CSA GROUP™

CSA B108.1:21
National Standard of Canada

Compressed natural gas refuelling stations installation code

REVISED MAY 2021

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Revision History

CSA B108.1:21, Compressed natural gas refuelling stations installation code

Administrative update — May 2021
National Standard of Canada page: French version now available

Standards Update Service

CSA B108.1:21
January 2021

Title: *Compressed natural gas refuelling stations installation code*

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National Standard of Canada

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IGAC

Interprovincial Gas Advisory Council

Approved on December 1, 2020 by IGAC
Published in January 2021 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

*To purchase standards and related publications, visit our Online Store at **www.csagroup.org/store/***
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ICS 75.200
ISBN 978-1-4883-3221-0

Contents

Preface

This is the first edition of CSA B108.1, *Compressed natural gas refuelling stations installation code*. It supersedes the previous editions published in 2018 as Part 1 of CSA B108, *Natural gas refuelling stations installation code*, and in 2014, 1999, and 1995 as CSA B108, *Compressed natural gas fuelling stations installation code*.

CSA B108.1 is applicable to compressed natural gas (CNG) refuelling stations. CSA B108.2 is applicable to liquefied natural gas (LNG) refuelling stations, including LNG to CNG conversion systems. CSA B108.2 supersedes Annex D of CSA Z276, *Liquefied natural gas (LN) — Production, storage, and handling*.

Significant changes to this edition include the following:

a) reorganized content for consistency of organization between this Code and CSA B108.2;
b) clarification of definitions, and requirements to include distinction between residential fuelling appliances (RFAs) and listed non-residential vehicle fuelling appliances (VFAs);
c) added coverage for defuelling;
d) added coverage for mobile refuelling units and portable refuelling units;
e) added reference content for Risk assessment;
f) added coverage for CNG stations where feedstock is liquefied natural gas (L/CNG refuelling stations); and
g) editorial revisions to clarify wording and references, tables and figures, resolve conflicts identified with other documents, provide consistency and clarification between this Code and CSA B108.2, correct metrication values, and harmonize definitions with other industry codes and standards.

CSA Group acknowledges that the development of this Code was made possible, in part, by the financial support of Natural Resources Canada.

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, and has been formally approved by the Technical Committee and the Interprovincial/Territorial 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 majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Code.*
4) *To submit a request for interpretation of this Code, please send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:*
   a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
   b) *provide an explanation of circumstances surrounding the actual field condition; and*
   c) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

   Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization *and are available on the* Current Standards Activities *page at standardsactivities.csa.ca.*

5) *This Code is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include "Proposal for change" in the subject line:*
   a) *Code designation (number);*
   b) *relevant clause, table, and/or figure number;*
   c) *wording of the proposed change; and*
   d) *rationale for the change.*

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1 Scope

1.1 Inclusions

This Code applies to all compressed natural gas (CNG) refuelling stations, including those that are fixed or mobile and intended for private or public dispensing operations.

1.2 Exclusions

This Code does not apply to

a) refuelling vehicles with liquefied natural gas (LNG). Refuelling vehicles with LNG is addressed in CSA B108.2. However, when an LNG facility has capacity for CNG vehicle refuelling, this Code applies to facilities downstream of the L/CNG odorizer's outlet isolation valve;
b) transfer of CNG from the CNG vehicle fuel storage system of one vehicle to the CNG vehicle fuel storage system of another vehicle. This does not apply to a bulk container; and
c) listed residential fuelling appliances (RFAs) and listed non-residential vehicle fuelling appliances (VFAs), except where
    i) the aggregate inlet flow capacity of a connected VFA or RFA, or a combination thereof, exceeds 0.850 Sm^3/min (30 SCFM); or
    ii) 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 D.1).

1.3 Pressure terminology

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

1.4 Terminology

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; and "may" is used to express an option or that which is permissible within the limits of the Code.

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.

