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B108-18
National Standard of Canada

Natural gas refuelling stations installation code

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Preface

This is the fourth edition of CSA B108, *Natural gas refuelling stations installation code*. It supersedes the previous editions published in 2014, 1999, and 1995, under the title *Compressed natural gas fuelling stations installation code*.

This Code consists of the following:
a) Part 1 — *Compressed natural gas refuelling stations installation code*; and
b) Part 2 — *Liquefied natural gas refuelling stations installation code*.

Part 1 is applicable to compressed natural gas (CNG) refuelling stations. Part 2 is applicable to liquefied natural gas (LNG) refuelling stations, including LNG to CNG conversion systems. Part 2 supersedes Annex D of CSA Z276, *LNG vehicle fuelling stations*.

Significant changes in this edition include the following:
a) Added a new Part 2 to address the design, location, construction, operation, operator training, and maintenance of LNG refuelling stations, including mobile refuelling units, with single containment storage tanks up to 265 m^3 (70 000 gal) water capacity employed for vehicle LNG dispensing operations.
b) Reorganized content for consistency of organization between Parts 1 and 2.
c) Revised scope, definitions, and requirements to include distinction between residential fuelling appliances (RFAs) and listed non-residential vehicle fuelling appliances (VFAs)
d) Revised Table 2 of Part 1, *Electrical classification of space surrounding gas storage facilities,* to indicate plugged ends of containers are not considered openings.
e) Clarified distinction between and requirements for “fill post” and “dispensers” at public and private refuelling locations.
f) Clarified requirements for hose length and prevention from contact with ground.
g) Clarified requirements for location of ESD button.
h) Added Figure 5 of Part 2 for hazardous area zones around CNG relief valve stack for clarification of requirements.
i) Clarified requirements for exits from a refuelling room.
j) Clarified refuelling area ventilation requirements.
k) Editorial revisions to clarify wording and references, resolve conflicts identified with other documents, provide consistency and clarification between Part 1 and Part 2, correct metrication values, and harmonize definitions with other industry codes and standards.

This Code was prepared by the Subcommittee on Natural Gas for Vehicle Refuelling Stations Installation Code, under the jurisdiction of the Technical Committee on Natural Gas Transportation and the Strategic Steering Committee on Transportation. It has been formally approved by the Technical Committee and the Interprovincial Gas Advisory Council.

This Code has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Notes:
1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
2) *Although the intended primary application of this Code is stated in its Scope, it is important to note that it remains the responsibility of the users of the Code to judge its suitability for their particular purpose.*
3) *This Code was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as “substantial agreement. Consensus implies much more than a simple*

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   d) *rationale for the change.*

National Standard of Canada

B108-18, Part 1

Compressed natural gas refuelling stations installation code

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B108-18, Part 1
Compressed natural gas refuelling stations installation code

1 Scope

1.1
Part 1 of this Code applies to all compressed natural gas refuelling stations, including those that are intended for fleet or public dispensing operations.

1.2
Part 1 of this Code does not apply to refuelling vehicles with liquefied natural gas (LNG). Refuelling vehicles with LNG is addressed in Part 2 of this Code.

However, if an LNG facility has capacity for CNG vehicle refuelling, Part 1 of this Code applies to facilities downstream of the isolation valve at the outlet of the natural gas odourizer.

1.3
Part 1 of this Code does not apply to listed residential fuelling appliances (RFAs) and listed non-residential vehicle fuelling appliances (VFAs) except where

a) the aggregate inlet flow capacity of a connected VFA or RFA, or a combination thereof, exceeds 0.850 Sm^3/min (30 SCFM), or
b) the VFA or RFA is connected to storage, in which case coverage applies to the storage and dispensing system starting at the outlet of the individual VFA or RFA (see Figure B.1).

1.4
All references to pressure throughout Part 1 of this Code are to be considered gauge pressures, unless otherwise specified.

1.5
In this Code, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the code; “should” is used to express a recommendation or that which is advised but not required; “may” is used to express an option or that which is permissible within the limits of the code; and “can” is used to express possibility or capability.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.