as close as practicable to the tank; cap or plug the exposed fill pipe opening to the tank; however, do not remove the tank vent pipe and
  - (iv) advise the owner/operator of the tank in writing that the tank may be required to be removed in accordance with the Fuel Oil Regulation and the oil shall be removed by a certificate holder trained for the purpose.
- b) in the case of a fuel oil central distributing system,
  - i) to shut off the fuel oil supply line valve located within the building; and
  - ii) to disconnect the fuel oil supply line immediately downstream of the meter, and cap or plug the outlet of the meter;
- c) in the case of a propane system,
  - i) to shut off the cylinder or tank valve; and
  - ii) to disconnect and cap or plug the propane gas piping system outdoors; and
- d) in the case of an electrical appliance,
  - i) to shut off the power supply to the electrical appliance at the switch; and
  - ii) to ensure that the overcurrent protection, fuse, or circuit breaker has been removed or put in the off position.

**1.8** Clause 4.5.5 is revoked and the following is substituted for it:

#### 4.5.5

An appliance that has been exposed to fire, explosion, flood, or other damage shall not be offered for sale, installed, re-activated or reconnected to the supply, without:

- (a) approval of the authority having jurisdiction; or
- (b) inspection and confirmation by a Gas Technician I or II (as appropriate for the appliance input rating) that it is fit for continued use.

**Δ 1.9** Clause 4.7.3 is revoked and the following substituted for it:

#### 4.7.3

All interior metal gas piping and tubing that may become energized shall be made electrically continuous and shall be bonded in accordance with the Ontario Electrical Safety Code (OESC) adopted under Ontario Regulation 164/99 (Electrical Safety Code) made under the *Electricity Act, 1998*. In addition, bonding of certified metal piping/tubing systems (i.e. Corrugated Stainless Steel Tubing - CSST) shall also comply with the manufacturer's installation instructions.

*Note: Refer to the current version of Electrical Safety Authority Bulletin 10-14-x*

#### **Background:**

Clarified CSST bonding requirements.

- Δ 1.10 Clause 4.7.4 is revoked

**Background:**

Revoked to eliminate conflict with certified CSST installation instructions

- 1.11 Clause 4.14.3 is revoked and the following substituted for it:

**4.14.3**

An access opening with minimum dimensions of 21-3/4 × 35-1/2 in (550 × 900 mm) shall be provided to the space in which an appliance is located.

- 1.12 Clause 4.14.6 (a) is revoked and the following substituted for it:

**4.14.6**

(a) the appliance shall be installed on a well-drained surface. When water stands on the roof, either at the appliance or in the passageways to the appliance, or when the roof is sloped more than 2%, or has a water seal, or has a slippery surface, a suitable anti-skid walkway shall be provided. Such a walkway shall be located adjacent to the appliance and control panels, and when the appliance is located on a sloped or slippery roof, the walkway shall extend from the appliance to the point of access and be equipped with guardrails so that the appliance can be safely accessed and serviced

- 1.13 Clause 4.14.7(b) is revoked and the following substituted for it:

**4.14.7**

...

(b) other means of service access that meet the requirements of the Occupational Health and Safety Act, R.S.O. 1990 c.O.1, and its regulations.

- Δ 1.14 Clause 4.16.4 is revoked and the following substituted for it:

**4.16.4**

Where a forced air appliance for heating an attached residential building is installed within a residential garage, no opening shall be located in the portion of the appliance return air system located within the garage and the return air system shall be made air tight to prevent the infiltration of air from inside the garage.

**Background:**

Editorial changes for better clarity

- 1.15 Section 5.1 is amended by adding to it the following clauses:

**5.1.8**

Any installation requiring pressures in excess of those specified in Table 5.1 shall be approved by the Director.

**5.1.9**

For natural gas only, outdoor installations exceeding 125 psig shall be approved by the Director.

**1.16** Clause 5.6.4 is revoked and the following substituted:

**5.6.4**

The discharge from relief devices shall terminate outdoors with the clearances specified in Table 5.3 when the relief device is located in the supply line (downstream of the utility termination) and with the clearances specified in Table 5.4 for service regulators (upstream of the utility termination).

**Table 5.3**  
**Clearance from discharge openings of relief devices located in supply lines, ft (m)**  
(See clauses 5.5.9, 8.14.8 and 10.1.7)

	Natural gas (ANSI Z21.80/CSA 6.22) certified OPCO (over-pressure protection device)	Relief device openings with capacities less than 50 scf/h (1.5 m <sup>3</sup> /h)	Natural gas	Propane regulator
Building opening*	1 (0.3)	1 (0.3)	3 (1.0)	3 (1.0)
Appliance vent outlet†	1 (0.3)	1 (0.3)	3 (1.0)	3 (1.0)
Moisture exhaust duct (e.g. dryers)‡	3 (1.0)	3 (1.0)	3 (1.0)	3 (1.0)
Mechanical air intake*	3 (1.0)	3 (1.0)	10 (3.0)	10 (3.0)
Appliance air intake	1 (0.3)	1 (0.3)	3 (1.0)	10 (3.0)
Source of ignition	1 (0.3)	1 (0.3)	3 (1.0)	10 (3.0)

\* Outdoor air intake piping terminating directly into the return air plenum before the appliance, that is equal to or less than 8" in diameter or equivalent area shall be considered a building opening in using this table. A mechanical air intake is an opening that is dedicated to bring in larger volumes of outside air to replace the air that is being exhausted from a structure (i.e. heat recovery ventilator, HRV).

† See also 8.14.8

‡ Applies to gas or electric dryer vent termination

**Table 5.4**  
**Clearance from discharge openings of service relief devices, ft (m)**  
**(Per Oil and Gas Pipeline Systems Code Adoption Document)**

	Natural gas service regulators certified to CSA 6.18, incorporating OPCO (over-pressure cut-off) system and with limited relief of 50 scf/h (1.5 m³/h)	Natural gas service regulators certified to CSA 6.18 with a relief capacity up to and including 1900 scf/h (55 m³/h)	Natural gas service regulators with a relief capacity over 1900 scf/h (55 m³/h)	Propane service regulator
Building opening*	1 (0.3)	3 (1.0)	10 (3.0)	3 (1.0)
Appliance vent outlet†	1 (0.3)	3 (1.0)	3 (1.0)	3 (1.0)
Moisture exhaust duct (e.g. dryers)‡	3 (1.0)	3 (1.0)	3 (1.0)	3 (1.0)
Mechanical air intake*	3 (1.0)	10 (3.0)	10 (3.0)	10 (3.0)
Appliance air intake	1 (0.3)	3 (1.0)	10 (3.0)	10 (3.0)
Source of ignition	1 (0.3)	3 (1.0)	3 (1.0)	10 (3.0)

Where regulators might be submerged during floods, either a special anti-flood-type breather vent fitting shall be installed or the vent line shall be extended above the height of the expected flood waters.

\* Outdoor air intake piping terminating directly into the return air plenum before the appliance, that is equal to or less than 8" in diameter or equivalent area shall be considered a building opening in using this table. A mechanical air intake is an opening that is dedicated to bring in larger volumes of outside air to replace the air that is being exhausted from a structure (i.e. heat recovery ventilator, HRV).

† See also 8.14.8

‡ Applies to gas or electric dryer vent termination

**1.17** Clause 6.7.2 is amended by adding the following note to the end of the clause:

Note: The concealed space resulting from installation of a metal liner in a chimney, which has been examined and found to be clear and free of soot and creosote, may be used to install one continuous length of non-coated piping or tubing.

**1.18** Clause 6.13.2(a) is revoked and the following substituted for it:

**6.13.2**

...

(a) The minimum depth of the pocket shall be either 3 in (75 mm) or equal to the internal diameter of the piping it serves, whichever is greater.

**1.19** Clause 6.15.4 is revoked and the following substituted for it:

**6.15.4**

Piping and tubing shall be located:

- (a) Neither less than 15 in (400 mm) underground nor less 24 in (600 mm) under a commercial driveway or parking lot, except when it raises above ground at the point of supply to either a building or an outdoor appliance. Additional depth of cover shall be required where the piping is located in areas where physical damage is likely to occur, such as farm operations.
- (b) Where, due to rocky terrain, it is impractical to comply with section 6.15.4 (a), piping and tubing systems may be installed in accordance with **Annex P**.

**1.20** Clause 6.18.2 is revoked and the following substituted for it:

**6.18.2**

A manual shut-off valve shall be installed:

- (a) in either the drop or riser as close as possible to the valve train of a commercial or industrial-type appliance;
- (b) in either the drop or riser of a residential appliance;
- (c) in the horizontal piping between the drop or riser and the appliance valve train; it may be the same size as the appliance connection when located within 2 ft (600 mm) of the appliance;
- (d) within a maximum of 50 ft (15 m) of the individual residential appliance that it serves and shall be identified as to the appliance it serves by means of either:
  - (i) a metal tag attached to the valve; or
  - (ii) a clear legible sign displayed in a permanent manner adjacent to the valve;
- (e) so that it is readily accessible.

**1.21** Clause 6.18.3 is revoked and the following substituted for it:

**6.18.3.1**

The requirements that for each appliance an individual manual shut-off valve be installed as specified in Clause 6.18.2 do not apply when a readily accessible single manual shut-off valve is:

- (a) installed for commercial cooking appliances manifolded in line; or
- (b) installed in common supply piping to more than one direct-vent room heater that is part of a heating system in a dwelling unit, provided that it is less than 50 ft. (15 m) away from each appliance.

**6.18.3.2**

The requirement for a manual shut-off valve specified in Clause 6.18.2 (b) to be readily accessible does not apply when it is located:

- (a) behind a residential gas range;
- (b) behind a residential gas clothes dryer; or
- (c) not exceeding a height of 9 ft from the floor level

**1.22** Clause 6.18.4 is revoked and the following substituted for it:

**6.18.4**

A manual shut-off valve shall be of either the ball, eccentric, or lubricated-plug-type where

- (a) the piping is larger than NPS 1;



- (b) the tubing is 1 in (25.4 mm) OD or larger; or
- (c) the pressure exceeds 0.5 psig (3.5 kPa).

**1.23** Table 6.3 Note (2) is revoked and the following substituted for it:

- (2) Wrapped and or factory-coated piping or tubing of all sizes and lengths, other than Corrugated Stainless Steel Tubing (CSST) and coated copper tubing, shall be tested at a minimum pressure of 100 psig (700 kPa) in accordance with the time duration on the table. CSST and coated copper tubing shall be tested in accordance to the requirements of the main body of Table 6.3.

**1.24** Clauses 6.22.2, 6.22.3 and 6.22.4 are revoked and the following substituted:

**6.22.2**

Before appliances are connected to a new piping and tubing system containing fittings or joints, a pressure test shall be applied using either air or an inert gas (e.g. nitrogen) in the following manner:

- (a) Appliance shut-off valves, meters, regulators and any component not rated for the test pressure being applied shall not be connected to the piping or tubing system under test.
- (b) The test pressure shall be measured by either a pressure gauge or equivalent device and, if a gauge is used, the minimum diameter shall be 3 in (75 mm) and the maximum range shall exceed the test pressure by at least 15% but not more than 300%. The pressure gauge or equivalent device shall be calibrated to read in increments of not more than either 2 psig (14 kPa) or 2% of the maximum dial reading of the pressure gauge, whichever is less.
- (c) A pressure recorder when used for this test shall have a maximum range and be calibrated to the requirements of sub-section (b).
- (d) The pressure and duration of the test shall be in accordance with Table 6.3.

**6.22.3**

After an appliance(s) is connected, the new system shall be tested in the following manner:

- (a) Before turning on the gas for the test, a check shall be made to ensure that any opening from which gas can escape is closed;
- (b) Immediately after allowing the gas into the piping or tubing system, a test shall be made to determine that no gas is escaping by carefully watching the lowest volume test dial of the meter, or by using a pressure gauge or manometer (fluid, mechanical, or electronic) as specified in 6.22.3 (c);
- (c) Where a meter is not provided, a working pressure isolated system (supply shut off) test shall be completed and the pressure shall be measured with either a pressure gauge or equivalent device calibrated to read in increments not greater than those specified in Clause 6.22.2(b), with the following exceptions:
  - (i) for a system where the working pressure is 0.5 psig (3.5 kPa) or less, the pressure gauge or equivalent device (e.g. a manometer) shall be calibrated to read in increments of not greater than 1 in w.c. (250 Pa); and
  - (ii) for a system where the working pressure exceeds 0.5 psig (3.5 kPa) but does not exceed 5 psig (35 kPa), the pressure gauge or equivalent device shall be calibrated to read in increments of not greater than 2 in w.c. of pressure (0.5 kPa); and
  - (iii) For this test the gas supply shall be shut off and the contained gas pressure shall be monitored for leakage indicated by a pressure drop.

- (d) The test described in subsections (b) and (c) shall be of a 10 minute duration;
- (e) Each **appliance** connection, **valve**, **valve train**, and system **component** shall be checked while under normal operating pressure with either a liquid solution or a leak-detection device to locate any source of a leak.

#### **6.22.4 Piping/Tubing Addition or Appliance Connection to Existing Piping/Tubing**

##### **6.22.4.1**

An addition to an existing piping or tubing system shall be tested as an individual system in accordance with Clause 6.22, except that:

- (a) where the addition is:
  - (i) 20 ft (6 m) or less in length, or
  - (ii) one continuous length of piping or tubing not containing fittings and the normal working pressure is less than 0.5 psig (3.5 kPa), the addition shall be leak tested in accordance with Clause 6.22.3(e); and
- (b) where the addition is accomplished using a welded tie-in, and the new system has been tested in compliance with Clause 6.22, the tie-in weld shall be tested in accordance with Clause 6.22.3(e).

##### **6.22.4.2**

A replacement appliance connection to an existing piping or tubing system where the normal working pressure is less than 0.5 psig (3.5 kPa) shall be leak tested in accordance with Clause 6.22.3(e).

**1.25** Section 6.22 is amended by adding to it the following clauses:

##### **6.22.6**

The person required to perform the pressure test specified in 6.22.2 or the leak test specified in 6.22.4 shall immediately thereafter attach a tag stating the following information to the piping, tubing system or an appliance in a readily accessible location protected from the environment:

- (a) Address of test;
- (b) Contractor's name (if applicable, see note below);
- (c) Contractor's registration number (if applicable, see note below);
- (d) Date of test;
- (e) Test pressure;
- (f) Test duration;
- (g) Total pipe length;
- (h) Pipe size;
- (i) Gas Technician name;
- (j) Gas Technician certificate number and classification; and
- (k) Statement: "DO NOT REMOVE".

**Note:** *The information required in 6.22.6(b) and (c) (contractor name and registration number) may be completed as "N/A" if the gas technician completing the test or his or her employer was not required to register as a contractor at the time the test was performed; e.g. a factory, hospital or university that employs maintenance staff with appropriate gas certificates.*

##### **6.22.7**

Δ

A sticker containing all required information noted in 6.22.6 may be used in-lieu of a tag. This sticker shall be placed on a visible, readily accessible and non-removable surface of the appliance

**Background:**

Added an option to use a sticker in-lieu of a tag

**1.26** Section 7.1 is amended by adding the following clauses to it:

**7.1.4**

A boiler not covered under 7.1.1 shall conform to the requirements of clauses 7.1.5, 7.1.6, 7.1.7, 7.1.8, 7.1.9 & 7.1.10 as applicable.

**7.1.5**

Every steam boiler not under continuous attendance by a certified operator shall be equipped with a low-water fuel cut-off device that serves no other purpose, that cannot be rendered inoperative and can be tested under operational conditions.

**7.1.6**

Except as permitted under clauses 7.1.7, 7.1.8 and 7.1.9 every automatically fired hot-water heating boiler shall be equipped with a low-water cut-off device to shut off the fuel supply in the event of low water when:

- (a) the input to the boiler is in excess of 120 kW (400,000 Btuh); or
- (b) portions of the circulating system are located below the boiler's lowest safe permissible water level regardless of the input, and the sensing element of the device shall be located above the lowest safe permissible water level established by the boiler manufacturer.

**7.1.7**

The circulation system indicated in 7.1.6 (b) does not include:

- (a) Piping, headers and components required for the bottom connections of the boiler and piping within 6 feet (2 m) of the boiler, or
- (b) Residential Combo Fan Coil units or in-floor heating applications and all connecting piping and required components.

Boilers not requiring Low Water Cut Off devices by meeting the exemption requirements of 7.1.7 (a) or (b) shall be equipped with a flow-sensing device installed integral to the boiler. The function of the device shall be to shut off the fuel supply when the circulating flow is interrupted.

**7.1.8**

A coil-type boiler or a water tube boiler having an input in excess of 120 kW (400,000 Btuh) requiring forced circulation to prevent overheating of the coils or tubes, shall be equipped with a flow-sensing device installed integral to the unit or within the outlet piping in place of the low water fuel cut-off device required in sub clause 7.1.6 (a), and the sole function of the device shall be to shut off the fuel supply when the circulating flow is interrupted.

**7.1.9**

When two or more hot water boilers of the coil or fin-tube type are installed in one system, a low water fuel cut off device shall not be required on each boiler, provided that a low water cut-off device is installed on the main water outlet header and a flow switch is installed integral to the unit or within the output piping of each boiler that will cut off the

fuel supply to the burner on the boiler. These devices shall be installed so that they cannot be rendered inoperative. The installation of low-water cut-offs shall be such that they can be tested under operating conditions.

Note: The term "tested under operating conditions" is a procedure that ensures closure of the fuel supply valves in response to a simulated low water condition.

#### **7.1.10**

The pressure relief device on a boiler 400,000 Btu/hr or less shall have a discharge pipe of a size at least equal to the nominal size of the device outlet. The discharge pipe shall terminate not more than 12 in (300 mm) above the floor.

#### **7.1.11**

1. A new or replacement residential boiler with input less than 300,000 Btuh shall be:
  - (a) a direct vent type, where the direct vent appliance is constructed so that all the combustion air is supplied directly from and the products of combustion are vented directly to the outdoors by independent enclosed passageways connected directly to the appliance; or
  - (b) a residential Category I, natural I draft boiler equipped with a draft hood with an input less than 300,000 Btuh, provided that:
    - (i) it is a replacement boiler and is installed in the same location as the boiler being replaced;
    - (ii) the boiler is installed in a room that is not normally occupied and that does not directly communicate with occupied areas (boiler room shall be isolated by means including but not limited to sealing the door(s) with weather stripping; joist spaces shall be closed off with an appropriate sealing method; the ceiling shall be covered with drywall including taping of all the seams);
    - (iii) the boiler room door(s) shall be equipped with self-closing hardware and kept closed during boiler operation;
    - (iv) combustion air is supplied from the outdoors to the space in which the boiler is located in accordance with clauses 8.2.4 and 8.3 of CSA-B149.1-20, Natural Gas and Propane Installation Code, regardless of building construction;
    - (v) combustion air is supplied in accordance with the manufacturers certified instructions; and
    - (vi) a carbon monoxide alarm certified to CSA-6.19-17 is installed adjacent to or within each sleeping area in every suite of the home.
2. A new or replacement residential boiler with an input less than 300,000 Btuh that is not a direct vent type or a residential Category I natural draft boiler equipped with a draft control device may be installed provided that:
  - (i) combustion air is supplied from the outdoors to the space in which the boiler is located in accordance with clause 8.2.4 and 8.3 of CSA-B149.1-20, Natural Gas and Propane Installation Code, regardless of building construction;
  - (ii) combustion air is supplied in accordance with the manufacturers certified instructions; and
  - (iii) a carbon monoxide alarm certified to CSA-6.19-17 is installed adjacent to or within each sleeping area in every suite of the home.

#### **7.1.12 Mandatory Safety Checks for Residential (one or two family Dwelling) Natural Draft Boilers Equipped with Draft Control Device 300,000 Btuh or less.**

##### **7.1.12.1**

During each heating season effective October 15<sup>th</sup> to April 30<sup>th</sup> when a certified G1, G2, G3 or GUT gas technician enters a residential building intended for one or two single

families to carry out service, maintenance and/or emergency response work within the scope of his/her certificate, the gas technician shall:

1. Determine if a natural draft boiler equipped with a draft control device and with an input less than 300,000 Btuh is installed in the building. Where such a boiler is installed, the gas technician shall take the following steps unless a valid boiler inspection label as identified in paragraphs (e) and (f) is affixed to the boiler.
  - (a) The gas technician shall provide the homeowner/user with the Owner/User Information Sheet (Annex "Q" Schedule A) that outlines the technician's requirement to inspect and take corrective action where necessary and the homeowner's responsibility to properly maintain their fuel burning equipment.
  - (b) The gas technician shall take a CO reading in the flue gas upstream of the draft control device (between the heat exchanger and the draft control device) with the boiler operating at steady state under normal operating conditions.
    - If the CO reading exceeds 100 PPM, the boiler shall be considered an immediate hazard and the gas technician shall take immediate corrective action to address areas of concern including, but not limited to cleaning of the boiler flue passages and cleaning the burner. If the boiler operation cannot be corrected so that the reading is below 100 PPM, immediately shut off the fuel supply to the boiler, provide notice to the user and distributor and affix a notice to the boiler as outlined in subsection 13(2) and (3) of ONTARIO REGULATION 212/01 (Gaseous Fuels).
  - (c) The gas technician shall visually inspect the boiler for safe operation. If there are signs of spillage (such as discoloration on the burner door or near the draft control device, or excessive moisture in the boiler room), a depressurization test as outlined in Annex "Q" Schedule C shall be performed.
    - If the test demonstrates that there is a depressurization issue, then take appropriate action such as adding adequate combustion and make-up air.
    - If there are signs of condensation due to excessively low return water temperatures, take appropriate action such as installing a water bypass piping system in accordance with manufacturer's requirements or recommendations.
  - (d) A carbon monoxide alarm certified to CSA-6.19-17 shall be installed in accordance with the carbon monoxide alarm's installation instructions and located in the sleeping area or adjacent to each sleeping area in every suite of the home.
  - (e) If the boiler operation is satisfactory and found with a CO reading below 100 PPM, and the CO alarm(s) are installed, a boiler inspection tag (Annex "Q" Schedule "B") shall be affixed to the boiler.
  - (f) The boiler inspection tag affixed to the boiler shall expire on May 1<sup>st</sup> following the completion of this requirement.

- (g) In the event that boiler is tested between May 1<sup>st</sup> and October 14<sup>th</sup> (the off season) of a given year, it is considered a valid test for the period between October 15 of the given year and April 30<sup>th</sup> of the following year.

**7.1.13**

A pressure type low-water fuel cut-off device is not acceptable for compliance with clauses 7.1.5 & 7.1.6

- 1.27** The title of clause 7.4 is changed to:

**7.4 Type 2 clothes dryers**

- 1.28** Section 7.4 is amended by adding to it the following clause:

**7.4.8**

Type 2 clothes dryers shall be certified to ANSI Z21.5.2 / CSA 7.2 - Gas clothes dryers, volume II, type 2 clothes dryers

- 1.29** The title of clause 7.5 is changed to:

**7.5 Type 1 clothes dryers**

- 1.30** Section 7.5 is amended by adding to it the following clause:

**7.5.5**

Type 1 clothes dryers shall be certified to ANSI Z21.5.1 / CSA 7.1 - Gas clothes dryers, volume I, type 1 clothes dryers

- Δ 1.31** Clause 7.13.1 is revoked and the following substituted for it:

**7.13.1**

A central *furnace* shall be installed on

(a) a firm, level base; and

(b) a *noncombustible* floor or support, except where the *furnace* is

(i) *certified* for installation on a *combustible* floor;

(ii) installed using the central *furnace* manufacturer's certified special base; or

(iii) installed as specified in Clause 4.13.3.

(c) A base described in 7.13.1 (a and b) which may be:

(i) a base designed for the purpose of supporting a furnace.

(II) Cinder blocks, bricks or concrete patio stones. Secured to prevent removal after installation with a masonry adhesive or mechanical measures.

(iii) Bases described in 7.13.1 (c) (i) or (ii) must be supported by a finished floor and be secured to this floor to prevent movement

(d) Hangers so constructed to support the furnace with components that do not obstruct service access.

**Background:**

Added info on base described in B149-20 for better clarity

**1.32** Clause 7.18.2 is revoked and the following substituted for it:

**7.18.2**

A construction heater shall be installed in accordance with the manufacturer's certified installation instructions.

**1.33** Clause 7.26.7 is revoked and the following is substituted for it:

**7.26.7**

When an existing indoor swimming gas-fired pool heater is being replaced with a new gas heater, the new finned tube type heater shall be of the direct vent type.

**1.34** Clause 7.27.1 is revoked and the following substituted for it:

**7.27.1**

A water heater, unless of the direct-vent type, shall not be installed in a bathroom, bedroom, or any enclosure where sleeping accommodation is provided.

A power vent water heater may be installed in an enclosure adjacent to a bedroom or bathroom provided adequate combustion air per clause 8.2.6 is provided to the enclosure. This combustion air supply shall not be supplied from the bedroom or bathroom.

A natural draft water heater may be installed in an enclosure that is accessed by a pedestrian door which can be opened from a bathroom or bedroom, provided that the enclosure has a volume equal to or greater than the bathroom or bedroom.

**1.35** Section 7.27 is amended by adding to it the following clause:

**7.27.8**

A water heater shall be installed:

- (a) If of the storage type, in a level manner on a firm and stable base sufficient to bear its expected in-service weight; and
- (b) if of the wall hung type, secured on a wall in a manner suitable to support its filled weight.

**1.36** Clause 7.33.5 is revoked

**1.37** Clause 7.34.3 is revoked and the following substituted for it:

**7.34.3**

All Un-Vented Servel Refrigerators built between 1933 and 1957, ("Un-Vented Servel Refrigerators(s)") installed within any premises or any part of a premise that is a dwelling, mobile home, recreation vehicle or other living space shall:

- (a) be removed and safely rendered inoperable for any future use or removed and relocated to an area that is isolated from the living space.
- (b) have a warning label, protected from the environment, that is either affixed to the outside of the front door or inside the Un-Vented Servel Refrigerator in a location that is readily visible. The warning label shall have the following wording:

**W A R N I N G**

This refrigerator is prone to the production of Carbon Monoxide in levels that may be lethal. This refrigerator may only be operated in an area that is isolated from a living space such as: a remote shed, garage or open porch. The refrigerator shall be located a minimum distance of 12 inches from any opening to the living space.

The word "WARNING" shall be a minimum of ¼-inch (6.4 mm) in height. All other words on the label shall be a minimum 1/8-inch (3.2 mm) in height.

- (c) be inspected and serviced by an appropriate certificate holder annually.

**1.38** Section 7 is amended by adding to it the following clauses:

**7.36 Field approval of special effects**

Natural gas or propane used in connection with **Field Approval of Special Effects** shall comply with **Annex O**.

**7.37 Unvented heaters installed inside a building housing livestock or poultry**

**7.37.1**

Unvented heaters installed inside a building housing livestock or poultry shall comply with the following requirements:

- (a) infrared heaters of unvented type interlocked with ventilation system shall comply with clause 7.23.1;
- (b) portable infrared heaters not interlocked with ventilation system shall comply with clause 7.23.2;
- (c) infrared or other heaters of unvented type not interlocked with ventilation system shall comply with clause 7.37.2;
- (d) infrared or other heaters of vented type discharging flue gases inside the barn shall comply with clause 8.24.5.

**7.37.2**

Heaters of unvented type not interlocked with ventilation system shall be:

- (a) exempt from clauses 7.23.1, 7.23.2 and 8.24.5;
- (b) protected against physical damage;
- (c) provided with mechanical or natural *ventilation* when the heaters are operating at a volume sufficient to maintain a minimum of 300cfm/100,000Btuh;
- (d) located in a space where the maximum input of the appliances does not exceed 20 Btuh/ft<sup>3</sup> (0.2 kW/m<sup>3</sup>) of the space in which the appliance is located;
- (e) provided with combustion and ventilation air compatible with item (c);
- (f) not be installed in a pedestrian exit passageway or stairway within 8 ft (2.5 m) measured horizontally from an exit door; and
- (g) provided with clearance from combustible material as certified and indicated on the appliance;

Items (c) and (d) shall be verified by calculations, completed by a PEO licence holder, and the calculations prominently displayed in the entrance area to each building housing livestock or poultry.

**7.37.3**

On moveable heaters, hoses used to connect the heaters to the fuel supply shall be installed so that the hose does not come into contact with the heater's exterior surfaces.

**7.37.4**



Heaters installed prior to October 1, 2014 shall comply with section 7.37 as follows:

- (a) by July 1, 2019 when total building area housing livestock or poultry on the premise is over 25,000 square feet;
- (b) by July 1, 2021 when total building area housing livestock or poultry on the premise is up to and including 25,000 square feet;

Heaters installed prior to October 1, 2014 are not required to comply with clauses 7.23.1, 7.23.2 and 8.24.5 and their predecessor clauses in prior codes relating to interlocking with the ventilation system or approval for indoor venting.

## **7.38 Mobile Food Service Equipment**

### **7.38.1 Mobile Food Service Equipment Built Prior to February 13, 2006**

#### **7.38.1.1**

**Danger Labels** – The applicable labels described in Annex S - Attachment #1 are required to be applied to all existing MFSEs built prior to February 13, 2006.

#### **7.38.1.2**

**Annual Inspections** – The owner/operator of an MFSE shall ensure that a certified gas technician inspects the MFSE annually using the Annual Inspection Certificate in the form attached in Annex S - Attachment #2. Upon successful completion of the inspection the owner/operator shall retain the certificate with the MFSE until the subsequent inspection. All MFSE may be subject to TSSA inspection to confirm annual inspection is current.

### **7.38.2 Mobile Food Service Equipment Built after February 13, 2006**

#### **7.38.2.1**

**Approval** - All MFSEs built after February 13, 2006 are required to have a Field Approval by TSSA or alternatively must be certified and labeled by a Certification Organization accredited by Standards Council of Canada. The approval includes the entire assembly cart, truck, trailer, etc. This includes the fuel supply, piping, appliances, ventilation and warning labels.

#### **7.38.2.2**

**Annual Inspections** – The owner/operator of an MFSE shall ensure that a certified gas technician inspects the MFSE annually using the Annual Inspection Certificate in the form attached in Annex S - Attachment #2. Upon successful completion of the inspection the owner/operator shall retain the certificate with the MFSE until the subsequent inspection. All MFSE may be subject to TSSA inspection to confirm annual inspection is current.

**1.39** Clause 8.1.2 is revoked and the following substituted for it:

#### **8.1.2**

The requirements of 8.2 through 8.5 inclusive do not apply to:

- (a) direct-vent appliances, or
- (b) category IV appliances unless installed in designated R-2000 homes or in an enclosure.

**1.40** Sub-clause 8.2.1 (a) is revoked and the following is substituted for it:

**8.2.1**

...

- (a) has a vapour or air barrier with joints continuously sealed by taping or caulking in all thermally insulated walls, ceilings and floors; or

**1.41** Clause 8.3.7 is revoked and the following substituted for it:

**8.3.7**

An air-supply opening shall not be located within 3 ft (1 m) of a moisture exhaust duct. In the case of Type 1 gas clothes dryer, this separation shall be not less than 3 ft (1 m) and in the case of Type 2 gas clothes dryer not less than 10 ft (3 m).

**Note:** *A moisture-exhaust duct (e.g., a gas or electric clothes dryer discharge or spa exhaust) is considered to interfere with the combustion air intake when located within 3 ft (1 m) of the air intake.*

**1.42** Clause 8.9.5 is revoked and the following is substituted for it:

**8.9.5**

Venting systems or total vent run if less than 3 ft (900 mm), that employ plastic vents shall be installed such that the first 3 ft (900 mm) from the appliance outlet is readily accessible for visual inspection except for direct vent appliances such as fireplaces that are intended to have short vent lengths to be concealed for decorative purposes.

**1.43** Clause 8.12.2 is revoked and the following substituted:

**8.12.2**

Except as provided in Clause 8.21.6, before replacing or removing (while leaving one or more appliances still connected to the chimney) an existing appliance or connecting a vent connector to a chimney, the chimney flue shall be examined to ascertain that the chimney:

- (a) is properly constructed;
- (b) is lined with a tile or metal liner;
  - if installation of a liner is required it shall be completed within 5 days for residential applications and 30 days for commercial applications of replacing or removal of the existing appliance. The installer or agent undertaking the replacement, removal or connection of the new appliance shall:
    - i. complete the installation of the liner, or
    - ii. ensure the short-term safe continued use of the chimney and complete a documented follow-up to ensure that the chimney is lined within the applicable timeframe specified above and shall treat any failure to comply as an unacceptable condition in accordance with section 14 of O. Reg. 212/01.
  - a tile liner is not acceptable for an exterior chimney; it shall be relined with a certified metal liner.
- (c) is clear and free of soot, creosote, or obstructions;
- (d) will effectively conduct the products of combustion outdoors; and
- (e) is sized in accordance with Clause 8.13.

**1.44** Clause 8.14.8(a) is revoked.

**1.45** Section 8.17 is amended by adding to it the following sub-section:

**8.17.3 Existing B-Vent (not certified for exterior applications) which has been installed outdoors**

**8.17.3.1**

Where a certificate-holder finds an installation of natural gas or propane fuel appliances that are vented using a B-Vent not certified for exterior applications and where the B-Vent has been identified as constituting an unacceptable condition - no immediate hazard, the requirement for the unacceptable condition to be corrected within 90 days as required by section 14(1)(a) of the Gaseous Fuels Regulation is extended beyond 90 days for an indefinite period, provided that the following conditions are met:

- (a) notification has been provided to the B-Vent owner/user by a qualified certificate holder that a B-Vent (not certified for exterior applications) has been installed outdoors (See Annex R, Page 1 & 2, User Owner Notification);
- (b) notification (initial only) has been provided to the fuel distributor, within 14 days of discovery of the B-Vent (not certified for exterior applications), by a qualified certificate holder or registered contractor that the B-Vent has been installed outdoors (See Annex R, Page 3, Fuel Distributor Notification);
- (c) the B-Vent is in safe operating condition as determined by a qualified certificate holder;
- (d) the qualified certificate holder has affixed a notice to the appliance or work describing the condition (See, See Annex R, Page 4, Equipment Tag);
- (e) the B-Vent continues to be in safe operating condition as determined through annual inspections by a qualified certificate holder which are arranged by owner/user;
- (f) the qualified certificate holder has affixed a notice to the appliance or work confirming that the annual inspection arranged by the owner/user have been satisfactorily completed (See Annex R, Page 4, Equipment Tag); and
- (g) the fuel distributor sends annual notifications to the B-Vent owner/user regarding the annual inspection requirements (See Annex R Page 5, Annual Notification).

If conditions (a) through (g) are not met, the non-compliant B-Vent shall be replaced with a current code compliant venting system in accordance to Ontario Regulation 212/01 section 14(1)(a). That is, the unacceptable condition, which does not pose an immediate hazard, must be corrected within 90 days.

**8.17.3.2**

Where a natural gas or propane fuel appliance that is vented using a non-compliant B-Vent described in clause 8.17.3.1 is replaced, removed, or a new appliance installed, the non-compliant B-Vent shall be replaced with a current code compliant venting system.

**8.17.3.3**

For greater certainty, clause 8.17.3 does not apply where a non-compliant B-Vent constitutes an immediate hazard.

#### **8.17.3.4**

The determination of whether a vent is an unacceptable condition that constitutes an immediate hazard shall be made by a qualified certificate holder pursuant to sections 13(2) and 13(3) of the Gaseous Fuels Regulation, Ontario Regulation 212/01.

- 1.46** Sub items 8.18.12(a)(i) and (ii) are amended by adding “(see clause 7.13.4)” after the words “Floor Furnace”.
- 1.47** Annex C is adopted as normative (mandatory).
- 1.48** Clause C.2.16 is revoked and the following substituted for it:

#### **C.2.16**

##### **For Single Appliance Venting Applications:**

Where the vertical **vent** has a larger diameter than the vent connector, the vertical vent diameter shall be used to determine the minimum vent capacity and the vent connector diameter shall be used to determine the maximum vent capacity. The flow area of the vertical vent shall not exceed 7 times the flow area of the listed appliance categorized vent area, flue collar area, or draft hood outlet area unless designed with approved engineering methods.

##### **For Multiple Appliances Venting Applications:**

Where 2 or more appliances are connected to a vertical vent or chimney the flow area of the largest section of vertical vent or chimney shall not exceed 7 times the flow area of smallest listed appliance categorized vent area, flue collar area, or draft hood outlet area unless designed with approved engineering methods.

- 1.49** Clause G.1 is revoked and the following substitute for it:

#### **G.1 General**

Problems are not usually experienced in residential piping systems with thermal expansion because the piping is relatively short.

However, in commercial and industrial buildings, there can be substantial variations in the lengths of gas piping mains as the indoor temperature changes on weekends or between seasons. It is therefore essential that provisions be made in the piping design for flexibility to avoid undesirable bending and strong forces at elbows or joints.

This flexibility is obtained by the use of designed pipe bends, loops, offsets, expansion, or swivel joints. The piping shall be anchored at appropriate locations to control the direction of expansion and contraction.

- 1.50** The following Annexes have been added:

**Annex O** “Field Approval of Special Effects”;

**Annex P** “Installation of piping or tubing in rocky areas”;

**Annex Q** “Mandatory Safety Checks for Residential (one or two family dwelling) Natural Draft Boilers Equipped with a Draft Control Device 300,000 Btuh or less”;

**Annex R** “Existing B-Vent (not certified for exterior applications) which has been installed outdoors”; and

**Annex S** “Mobile Food Service Equipment”.

#### **Background:**

The Annexes of the CAD re-organized and added as an Ontario-specific requirement.

2. The National Standard of Canada CAN/BNQ 1784-000-07 entitled "Canadian Hydrogen Installation Code", prepared by the Bureau de normalization du Quebec is adopted for the installation of hydrogen fuelled appliances and equipment with the following amendment:

- 2.1 Clause 7.4.1.2 is revoked and the following is substituted for it:

**7.4.1.2**

Hydrogen piping, tubing and fittings shall be designed and installed in accordance with the appropriate requirements of ASME standard B31.3 "Process Piping" and shall be approved by the director.

- Δ 3. The TSSA "Field Approval Code", TSSA-FA-2020, is adopted for the approval of assembly or construction of an appliance.

**Background:**

Changes to the Field Approval Code include adoption of B149.3-20 and parts of: NFPA 85-2019 & NFPA 86-2019

- Δ 4. The TSSA "Digester, Landfill and Biogas Approval Code", TSSA-DLB-2020 is hereby adopted.

**Background:**

Changes to the Digester, Landfill and Biogas Code include adoption of B149.6-20

- Δ 5. The TSSA "High Pressure Piping Code", TSSA-HPP-2020 is hereby adopted.

**Background:**

New edition of HPP Code will be adopted with updated requirements

- Δ 6. The TSSA "Field Approval Code for Mobile Food Service Equipment", TSSA-MFSE-2020, is hereby adopted.

**Background:**

New edition of MFSE Code will be adopted with updated requirements

7. Any term defined by the *Technical Standards and Safety Act 2000* or O. Reg. 212/01 (Gaseous Fuels) has the same meaning in this document, unless otherwise specified.

8. In the event of conflict between a provision of this document and any code or standard referred to in this document, this document shall prevail.

Any person involved in an activity, process or procedure to which this document applies shall comply with this document.

These amendments are effective May 1, 2021.

Signed at Toronto on this first day of March 2021.

***ORIGINAL SIGNED BY***

---

**Sam Sadeghi**

Director, O. Reg. 212/01 (Gaseous Fuels)

*This document has been developed in consultation with  
the Natural Gas Advisory Council and the Natural Gas Risk Reduction Group*

---

Fuels Safety Program, Technical Standards and Safety Authority  
345 Carlingview Dr, Toronto, ON M9W 6N9 Tel: (416) 734-3300

## ANNEX O

### Field Approval of Special Effects

The standard, NFPA 160, "Standard for the use of Flame Effects Before an Audience, 2001 Edition" is adopted for use in the province of Ontario with the following amendments:

1. Section 1.1 is revoked and replaced with the following:
  - 1.1.1 This standard shall apply to temporary flame effects using propane or natural gas as the fuel for entertainment, exhibition, demonstration, or simulation, including their design, fabrication, installation, testing, control, operation and maintenance.
  - 1.1.2 This standard shall apply to the following:
    - (a) The use of indoor and outdoor flame effects;
    - (b) The design, fabrication, installation, testing, control, operation and maintenance of **equipment**, materials, procedures, and systems used to produce flame effects;
    - (c) The rehearsal, videotaping, audiotaping, or filming of any television, radio, or movie production if such production includes the use of flame effects;
    - (d) The rehearsal of any production incorporating flame effects.
2. Section 1.4 is amended by adding the following definition:

**Deadperson switch.** A manually controlled system designed to automatically interrupt the fuel to the flame effect equipment.
3. Section 6.4 is revoked and the following substituted for it:

**6.4**  
All flame effect operators shall have a valid Record of Training (R.O.T.) for the use and handling of natural gas or propane construction heaters or equivalent.
4. Section 7.3.2.5 is revoked and the following substituted for it:

**7.3.2.5 Fireplace Kits**  
Where the special effect is to simulate a flame in a fireplace, the following requirements shall apply.

  - (a) Where the flame effect is to be installed in an existing fireplace:
    - i) the chimney/vent shall be inspected and adequate draft through the chimney/vent to exhaust combustion products shall be confirmed;
    - ii) the fireplace enclosure shall comply with the Ontario Building Code or be certified by a recognized testing organization;
    - iii) combustible materials shall be shielded from open flames by using fire-rated materials; and
    - iv) except as specified in 7-3.2.6 (iv), a maximum capacity of 20 lbs. of propane for each fireplace kit may be used indoors;
    - v) with multiple fireplace kit installations, an aggregate capacity of more than 100 lbs of propane connected for use shall not be used indoors.
  - (b) The burner and supports shall be made of non-combustible materials.
  - (c) At least one portable dry chemical fire extinguisher of a total not less than 20-B,C rating shall be provided in a readily accessible location to the operator.
  - (d) Piping or tubing shall not be exposed to high temperatures and flame impingement.

- (e) The flame effect shall be controlled by a regulator and a quarter turn manual safety shut-off valve.
- (f) Where the flame effect will continuously operate for longer than 10 minutes,
  - (i) an automatic safety shut-off valve controlled by a deadperson switch shall be installed in the fuel supply line to the burner; or
  - (ii) a quarter turn manual valve will be installed as an effect valve and another quarter turn manual valve controlling the fuel supply shall be installed at the fuel supply system. The fuel supply valve will be installed and controlled by a second operator and located not less than 10 feet from the effect valve and primary operator.
- (g) Where a cylinder is used indoors with a capacity in excess of 1 lb. of propane,
  - (i) except as provided in (ii) an excess flow valve shall be installed. The excess flow valve shall be either integral with the cylinder valve or in the connection to the cylinder valve outlet. In either case, it shall be installed in such a manner that undue strain will not cause breakage between the cylinder and the valve.
  - (ii) A deadperson switch shall be installed with an automatic safety shut-off valve where an excess flow valve is not installed.
- (h) Unless completely separated from the flame with a 2 hour fire rated shield, a cylinder shall not be located less than 10 feet from the flame effect.
- (i) When a hose is used, it shall be inspected before connection, not exceed 75 feet in length and shall be protected, by location or other means, from impact and excessive heat.
- (j) The operator shall remain in constant attendance at the safety shut-off valve during operation and have visual access to the flame effect at all times.
- (k) During non-operation times, the operator shall close the quarter turn manual shut-off valve and the cylinder or fuel supply valve.
- (l) Cylinders not in use shall be stored in accordance with the Ontario Propane Code.

#### **7.3.2.6 Flame Bars and other Flame Effects.**

Where the special effect is to simulate a flame the following shall apply.

- (a) Where the input to the flame effect is less than 400 000 Btuh,
  - (i) The requirements of section 7.3.2.5 (fireplace kits) shall apply.
  - (ii) A pressure indicator shall be installed downstream of the regulator;
  - (iii) The estimated height of the flame for a specified pressure, burner and pipe/tube size shall be tested and documented prior to installation and operation;
  - (iv) It is permissible not to install an excess flow valve provided an automatic shut-off valve controlled by a deadperson switch is installed.
- (b) Where the input to the flame effect is 400 000 Btuh or greater,
  - (i) The system will be controlled by
    - two automatic safety shut-off valves piped in series, wired in parallel and activated by a deadperson switch shall be installed or;
    - a quarter turn manual valve will be installed as an effect valve and another quarter turn manual valve controlling the fuel supply will be



installed at the fuel supply system. The fuel supply valve will be installed and manually controlled by a second operator and located not less than 10 feet from the effect valve and primary operator;

- (ii) A pressure indicator shall be installed;
  - (iii) The estimated height of the flame for a specified pressure, burner and pipe/tube size shall be tested and documented prior to installation and operation;
  - (iv) The total capacity of cylinders used indoors and connected together shall not exceed 300 lbs. of propane and not more than one manifold of cylinders may be located in the same area unless separated by a distance of at least 50 feet;
  - (v) When a hose is used, it shall be inspected before connection, shall not exceed 75 feet in length and shall be protected, by location or other means from impact and heat;
  - (vi) The burner and supports shall be made of non-combustible materials;
  - (vii) Unless completely separated from the flame with a 2 hour fire rated shield, a cylinder shall not be located less than 10 feet from the flame effect; and
  - (viii) A cylinder shall not be exposed to temperatures in excess of 125°F (50°C).
- (c) At least one portable dry chemical fire extinguisher of a total not less than 20-B,C rating shall be provided in a readily accessible location to the operator.
- (d) Where a flame effect is used indoors, the products of combustion shall:
- i) be effectively vented to the outdoors by a chimney, vent or continuously operating exhaust fan; or
  - ii) have the environment around the flame effect monitored for carbon monoxide levels. A carbon monoxide monitoring system shall be set to alarm at a level not greater than 25 ppm carbon monoxide. The flame effect shall be discontinued until the level of carbon monoxide is reduced below 25 ppm.

#### **7.3.2.7 System using Fuel Accumulators (Propane Cannons) for Film**

Fuel Accumulators (propane cannons) used in flame effect systems shall meet the following requirements:

- (a) An accumulator tank shall be designed, manufactured, and certified as an unfired pressure vessel with a minimum design pressure of not less than 250 psig.
- (b) Unless otherwise approved, welding shall not be done to the shell, head, or any other part of an accumulator tank.
- (c) Field welding of an accumulator tank shall be made only on saddle plates or brackets.
- (d) An accumulator tank shall be equipped with a properly sized, spring loaded relief valve in accordance with section 10.2 of the Ontario Propane Code. The relief valve shall be set at a pressure not exceeding the pressure rating of the lowest rated component.
- (e) A pressure gauge shall be provided with each accumulator tank.
- (f) A quarter turn manual shut-off valve and a quick disconnect device shall be installed at the connection to the inlet of an accumulator tank. This valve shall remain closed until charging of the accumulator tank.
- (g) The outlet of the accumulator tank shall be piped to the effect valve.

- (h) Propane shall not be put into an accumulator tank until the air and moisture in the tank has been purged in accordance with the procedures described in Annex A, Section A-4, "Removal of Air and Moisture from Cylinders and Motor Fuel Containers," in the B149.2-20 "Propane storage and handling code".
- (i) An accumulator tank shall be charged as close to the time of the actual arming and firing of the effect as is practical.
- (j) Where the fuel supply to an accumulator tank is not disconnected and removed after charging, the supply piping to the accumulator tank shall be equipped with the following:
  - (i) A pressure regulator;
  - (ii) A manual quarter turn shut-off valve;
  - (iii) A pressure gauge;
  - (iv) two automatic safety shut-off valves piped in series and wired in parallel through a deadperson switch; and
  - (v) A high gas pressure switch with a setting no higher than 10% of the pressure intended for the accumulator tank.
- (k) The complete system with all components and accessories in place shall be leak tested at the system operating pressure prior to use.
- (l) Fuel accumulators shall have a written record of tests of flame effect size related to accumulator tank pressures and burner types (nozzles) including wind conditions and ignition types at the time of the tests. This written record shall be available upon the request of the authority having jurisdiction.
- (m) The mixing of air or any other oxidizing media with fuel in an accumulator tank shall be prohibited. The mixing of an inert gas with fuel in an accumulator tank is permissible.
- (n) Where an accumulator tank is used indoors, the products of combustion shall:
  - (i) be effectively vented to the outdoors by a chimney, vent or continuously operating exhaust fan; or
  - (ii) have the environment around the flame effect monitored for carbon monoxide levels. A carbon monoxide monitoring system shall be set to alarm at a level not greater than 25 ppm carbon monoxide. The flame effect shall be discontinued until the level of carbon monoxide is reduced to below 25 ppm.
- (o) Where an accumulator tank is used indoors, means shall be provided to purge gas from the volume of the space to which the flame effect is used:
  - (i) at least four times of the entire volume and flue passages; or
  - (ii) a combustible gas analyzer in conjunction with a purge system shall be used to confirm that gas has not accumulated beyond 25% of the lower explosive limit throughout the entire volume and **flue** passages.
- (p) At least one portable dry chemical fire extinguisher of not less than 20-B,C rating shall be provided in a readily accessible location to the operator.
- (q) Unless completely purged of propane, an accumulator tank shall not be used with any other product and shall be stored outdoors in accordance with section 6.5.2 of the B149.2-20 "Propane storage and handling code". The person purging the accumulator tank shall be a holder of a Record-of-Training for filling cylinders.

- (r) An accumulator tank may be stored indoors when completely purged of propane.

#### **7.3.2.8**

Propane cylinders shall be:

- (a) in an upright position on a firm footing and secured to prevent them from being accidentally tipped over;
- (b) a cylinder in use inside a building shall not be located near an exit, stairway, or an area normally used or intended for safe evacuation of people;
- (c) positioned so that the relief valve points away from any sources of ignition.

#### **7.3.2.9**

Inversion of propane cylinders to supply a propane effect is strictly prohibited.

#### **7.3.2.10**

When changing cylinders, clear the area within fifteen feet of the cylinder installation of all sources of ignition, use only the proper sized wrench for making connections.

#### **7.3.2.11**

Where certified appliances are temporarily installed and used, all combustion safety interlocks, combustion safeguards, excess temperature limits, pressure relief valves, lower water cut-outs, and other applicable safety controls shall be tested for proper operation prior to activating the appliance.

#### **7.3.2.12**

Where liquid propane is used for a flame effect, all applicable requirements of the B149.2-20 "Propane storage and handling code" and the CSA-B149.3-20 "Code for the field approval of fuel-related components on appliances and equipment", shall apply (both codes shall apply with Ontario amendments).

## **ANNEX P**

### **Installation of piping or tubing in rocky areas**

Where, due to rocky terrain, it is impractical to comply with section 6.15.4 (a), piping or tubing systems may be installed in accordance with this annex, the manufacturer's instructions and the authority having jurisdiction.

1. When piping or tubing cannot be buried a minimum of 15 inches due to rocky terrain, Type L polyethylene-coated copper tubing sleeved using high-density polyethylene tubing that contains a minimum 2% UV resistance by weight, may be used in accordance with this document and the Manufacturer's Instructions.
2. Tubing shall be installed without joints unless the required distance is beyond 100 ft. Tubing system shall be joined or connected in accordance with clause 6.15.3 and the sleeve shall be connected in accordance with the manufacturer's instructions.
3. Measures shall be taken to ensure that the pipe or tubing is protected from damage from vehicles, snow machines etc. (see clause 6.16.3)
4. Where ground cover is not possible,
  - (a) Aboveground sections of the tubing sleeve shall be anchored to the contour of a secure rock surface at minimum 10 feet intervals. The sleeve shall be banded every 3 feet with a high visibility yellow tape
  - (b) Piping shall follow the contour of the terrain without unsupported sections of pipe or tubing occurring above grade
5. PVC tubing sleeve to be sealed at each end to prevent the entrance of dirt and moisture.
6. A trench for underground sections of the tubing shall be in compliance with clause 6.15.5. The backfill, material shall be free of sharp objects, stones larger than 38 mm or any other material that may damage the piping or tubing.
7. Permanent Markers (yellow with black writing) shall be placed along the piping/tubing system every 10 ft. warning that the piping/tubing is part of a natural gas or propane system and when installed on rock, the signs shall be anchored to the rock.
8. Permanent Markers (yellow with black writing) to be placed at the natural gas meter or propane container and building or outdoor appliance warning of a shallow underground propane/natural gas piping or tubing system.
9. The markers referred to in 7 and 8 shall be of a height above the anticipated snow level for the area.
10. The PE material being used as protective sleeve shall conform to the standard CGSB 41-GP-25M "Pipe, Polyethylene, for the Transport of Liquids" and shall contain a minimum 2% content of carbon black additive, which gives the product essentially a 50 year life cycle for resistance to UV rays from the sun.

## ANNEX Q (Page 1)

### **Mandatory Safety Checks for Residential (one or two family dwelling) Natural Draft Boilers Equipped with a Draft Control Device 300,000 Btuh or less.**

#### **SCHEDULE A – OWNER/USER INFORMATION SHEET**



345 Carlingview Drive  
Toronto, Ontario M9W 6N9  
Tel.: 416.734.3300  
Fax: 416.231.1626  
Toll Free: 1.877.682.8772

[www.tssa.org](http://www.tssa.org)

### **Mandatory Inspection of Gas (Natural Gas and Propane) Fired Natural Draft Boilers Equipped with a Draft Control Device**

#### Attention Property Owner/User:

The Technical Standards and Safety Authority (TSSA) has the mandate to maintain and improve safety for Ontario residents in the fuels and other regulated sectors. TSSA is officially designated by Ontario's Ministry of Government and Consumer Services to administer and enforce the *Technical Standards and Safety Act, 2000*, which governs fuels safety in Ontario.

TSSA has determined that the use of natural gas and propane burning natural draft boilers equipped with a draft control device may result in a carbon monoxide (CO) safety hazard in the home, that may cause personal injury up to and including death.

CO is a colourless gas produced when fuels such as natural gas and propane burn incompletely. CO itself is odourless and tasteless but it may be accompanied by an abnormal odour of incomplete fuel combustion. Symptoms of CO poisoning include nausea and vomiting, dizziness, burning eyes, difficulty breathing, confusion and loss of consciousness.

Investigated CO incidents have shown that key contributing causes of the incidents are that:

- many boilers are not being maintained in accordance with the boiler manufacturer's instructions. It is imperative that boilers are cleaned properly on a regular basis to reduce the likelihood of CO production.
- chimneys intended to evacuate CO and smoke from the boilers to the outdoors, are not properly operating due to other exhaust systems (such as wood fireplaces, dryer exhausts, new kitchen exhausts, etc.) and the installation of new, more energy efficient windows and doors. These systems and home upgrades limit the outside air infiltration into the home and cause the house to depressurize.

To address this situation, TSSA is legally requiring that all heating contractors perform a CO safety check when a technician enters a home with a boiler. The technician is obligated to take action when an unsafe condition is identified. These checks will be required when a technician enters a home with this type of boiler regardless of whether the homeowner/user has requested service on that boiler. This check is only required once during the heating season. The gas technician is also required to visually examine the boiler and if there are signs of poor operation,

## **ANNEX Q (Page 2)**

### **Mandatory Safety Checks for Residential (one or two family dwelling) Natural Draft Boilers Equipped with a Draft Control Device 300,000 Btuh or less.**

#### **SCHEDULE A – OWNER/USER INFORMATION SHEET**

additional steps may be required including a home depressurization test or non-compliances corrected by adding combustion air, make-up air, installing a water bypass, etc.

TSSA is requiring that CO alarm(s) be located in the vicinity or within the sleeping quarters of the home. The technician is required to ensure that the alarm(s) is/are present. If alarms are missing, the technician is required to issue written notification that the alarms must to be installed. If the alarms are not installed within the notification time limit, the fuel supply to your home will be shut off.

As an equipment owner/user, TSSA and industry remind you of your responsibility to properly maintain and operate your boiler and all other fuels burning equipment. Annual maintenance, as a minimum, by a qualified contractor is the best method to fulfil this requirement.

If there are safety issues identified during this mandatory inspection, the boiler will need to be serviced and depending on what type of service is necessary, the cost will vary. To best ensure the continued safety of you and your family, we ask that you allow the technician's inspection/evaluation, and that you have your boiler maintained on a regular basis.

If you do not allow the inspection or non-compliances are identified such as no CO alarm(s) present, your boiler will be identified as requiring compliance within a specified time. If that time lapses and the inspection is not completed or non-compliances are not corrected, the fuel supply to your boiler or home will be shut-off. If there is an immediate hazard identified during the inspection that cannot be corrected, the fuel supply to the boiler will be immediately terminated.

TSSA and the associated industries thank you in advance for your co-operation in this regard. If you require further clarification or have questions, please ask the gas technician performing the inspection, your fuel supplier or TSSA toll-free at 1-877-682-8772. Visit [www.tssa.org](http://www.tssa.org) for more information.

**ANNEX Q (Page 3)**

**Mandatory Safety Checks for Residential (one or two family dwelling) Natural Draft Boilers  
Equipped with a Draft Control Device 300,000 Btuh or less.**

**SCHEDULE B – BOILER INSPECTION TAG**

## ANNEX Q (Page 4)

### **Mandatory Safety Checks for Residential (one or two family dwelling) Natural Draft Boilers Equipped with a Draft Control Device 300,000 Btuh or less.**

#### **SCHEDULE C – DEPRESSURIZATION TEST**



345 Carlingview Drive  
Toronto, Ontario M9W 6N9  
Tel.: 416.734.3300  
Fax: 416.231.1626  
Toll Free: 1.877.682.8772

[www.tssa.org](http://www.tssa.org)

#### **The following steps shall be followed for the depressurization test:**

1. With the boiler and other appliances connected to the same common vent not in operation:
  - a. Seal any unused openings in the common venting system;
  - b. Visually inspect the venting system for proper size and horizontal pitch and determine there is no blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition;
  - c. Insofar as is practical, close all building doors and windows and all doors between the space in which the appliances remaining connected to the common venting system are located and other spaces of the building. Turn on clothes dryers and any appliance, including gas fireplaces, not connected to the common venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they will operate at maximum speed. Do not operate a summer exhaust fan. Close fireplace dampers for solid fuel fireplaces.
2. Allow the exhaust equipment to operate for five minutes.
3. Place in operation the boiler being inspected. Follow the lighting instructions. Adjust thermostat so the boiler will operate continuously.
4. Test for spillage at the draft control device relief opening after 5 minutes of main burner operation.
5. After it has been determined that each appliance remaining connected to the common venting system properly vents when tested as outlined above, return doors, windows, exhaust fans, fireplace dampers and any other gas burning appliance to their previous condition of use.
6. Any improper operation of the common venting system shall be corrected in a permanent manner.



## ANNEX R (Page 1)

### Existing B-Vent (not certified for exterior applications) which has been installed outdoors

#### OWNER / USER NOTIFICATION



345 Carlingview Drive  
Toronto, Ontario M9W 6N9  
Tel.: 416.734.3300  
Fax: 416.231.1626  
Toll Free: 1.877.682.8772

[www.tssa.org](http://www.tssa.org)

#### Attention Property Owner/User:

The Technical Standards and Safety Authority (TSSA) is concerned that certain natural gas and propane burning appliances, such as furnaces and water heaters, are vented using B-Vents (not certified for exterior applications) which have been installed outdoors (See figures on page 2 for illustration). This application may pose a carbon monoxide (CO) safety hazard in the home due to extreme cold temperature conditions; as well, these vents may be subject to accelerated deterioration.

CO is a colourless, odourless, tasteless gas produced when fuels such as natural gas and propane burn incompletely. Symptoms of CO poisoning include nausea and vomiting, dizziness, burning eyes, difficulty breathing, confusion and loss of consciousness.

TSSA has the mandate to maintain and improve safety for Ontario citizens in the fuels and other regulated sectors. TSSA is officially designated by Ontario's Ministry of Government and Consumer Services to administer and enforce the *Technical Standards and Safety Act*, which governs fuels safety in Ontario.

Analysis of data regarding these outdoor B-Vent installations revealed that the likelihood of a safety hazard occurring is low; however, there is always the possibility of an incident occurring. With this information, TSSA has worked with industry to develop options for the owner/user who has a non-compliant B-Vent installed on the exterior wall of their premise.

These options are:

1. Replace the non-compliant B-Vent with a current code compliant venting system; or
2. Leave the non-compliant B-Vent in use provided:
  - a. It is in safe operating condition as determined by a qualified certificate holder (gas technician)
  - b. It continues to be in safe operating condition as determined through annual inspections by a qualified certificate holder (gas technician) arranged by the premise owner/user
  - c. When a gas appliance is replaced, removed, or a new appliance installed, the non-compliant B-Vent shall be replaced with a current code compliant venting system.

TSSA and the associated industries thank you in advance for your co-operation in this regard. If you require further clarification or have questions, please ask the gas technician performing the inspection, your fuel supplier or TSSA toll-free at 1-877-682-8772. Visit [www.tssa.org](http://www.tssa.org) for more information.

## ANNEX R (Page 2)

Existing B-Vent (not certified for exterior applications) which has been installed outdoors

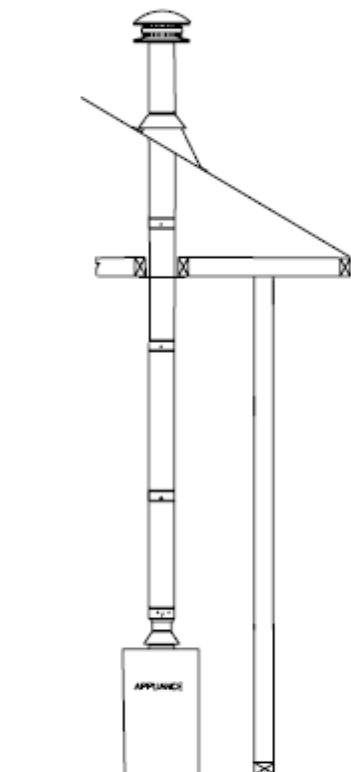
### OWNER/USER NOTIFICATION



345 Carlingview Drive  
Toronto, Ontario M9W 6N9  
Tel.: 416.734.3300  
Fax: 416.231.1626  
Toll Free: 1.877.682.8772

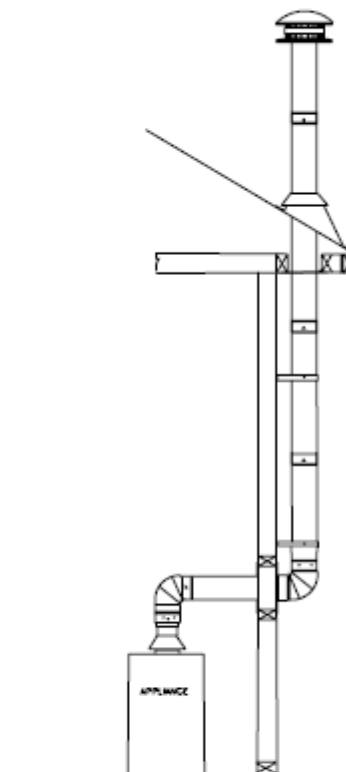
[www.tssa.org](http://www.tssa.org)

## B-Vent not Certified for Exterior Application



Compliant Installation

Figure 1A



Non-Compliant Installation

Figure 1B



Technical  
Standards and  
Safety Authority

Web site: [www.tssa.org](http://www.tssa.org)

## ANNEX R, Page 3, Fuel Distributor Notification

### Clause 8.17.3

## B-Vent (NOT Certified for Exterior Applications) Installed Outdoors

A certificate holder is to supply notification to the fuel distributor within 14 days regarding the continued use of an existing B-Vent (not certified for exterior applications) which has been installed outdoors. This form is to be used for that notification and to document your inspection performed on the existing non-compliant venting system.

If owner/user is not available for you to inform of the situation or make a decision regarding their options, the option of leaving the existing venting system in use is not available.

**Note: All blanks must be completed with the required information**

To:	Name of Fuel Distributor *		
FaxNo.:			

From:	Certificate Holder Name		Certificate Holder No.
	Contractor Name	Contractor Telephone No.	Contractor Registration No.

Date of inspection/service: \_\_\_\_\_

B-Vent Owner/User Name:			
B-Vent Owner/User Name Address: Street No., Street Name, Lot/Concession No., P.O. Box			
City/Town	Province	Postal Code	Telephone No.

B-Vent Owner/User Name Signature: \_\_\_\_\_

**X**

Confirms Owner/User has been informed regarding this condition and has received the information sheet (Clause 8.17.3)

**\* Notification for LEAVING an existing B-Vent (NOT Certified for Exterior Applications) which has been installed outdoors, in use.**

You must indicate by initialling that the following has been completed:

1. The existing B-Vent not certified for exterior application has been inspected and found to be in safe operating condition. \_\_\_\_\_
2. The Owner/User has been given the Information Sheet. \_\_\_\_\_
3. The Owner/User was informed of the options regarding the situation. \_\_\_\_\_
4. The Owner/User was informed that they shall arrange to have annual inspections on this venting system. \_\_\_\_\_

**\* Notification for REPLACEMENT of an existing B-Vent (NOT Certified for Exterior Applications) which has been installed outdoors, with a Current Code Compliant Venting System**

Indicate by initialling that the following has been completed:

1. The existing B-Vent has been replaced with a current code compliant venting system \_\_\_\_\_


**\* Use same procedure as used for forwarding infraction notices/warning tags to the fuel distributor.**

ANNEX R (Page 4)

Existing B-Vent (not certified for exterior applications) which has been installed outdoors

EQUIPMENT TAG

**Please note that this Tag shall be of similar construction as a Pressure Test Tag.**

	
<b>B-VENT (NOT CERTIFIED FOR EXTERIOR APPLICATIONS) WHICH HAS BEEN INSTALLED OUTDOORS Clause 8.17.3</b>	
ADDRESS OF INSTALLATION	
CONTRACTOR'S NAME	
CONTRACTOR'S PHONE #	
CONTRACTOR'S REGISTRATION #	
<b>INSPECTION / VENT INFORMATION</b>	
ANNUAL INSPECTIONS DEMONSTRATING SAFE OPERATION ARE REQUIRED FOR LEGAL CONTINUED USE OF THIS B-VENT	
DATE OF INSPECTION	
THE VENT IS IN SAFE OPERATING CONDITION	<input type="checkbox"/>
THE FUEL SUPPLIER HAS BEEN NOTIFIED OF THIS CONDITION (ONLY FOR INITIAL INSPECTION)	<input type="checkbox"/>
THE PROVISIONS IN CLAUSE 8.17.3 HAVE BEEN SATISFIED (ONLY FOR INITIAL INSPECTION)	<input type="checkbox"/>
THE ANNUAL INSPECTION DEMONSTRATED SAFE OPERATION	<input type="checkbox"/>
GAS TECHNICIAN'S NAME	
CERTIFICATE NUMBER & CLASSIFICATION	
<b>DO NOT REMOVE</b>	
Attach this tag to the appliance as close as possible to the vent in a visible location protected from the elements.	

## ANNEX R (Page 5)

### Existing B-Vent (not certified for exterior applications) which has been installed outdoors

#### SAFETY REMINDER



345 Carlingview Drive  
Toronto, Ontario M9W 6N9  
Tel.: 416.734.3300  
Fax: 416.231.1626  
Toll Free: 1.877.682.8772

[www.tssa.org](http://www.tssa.org)

**Dear Name of Owner/User:**

Your premise has an existing B-Vent (not certified for exterior applications) which has been installed outdoors.

Ontario Regulation 212/01, Clause 14 (1)(a) made under the Technical Standards and Safety Act requires that code non-compliances that do not pose an immediate hazard be corrected within 90 days. Many of these non-compliant venting systems were installed throughout Ontario and have operated safely for many years. In order to facilitate their continued safe use, a clause 8.17.3 was introduced allowing the existing B-Vent to be left in use with several provisions.

When this non-compliance was discovered, the owner/user of the premises at the time was given information sheet that had the following options:

1. Replace the existing B-Vent not certified for exterior applications with a current code compliant venting system, or
2. Leave the existing B-Vent not certified for exterior applications in use with the following provisions:
  - a. It is in safe operating condition as determined by a qualified certificate holder (gas technician);
  - b. It continues to be in safe operating condition as determined through annual inspections by a qualified certificate holder (gas technician) which are arranged by the premise owner/user;
  - c. When a gas appliance is replaced, removed, or a new appliance installed, the non-compliant B-Vent shall be replaced with a current code compliant venting system.

Our records show that after inspection the existing B-Vent was left in use. You are required to have this B-Vent annually inspected by a heating contractor registered by TSSA to best ensure its continued safe operation. This notice is to remind you of this requirement. In the interest of safety, please have this inspection completed promptly.

Yours truly,  
Fuel Distributor

ANNEX S (Page 1, Attachment #1)

	<b>MOBILE FOOD SERVICE EQUIPMENT SAMPLE DANGER LABELS</b>	<b>Document No: MFSE-001</b>
		<b>Date: June 1, 2013</b>
		<b>Page: 1 of 1</b>

The following danger labels shall be affixed to all MFSE, be readily visible and located adjacent to the propane container with the following wording:

**DANGER**

Cooking appliances shall not be used for space heating.  
When the propane appliance is not in use or the vehicle is stored,  
shut off the supply of propane to the appliance (at the propane tank).

**BEFORE TURNING ON PROPANE**

Make certain all propane connections are tight, all appliance valves  
have been turned off and any unconnected outlets are capped  
If an open door is used for ventilation/combustion air,  
ensure the door is open before turning on propane

**AFTER TURNING ON THE PROPANE**

Light all pilots of appliances to be used.  
Each connection, including those at appliances, regulators, and cylinders,  
shall be leak tested initially and periodically with soapy water by the operator.  
Never use a lighted match or other flame when checking for leaks.  
Do not leave a system turned on or containers connected until the system  
has been proven to be leak (propane) tight.  
When the containers are disconnected, the propane supply line shall be capped or plugged.

For all MFSE that are part of a Self-propelled Vehicle, the following additional danger label shall be affixed at the vehicle's fuelling point and inside the driver's compartment with the following wording:

**DANGER**

All pilot lights shall be extinguished, and the supply of propane shut off  
before refueling this vehicle.

For Carts with Self-Contained Propane Supply System the following additional statement shall appear on the label.

For Outdoor Use Only. If Stored Indoors, Detach and Leave Cylinder Outdoors

The word "**DANGER**" shall be a minimum of 1/4-inch (6.4 mm) in height. All other words on the label shall be a minimum 1/8-inch (3.2 mm) in height.

**ANNEX S (Page 2, Attachment #2)**

	<b>MOBILE FOOD SERVICE EQUIPMENT ANNUAL INSPECTION CERTIFICATE FOR MFSE'S</b>	<b>Document No: MFSE-002</b>
		<b>Date: May 15, 2015</b>
		<b>Page: 1 of 1</b>

Equipment Identification (Licence Plate No. or V.I.N.) \_\_\_\_\_

Owner \_\_\_\_\_ Tel. No. \_\_\_\_\_

Address \_\_\_\_\_

FSD Label No. (If built after Feb. 13, 2006) \_\_\_\_\_

The following checklist is intended as a minimum. Additional tests may be necessary to ensure safe operation.

	Yes	No	N/A
Have the required DANGER labels been affixed			
If built after Feb. 13, 2006, is a TSSA FSD Label and MFSE rating plate in place			
If built prior to Feb. 13, 2006, is this unit eligible for grandfathering (not requiring field approval)			
Are the gas components (hoses, regulators, etc.) approved for the service			
Are the gas lines, fittings and hoses in good condition?			
Is the propane cylinder properly supported as per section 5.4, B149.5-20			
If the cylinder is in a cabinet, is it properly ventilated as per section 5.6, B149.5-20			
Is the cylinder / tank installed per section 5.5, B149.5-20			
Are the clearances to combustibles maintained			
Are the appliances in good working condition			
Is the equipment and all its components leak tight			
Are the supply pressures to the equipment and appliances set properly			
Do all the appliances ignite properly			
Does the owner/operator understand the operations and responsibilities outlined in the Danger labelling			
Are all automatic controls and limits functioning properly			

**To pass all answers must be either YES or N/A**

Certificate Holder's Name (Print)	TSSA Certificate Holder's No.	Date
Contractor's Business Name	Contractor's Business Tel. No.	TSSA Contractor's Reg. No

**Re-Inspection Required 1 Year from the above date.**  
**This Certification shall be kept available with the equipment covered at all times.**  
**Additional information for the annual inspections and MFSE can be obtained at <http://tssablog.org>**

<b>Comments</b>
-----------------