GAS CODE VARIANCE

STANDATA

May 2019

VAR-GAS-02-19

SERVICE REGULATORS WITH LIMITED (CAPACITY) RELIEF AND OVER PRESSURE CUT-OFF (LR-OPCO SERVICE REGULATORS)

PURPOSE

This variance confirms the use of natural gas service regulators certified to CSA 6.18 equipped with limited (capacity) relief and over-pressure cut-off (LR-OPCO) protection are permitted to be installed with their relief device vent termination clearance/distance measurement to be equal to the requirements permitted for natural gas line pressure regulators certified to CSA 6.22 equipped with over-pressure protection.

DISCUSSION

The Gas Distribution Act regulates the installation of service regulators; the natural gas utility adopts the practices of CSA Z662-2015 for the installation of service regulators. CSA Z662-2015 requires that service regulators be installed with minimum vent termination clearances that "shall not be less than those specified in CSA B149.1".

The referenced standard for line pressure regulators ANSI Z21.80/ CSA 6.22 does not restrict the use of service regulators; service regulators do not fit within the scope of the standard due to higher operating pressures. As a result, utility installed service regulators equipped with LR-OPCO certified to CSA 6.18 cannot conform to the certification requirement in Table 5.2 of CSA B149.1. Table 5.2 is contradictory to Clause 5.2.1.1 which permits the use of this type of regulator.

CODE REFERENCES

CSA B149.1-15 Natural gas and propane installation code

5.2 Pressure regulators

5.2.1 General
5.2.1.1
Every ***regulator*** shall be ***certified*** and be of sufficient size to provide the required flow of gas at the extremes of inlet pressures to which the ***regulator*** can be exposed. Recognized Standards for certifying ***regulators*** include
(a) ANSI Z21.80/CSA 6.22;
(b) UL 144; and
(c) CSA 6.18.

Clause 5.5.9
The discharge from ***relief devices*** shall terminate outdoors with the clearances specified in Table 5.2.

Unless stated otherwise, all references in this STANDATA are to the Natural Gas and Propane Installation Code, CSA B149.1- 2015.

Issue of this STANDATA is authorized by the Provincial Gas Administrator

[Original Signed]
Sidney Manning

Alberta Government

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Table 5.2
Clearance from discharge, ft (m)
(See Clauses 5.5.9, 8.14.8, and 10.1.7.)

	Natural gas (ANSI Z21.80/ CSA 6.22 certified overpressure protection device)	Natural gas	Propane
Building opening*	1 (0.3)	3 (1)	3 (1)
Appliance vent outlet†	1 (0.3)	3 (1)	3 (1)
Moisture exhaust duct‡	3 (1)	3 (1)	3 (1)
Mechanical air intake	3 (1)	10 (3)	10 (3)
Appliance air intake	1 (0.3)	3 (1)	10 (3)
Source of ignition	1 (0.3)	3 (1)	10 (3)

**Outdoor air intakes that are less than 8 in (*200 mm*) in diameter or equivalent area shall be considered a building opening in using this Table.*
†*See also Clause 8.14.8.*
‡*Applies to gas or electric dryer termination.*
Note: *The outdoor air intake referred to in this Table is the ducting that goes from the outside of the structure and terminates into the return air plenum before the appliance, sometimes referred to as a fresh-air intake.*

APPLICATION
This variance applies to the discharge from relief devices installed outdoors with the clearance specified in Table 5.2, and the addition of natural gas service regulators certified to CSA 6.18 equipped with limited (capacity) relief and over-pressure cut-off (LR-OPCO)

VARIANCE
CSA B149.1-15 Natural gas and propane installation code Table 5.2 is varied to also include;

Table 5.2
Clearance from discharge, ft (m)
(See Clauses 5.5.9, 8.14.8, and 10.1.7.)

	Natural gas (CSA 6.18 certified [1]LR-OPCO service regulators with limited relief	Natural gas	Propane
Building opening*	1 (0.3)	3 (1)	3 (1)
Appliance vent outlet†	1 (0.3)	3 (1)	3 (1)
Moisture exhaust duct‡	3 (1)	3 (1)	3 (1)
Mechanical air intake	3 (1)	10 (3)	10 (3)
Appliance air intake	1 (0.3)	3 (1)	10 (3)
Source of ignition	1 (0.3)	3 (1)	10 (3)

[1] LR-OPCO is a Limited (Capacity) Relief and Over-Pressure Cut-Off regulator that complies with *Clause 5.2.1.1*.
**Outdoor air intakes that are less than 8 in (*200 mm*) in diameter or equivalent area shall be considered a building opening in using this Table.*
†*See also Clause 8.14.8.*
‡*Applies to gas or electric dryer termination.*
Note: *The outdoor air intake referred to in this Table is the ducting that goes from the outside of the structure and terminates into the return air plenum before the appliance, sometimes referred to as a fresh-air intake.*

This variance provides approximately equivalent or greater safety performance with respect to persons and property as that provided for by the Safety Codes Act.

This VARIANCE is applicable throughout the province of Alberta.