National Fire Code of Canada 2020 (NFC)

2025 Revisions and Errata Package

Selected replacement pages have been produced for the NFC.

Please print and insert in your copy of the Code.

Preface

The National Fire Code of Canada 2020 (NFC), together with the National Building Code of Canada 2020 (NBC), the National Energy Code of Canada for Buildings 2020 (NECB) and the National Plumbing Code of Canada 2020 (NPC), was developed by the Canadian Commission on Building and Fire Codes (CCBFC) as an objective-based national model code that can be adopted by provincial and territorial governments.

In Canada, provincial and territorial governments have the authority to enact legislation that regulates the following aspects of buildings and facilities within their jurisdictions:

- activities related to the construction, use or demolition of buildings and facilities
- the condition of specific elements of buildings and facilities
- the design or construction of specific elements of facilities related to certain hazards
- protection measures for the current or intended use of buildings

This legislation may involve the adoption of the NFC without change or with modifications to suit local needs, and the enactment of other laws and regulations related to these aspects of buildings and facilities, including requirements for professional involvement.

The NFC is a model code in the sense that it helps promote consistency among provincial and territorial fire codes. Persons involved in the operation of buildings or facilities should consult the provincial or territorial jurisdiction concerned to find out which fire code is applicable.

This edition of the NFC succeeds the 2015 edition.

Development of the National Model Codes

GOVERNANCE CHANGE NOTE: The national code development system underwent a governance change in November 2022 to support efforts to harmonize construction codes in jurisdictions throughout Canada. The CCBFC, which had been in place since 1991, was dissolved and replaced by a new governance model in which the Canadian Board for Harmonized Construction Codes (CBHCC) is responsible for developing, approving and maintaining the National Model Codes based on the strategic priorities set by the Canadian Table for Harmonized Construction Codes Policy. The 2020 National Model Codes were developed by the CCBFC. In this section, references to the CCBFC are written in the past tense to reflect the change in governance.

The CCBFC, an independent committee established by the National Research Council of Canada (NRC), was responsible for the content of the 2020 editions of the National Model Codes. The CCBFC was made up of volunteers from across the country and from all facets of the Codes-user community. Members of the CCBFC and its standing committees included builders, engineers, skilled trade workers, architects, building owners, building operators, fire and building officials, manufacturers, and representatives of general interests.

The CCBFC was advised on scope, policy and technical issues pertaining to the Codes by the Provincial/Territorial Policy Advisory Committee on Codes (PTPACC), which was a committee of senior representatives from provincial/territorial ministries responsible for building, fire, plumbing and energy regulation in their jurisdictions. The PTPACC was created by the provinces and territories, with provision of guidance to the CCBFC as one of its main functions. Through the PTPACC, the provinces and territories were engaged in every phase of the Codes development process.

Codes Canada staff within the Construction Research Centre at the NRC provided technical and administrative support to the CCBFC and its standing committees, and coordinated the provision of evidence-based research to inform Codes development. The NRC publishes the National Model Codes and periodic revisions to the Codes to address pressing issues.

The broader Codes-user community makes significant contributions to the Codes development process by submitting requests for changes or additions to the Codes and by commenting on the proposed changes during the public reviews that precede each new edition.

The CCBFC took into consideration the advice received from the provinces and territories as well as Codes users' comments at each stage of Codes development. The scope and content of the National Model Codes are determined on a consensus basis, which involves the review of technical, policy and practical concerns and discussion of the implications of these concerns.

More information on the Codes development process is available on the CBHCC's website.

National Fire Code of Canada 2020

The NFC sets out technical provisions regulating the following:

- activities related to the construction, use or demolition of buildings and facilities
- the condition of specific elements of buildings and facilities
- the design or construction of specific elements of facilities related to certain hazards
- protection measures for the current or intended use of buildings

The NFC establishes requirements to address the following three objectives:

- safety
- health
- fire protection of buildings and facilities

Code provisions do not necessarily address all the characteristics of buildings and facilities that might be considered to have a bearing on the Code's objectives. Through the extensive consensus process used to develop and maintain the National Model Codes (see the section entitled Development of the National Model Codes), the Codes-user community has decided which characteristics should be regulated through the NFC.

The provisions of the NFC can be considered as the minimum acceptable measures required to adequately achieve the above-listed objectives, as recommended by the CCBFC. Once they are adopted into law or regulation by an authority having jurisdiction, the provisions become minimum acceptable requirements representing the minimum level of performance required to achieve the objectives that is acceptable to the adopting authority.

The NFC is a model code which, when adopted or adapted by a province or territory, becomes a regulation. It is not a guideline on the operation, maintenance, protection, design or construction of buildings and facilities. Executing these activities in a technically sound manner depends upon many factors beyond compliance with fire regulations. Such factors include the availability of knowledgeable practitioners who have received appropriate education, training and experience and who are familiar with the principles of good practice and experience using reference manuals and technical guides.

The NFC does not list acceptable proprietary products. It establishes the criteria that materials, products and assemblies must meet. Some of these criteria are explicitly stated in the NFC while others are incorporated by reference to material or product standards published by standards development organizations. Only those portions of the standards related to the objectives of this Code are mandatory parts of the NFC.

Relationship between the NBC and the NFC

The NBC and NFC each contain provisions that relate to the safety of persons in buildings in the event of a fire and the protection of buildings from the effects of fire.(1) These two model codes are developed as complementary and coordinated documents to minimize the possibility of their containing conflicting provisions. It is expected that buildings comply with both the NBC and the NFC.

The NBC covers the fire safety and fire protection features that are required to be incorporated in a building at the time of its original construction. Building codes typically no longer apply once a building is occupied, unless the building is undergoing alteration or change of use, or being demolished.

The NFC includes provisions for:

- the on-going maintenance and use of the fire safety and fire protection features incorporated in buildings
- the conduct of activities that might cause fire hazards in and around buildings
- limitations on hazardous contents in and around buildings
- the establishment of fire safety plans
- fire safety at construction and demolition sites

In addition, the NFC contains provisions regarding fire safety and fire protection features that must be added to existing buildings when certain hazardous activities or processes are introduced into these buildings.

Some of the NFC's provisions are incorporated by reference in the NBC and, thus may apply to original construction, alterations, or changes in use.

Code Requirements

Most NFC requirements address at least one of the Code's three stated objectives (safety, health, and fire protection of buildings and facilities).

In processing proposed changes or additions to any of the National Model Codes, many issues are considered, such as the following:

- Does the proposed requirement provide the minimum level of performance—and no more than the minimum—needed to achieve the Code's objectives?
- Will persons responsible for Code compliance be able to act on or implement the requirement using commonly accepted practices?
- Will enforcement agencies be able to enforce the requirement?
- Are the costs of implementing the requirement justifiable?
- Have the potential policy implications of the requirement been identified and addressed?
- Is there broad consensus on this requirement among Code users as well as among provincial and territorial governments?

Guidelines for requesting changes to the NFC are available on the CBHCC's website.

Objective-Based Code Format

The NFC has been published in an objective-based code format since 2005.

As described in more detail in the section entitled Structure of the NFC, the Code comprises three Divisions:

- Division A, which defines the scope of the Code and contains the objectives, the functional statements and the conditions necessary to achieve compliance;

(1) The NFC also applies to other types of facilities besides buildings (e.g. tank farms and storage yards). Those applications are not discussed here.

of the Sentence. In particular, the use of the word "and" as a connecting word does not necessarily mean that all Clauses (or Subclauses) are applicable for compliance with the Sentence.

Change Indication

As a courtesy to Code users, efforts have been made to identify technical changes relative to the 2015 edition. Where a technical addition or revision has been made, a vertical line has been added in the margin next to the affected provision to indicate the approximate location of the new or revised content. No change indication is provided for editorial revisions or for renumbered or deleted content.

Units

All values in the NFC are given in metric units. Some of the metric values in the Code have been converted and rounded from imperial values. A conversion table of imperial equivalents for the most common units used in the operation of buildings and facilities is located at the end of the Code.

Complementary Publications

The following publications are referenced in the NFC 2020 or facilitate the application of its requirements:

National Building Code of Canada 2020
Supplement to the NFC 2020: Intent Statements
User's Guide – NBC 1995, Fire Protection, Occupant Safety and Accessibility (Part 3)

These and other Code documents published by the NRC are made available in free electronic format on the NRC's website.

Commercial Reproduction

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Contact Information

The CBHCC welcomes comments and suggestions for improvements to the NFC. Persons interested in requesting a change to an NFC provision should refer to the guidelines available on the CBHCC's website.

To submit comments or suggestions, please contact:

The Secretary
Canadian Board for Harmonized Construction Codes
1200 Montreal Road
Ottawa, Ontario K1A 0R6
E-mail: CBHCCSecretary-SecretaireCCHCC@nrc-cnrc.gc.ca

Relationship of the NFC to Standards Development and Conformity Assessment

The development of many provisions in the NFC and the assessment of conformity to those provisions are supported by several of the member organizations of Canada's National Standards System (NSS).

The NSS is a network of accredited organizations concerned with standards development, certification, testing and inspection that is established under the auspices of the Standards Council of Canada Act. Activities of the NSS are coordinated by the Standards Council of Canada (SCC), which accredits standards development organizations, certification bodies, testing and calibration laboratories, and inspection bodies, among others.

The SCC is a non-profit federal Crown corporation responsible for the coordination of voluntary standardization in Canada. It also coordinates Canadian participation in voluntary international standardization activities.

Canadian Standards

Many of the standards referenced in the NFC are published by standards development organizations accredited in Canada. As part of the accreditation requirements, these organizations adhere to the principle of consensus, which generally means substantial majority agreement of a committee comprising a balance of producer, user and general interest members, and the consideration of all negative comments. The standards development organizations also have formal procedures for the balloting and second-level review of standards prepared under their oversight.

The following organizations are accredited as standards development organizations in Canada:

- Air-Conditioning, Heating and Refrigeration Institute (AHRI)
- ASTM International
- Bureau de normalisation du Québec (BNQ)
- Canadian General Standards Board (CGSB)
- CSA Group
- International Association of Plumbing and Mechanical Officials (IAPMO)
- ULC Standards
- Underwriters' Laboratories Inc. (UL)

Table 1.3.1.2. of Division B lists the standards referenced in the NFC. Standards proposed to be referenced in the NFC are reviewed to ensure that their content is compatible with the Code. Thereafter, referenced standards are reviewed as needed during each Code cycle. Standards development organizations are asked to provide information on any changes in the status of their standards referenced in the NFC—withdrawals, amendments, new editions, etc. This information is passed on to the CBHCC, its code development committees, and interested stakeholders, all of whom are given the opportunity to identify any problems associated with the changes. These bodies do not necessarily review in detail the revised standards; rather, the approach relies on the consensus process involved in the maintenance of the standards and on the extensive knowledge and experience of committee members, provincial or territorial staff, NRC staff, and consulted stakeholders to identify changes in the standards that might create problems in the Code.

Revisions and Errata

Issued by the Canadian Board for Harmonized Construction Codes

The Change Summary table that follows describes revisions, errata and editorial updates that apply to the National Fire Code of Canada 2020:

- Revisions are changes that have been approved by the Canadian Board for Harmonized Construction Codes for publication between Code editions.
- Errata are corrections to existing text.
- Editorial updates are provided for information purposes only.

Code pages containing revisions and/or errata are identified with the words "Amended Page" in the footer; pages with editorial updates are not flagged.

Code users should contact their local authority having jurisdiction to find out if these revisions and errata apply in their province or territory.

Change Summary (Date: 2025-03) — National Fire Code of Canada 2020

Division	Code Reference	Change	Description of Change
Preface	n/a	editorial update	Preface was updated to reflect change in governance of national code development system
B	1.3.1.1.(1)	revision	Date stated in Sentence was revised to read "15 July 2022"
	Table 1.3.1.2.	revision	Document references were updated as applicable to reflect more recent editions published as of 15 July 2022
		erratum	Entry for ULC/ORD-C107.21-92 was deleted
	1.3.2.1.	editorial update	List of abbreviations was updated to include "CBHCC"
	A-2.1.3.1.(1)	editorial update	First paragraph of Note was updated to read "... it is intended that the NFC ..."
	4.6.3.2.(1)	erratum	Sentence was corrected to read "… requirements of CAN/ULC-S664, 'Standard for Containment Sumps, Sump Fittings, and Accessories for Flammable and Combustible Liquids.'"
C	A-2.3.1.	editorial update	Last paragraph of Note was updated to read "... on the CBHCC's website."

1.2.2. Symbols and Other Abbreviations

1.2.2.1. Symbols and Other Abbreviations

1) The symbols and other abbreviations in Division B shall have the meanings assigned to them in Article 1.4.2.1. of Division A and Article 1.3.2.1.

Section 1.3. Referenced Documents and Organizations

1.3.1. Referenced Documents

1.3.1.1. Effective Date

1) Unless otherwise specified herein, the documents referenced in this Code shall include all amendments, revisions, reaffirmations, reapprovals, addenda and supplements effective to 15 July 2022.

1.3.1.2. Applicable Editions

1) Where documents are referenced in this Code, they shall be the editions designated in Table 1.3.1.2.

Table 1.3.1.2.
Documents Referenced in the National Fire Code of Canada 2020(1)
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number(2)	Title of Document	Code Reference
ACGIH	28th Edition	Industrial Ventilation: A Manual of Recommended Practice for Design	A-3.2.7.3.(1)(b)
API	SPEC 5L (2012)	Line Pipe	4.5.2.1.(4)
API	SPEC 12B (2008)	Specification for Bolted Tanks for Storage of Production Liquids	4.3.1.2.(1) A-4.3.1.2.(2)(b)
API	SPEC 12D (2008)	Specification for Field Welded Tanks for Storage of Production Liquids	4.3.1.2.(1) A-4.3.1.2.(2)(b)
API	SPEC 12F (2008)	Specification for Shop Welded Tanks for Storage of Production Liquids	4.3.1.2.(1) A-4.3.1.2.(2)(b)
API	STD 620 (2013)	Design and Construction of Large, Welded, Low-Pressure Storage Tanks	4.3.1.3.(1)
API	STD 650 (2013)	Welded Tanks for Oil Storage	4.3.1.2.(1)
API	STD 653 (2009)	Tank Inspection, Repair, Alteration, and Reconstruction	4.3.1.10.(2) Table 4.4.1.2.-B
API	STD 1104 (2013)	Welding of Pipelines and Related Facilities	4.5.5.2.(1) A-4.5.10.7.(6)
API	RP 1604 (1996)	Closure of Underground Petroleum Storage Tanks	A-4.3.16.1.(1)
API	STD 2000 (2009)	Venting Atmospheric and Low-Pressure Storage Tanks	4.3.1.2.(2) 4.3.4.1.(1) A-4.3.13.10.(1)
API	RP 2003 (2008)	Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents	A-4.7.4.5.
API	RP 2009 (2002)	Safe Welding, Cutting and Hot Work Practices in the Petroleum and Petrochemical Industries	A-5.2.3.4.(1)(b)
API	STD 2015 (2001)	Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks, Planning and Managing Tank Entry From Decommissioning Through Recommissioning	A-5.2.3.4.(1)(b)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
API	RP 2200 (2010)	Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines	A-4.5.10.7.(6)
API	RP 2201 (2003)	Safe Hot Tapping Practices in the Petroleum and Petrochemical Industries	A-4.5.10.7.(6) A-5.2.3.4.(1)(b)
API	RP 2207 (2007)	Preparing Tank Bottoms for Hot Work	A-5.2.3.4.(1)(b)
ARPM	IP-2-2014	Hose Handbook	A-4.8.8.1.(1)(a)
ASABE	ANSI/ASABE AD11684:1995	Tractors, machinery for agricultural and forestry, powered lawn and garden equipment — Safety signs and hazard pictorials — General principles	A-2.14.2.
ASME/CSA	ASME A17.1-2016/CSA B44-16	Safety Code for Elevators and Escalators	7.2.2.1.(2)
ASME	BPVC-2021	Boiler and Pressure Vessel Code	4.3.1.3.(1) 4.5.9.5.(2) 4.5.9.6.(1)
ASME	B16.5-2020	Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24 Metric/Inch Standard	4.5.5.3.(1)
ASME	B31.3-2020	Process Piping	4.5.2.1.(5)
ASTM	A53/A53M-20	Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless	4.5.2.1.(4)
ASTM	A193/A193M-20	Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications	4.5.5.4.(1)
ASTM	D5/D5M-20	Standard Test Method for Penetration of Bituminous Materials	A-4.1.3.1.
ASTM	D56-21a	Standard Test Method for Flash Point by Tag Closed Cup Tester	4.1.3.1.(1)
ASTM	D92-18	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester	A-4.1.2.2.
ASTM	D93-20	Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester	4.1.3.1.(2)
ASTM	D323-20a	Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)	1.4.1.2.(1)[3]
ASTM	D3278-21	Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus	4.1.3.1.(4) A-4.1.3.1.
ASTM	D3828-16a	Standard Test Methods for Flash Point by Small Scale Closed Cup Tester	4.1.3.1.(3)
ASTM	D4359-90	Standard Test Method for Determining Whether a Material Is a Liquid or a Solid	A-4.1.3.1.
CCBFC	NRCC 30619	National Building Code of Canada 1990	A-2.1.2.1.(1)
CCBFC	NRCC 40383	User's Guide – NBC 1995, Fire Protection, Occupant Safety and Accessibility (Part 3)	7.1.1.2.(2) 7.2.3.1.(1) 7.2.3.3.(1) 7.3.2.1.(1) 7.3.3.1.(1) 7.3.4.1.(1) 7.3.5.1.(1) 7.3.6.1.(1) 7.3.7.1.(1) 7.3.8.1.(1) 7.3.9.1.(1) 7.3.10.1.(1) 7.3.11.1.(1) 7.3.12.1.(1) 7.3.13.1.(1) 7.3.14.1.(1) 7.3.15.1.(1)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
CCBFC	NRCC 47666	National Building Code of Canada 2005	A-2.1.3.1.(1)
CCBFC	NRCC-CONST-56435E	National Building Code of Canada 2020	1.3.3.2.(1)[3] 1.4.1.2.(1)[3] A-1.1.1.1.(1)[3] A-1.4.1.2.(1)[3] A-2.2.1.1.(1)[3] A-3.2.1.1.(1)[3] 2.1.2.1.(1) 2.1.3.1.(1) 2.1.3.2.(1) 2.1.3.3.(1) 2.1.3.4.(1) 2.1.3.7.(1) 2.2.1.1.(1) 2.2.1.1.(2) 2.2.1.1.(3) 2.2.2.1.(1) 2.2.2.1.(2) 2.2.2.4.(2) 2.2.3.1.(1) 2.3.1.1.(1) 2.3.1.2.(1)[4] 2.3.1.4.(1) 2.4.1.2.(1) 2.5.1.1.(1) 2.6.1.1.(1) 2.6.1.5.(1) 2.6.1.9.(1) 2.6.2.1.(1) 2.7.1.1.(1) 2.7.1.2.(1) 2.7.1.4.(2) 2.7.3.1.(1) 2.8.1.1.(1) 2.8.2.2.(1) 2.8.2.12.(2) 2.8.3.1.(1) 2.8.3.2.(1) 2.9.1.1.(1) 2.9.3.6.(1) 2.10.1.1.(1) 2.11.1.1.(1) 2.13.2.1.(1) 2.14.3.1.(1) 2.14.3.2.(1) 2.14.3.2.(2) A-2.1.3.1.(1) A-2.1.3.4.(1) A-2.7.1.3.(1) A-2.7.1.4.(2) A-2.7.3.1.(1) A-2.8.1.2.(2) A-2.9.3.5.(1) 3.1.4.1.(1) 3.2.4.2.(1) 3.2.6.2.(1) 3.2.7.5.(6) 3.2.7.5.(7) 3.2.7.8.(1) 3.2.7.12.(3)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
		National Building Code of Canada 2020 (continued)	3.2.8.2.(1) 3.2.8.3.(1) 3.2.9.2.(1) 3.2.9.2.(2) 3.2.9.2.(3) 3.2.9.2.(4) 3.2.9.2.(5) 3.3.2.5.(1) A-3.2.2.3.(5) A-3.2.7.9.(1) A-3.2.7.12.(3) A-3.2.9.2.(5) 4.1.7.1.(1) 4.2.4.3.(2) 4.2.7.5.(2) 4.2.9.5.(1) 4.2.11.3.(1) 4.2.12.1.(1) 4.3.2.4.(2) 4.3.3.2.(1) 4.5.6.10.(2) 4.5.8.2.(3) 4.6.3.3.(2) 4.6.3.3.(3) 4.9.3.2.(1) A-4.1.7.1.(1) A-4.2.7.5.(2) 5.1.3.1.(1) 5.3.3.4.(1) 5.5.2.2.(1) 5.5.4.1.(1) 5.5.4.2.(1) 5.5.4.3.(1) 5.5.4.4.(1) 5.6.1.6.(1) 5.6.1.6.(2) 5.6.1.8.(2) 5.6.1.20.(1) 5.6.3.1.(1) 5.6.3.4.(2) 5.6.3.5.(1) 5.6.3.7.(1) 5.6.3.7.(3) 5.6.3.8. 5.6.4.1.(1) 5.6.4.3.(1) 5.6.4.3.(3) A-5.6.1.2.(1) A-5.6.1.4.(4) A-5.6.1.6. A-5.6.1.8. A-6.1.1.2.(1) 7.1.1.1.(1) 7.1.1.2.(1) 7.1.1.2.(2) 7.1.1.4.(2)
CCBFC	NRCC-CONST-56438E	National Energy Code of Canada for Buildings 2020	A-2.2.1.1.(1)[3] A-3.2.1.1.(1)[3]
CCBFC	NRCC-CONST-56436E	National Plumbing Code of Canada 2020	A-2.2.1.1.(1)[3] A-3.2.1.1.(1)[3] A-4.1.6.2.(2)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
CCME	PN 1326 (2003)	Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products	A-4.3.16.1.(1) A-4.4.2.1.(3)
CFA	1990	Using the Canadian Fuels Colour-Symbol System to Mark Equipment and Vehicles For Product Identification	4.3.1.7.(1) 4.5.4.1.(3) 4.5.7.6.(1)
CGA	P-1 (2008)	Standard for Safe Handling of Compressed Gases in Containers	A-3.1.1.4.(1)(a)
CGSB	CAN2-4.162-M80 (formerly CAN/CGSB-4.162-M80)	Hospital Textiles – Flammability Performance Requirements	2.3.2.3.(1)
CNSC	S.C. 1997, c. 9	Nuclear Safety and Control Act	3.1.1.2.(1)
CSA	B51:19	Boiler, pressure vessel, and pressure piping code	4.3.1.3.(2)
CSA	B108:21	CSA B108.1:21, Compressed natural gas refuelling stations installation code/CSA B108.2:21, Liquefied natural gas refueling stations installation code	4.6.1.1.(2)
CSA	B139 Series:19	Installation code for oil-burning equipment	4.1.1.1.(3) 4.3.13.6.(1) A-4.1.1.1.(3)(b) A-4.3.13.4.(1)(b) 5.6.1.10.(1)
CSA	B149.1:20	Natural gas and propane installation code	3.1.1.4.(2) 3.1.1.4.(3) 4.6.1.1.(2) 5.6.1.10.(1)
CSA	B149.2-15	Propane storage and handling code	3.1.1.4.(2) 3.2.8.2.(3) 4.6.1.1.(2)
CSA	B306-M1977	Portable Fuel Tanks for Marine Use	4.2.3.1.(1)
CSA	B346-M1980	Power-Operated Dispensing Devices for Flammable Liquids	4.6.3.1.(1)
CSA	B376:22	Portable containers for gasoline and other petroleum fuels	4.2.3.1.(1)
CSA	B620-14	Highway tanks and TC portable tanks for the transportation of dangerous goods	4.2.3.1.(1)
CSA	C22.1:21	Canadian Electrical Code, Part I (25th edition), Safety Standard for Electrical Installations	2.14.1.1.(1) 4.1.4.1.(1) 4.1.4.1.(2) A-4.10.3.3.(1) 5.1.2.1.(1) 5.1.2.2.(1) 5.3.1.2.(2) 5.3.1.2.(3) 5.3.1.10.(2) 5.5.3.4.(1) 5.6.1.9.(3) A-5.1.2.1.(1) A-5.5.3.4.(1)
CSA	CAN/CSA-C22.2 No. 61010-1-12	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements (Tri-national standard, with UL 61010-1 and ANSI/ISA-61010-1 (82.02.01)	A-5.5.3.4.(1)
CSA	C282-15	Emergency electrical power supply for buildings	6.5.1.1.(1) 6.5.1.4.(1) A-6.5.1.1.(2)
CSA	W117.2:19	Safety in welding, cutting and allied processes	5.2.1.1.(2)
CSA	Z32-15	Electrical safety and essential electrical systems in health care facilities	6.5.1.1.(2) A-6.5.1.1.(2)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
CSA	Z245.1-14	Steel pipe	4.5.2.1.(4)
CSA	PLUS 2203 (3rd. ed. pub. 2001)	Hazardous Locations: A Guide for the Design, Testing, Construction, and Installation of Equipment in Explosive Atmospheres	A-4.1.4.1.(1)
EPA	510-B-93-004	Doing Inventory Control Right for Underground Storage Tanks	A-4.4.2.1.(2)
EPA	510-B-95-009	Introduction To Statistical Inventory Reconciliation For Underground Storage Tanks	A-4.4.2.1.(4)
EPA	530/UST-90/007	Standard Test Procedures For Evaluating Leak Detection Methods: Statistical Inventory Reconciliation Methods	A-4.4.2.1.(4)
EPA	530/UST-90/008	Standard Test Procedures For Evaluating Leak Detection Methods: Vapor-Phase Out-of-Tank Product Detectors	A-4.4.2.1.(3)
EPA	530/UST-90/009	Standard Test Procedures For Evaluating Leak Detection Methods: Liquid-Phase Out-of-Tank Product Detectors	A-4.4.2.1.(3)
FM Global	Data Sheet 7-50 (2014)	Compressed Gases in Portable Cylinders	A-3.2.8.2.(2)
FM Global	Data Sheet 7-83 (2015)	Drainage and Containment Systems for Ignitable Liquids	A-4.1.6.1.(1)
HC	R.S.C. 1985, c. H-3	Hazardous Products Act	4.2.3.2.(2)
HC	S.C. 2002, c. 28	Pest Control Products Act	4.2.3.2.(2)
HC	SOR/2001-269	Consumer Chemicals and Containers Regulations, 2001	A-3.2.5.2.(1)
HC	SOR/2015-17	Hazardous Products Regulations	1.4.1.2.(1)[3] 3.1.2.1.(1) 3.2.7.1.(3) Table 3.2.7.1. Table 3.2.7.6. 3.3.4.1.(3) A-3.2.5.2.(1) A-Table 3.2.7.1. A-3.2.7.6.(3) A-4.2.2.3.(2)
HC	WHMIS 1988	Workplace Hazardous Materials Information System (WHMIS)	A-1.4.1.2.(1)[3] 3.1.2.1.(1) 3.2.7.1.(3) Table 3.2.7.1. Table 3.2.7.6. 3.2.7.15.(2) 3.3.4.1.(3) A-Table 3.2.7.1. 3.2.7.1.(3) A-3.2.7.1.(3)(b) A-3.2.7.6.(3) A-3.2.7.13.(1) A-3.2.7.14.(1)
IMO	2012	International Maritime Dangerous Goods Code	3.3.4.8.(1)
NACE	SP0169-2013	Control of External Corrosion on Underground or Submerged Metallic Piping Systems	4.5.3.1.(1)
NACE	SP0285-2011-SG	Corrosion Control of Underground Storage Tank Systems by Cathodic Protection	4.3.10.1.(1)
NFPA	2008	Fire Protection Handbook, Twentieth Edition	A-2.4.1.3.(1)
NFPA	10-2013	Standard for Portable Fire Extinguishers	2.1.5.1.(3) 6.2.1.1.(1)
NFPA	11-2016	Standard for Low-, Medium-, and High-Expansion Foam	2.1.3.5.(3) 4.3.2.5.(2)
NFPA	12-2015	Standard on Carbon Dioxide Extinguishing Systems	2.1.3.5.(3)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
NFPA	12A-2018	Standard on Halon 1301 Fire Extinguishing Systems	2.1.3.5.(3) A-2.1.3.5.(3)(c) and (d)
NFPA	12B-1990	Standard on Halon 1211 Fire Extinguishing Systems	2.1.3.5.(3) A-2.1.3.5.(3)(c) and (d)
NFPA	13-2019[5]	Standard for the Installation of Sprinkler Systems	A-2.1.3.1.(1) 3.2.1.1.(1) 3.2.2.4.(3) 3.2.3.3.(1) 3.2.4.3.(1) 3.2.6.3.(4) A-3.2.1.1.(1)(a) A-3.2.2.4.(3) A-3.2.3.3.(2)
NFPA	15-2017	Standard for Water Spray Fixed Systems for Fire Protection	2.1.3.5.(4) 4.3.2.5.(2) A-4.1.6.1.(1)
NFPA	16-2019	Standard on Installation of Foam-Water Sprinkler and Foam-Water Spray Systems	2.1.3.5.(4)
NFPA	17-2021	Standard for Dry Chemical Extinguishing Systems	2.1.3.5.(3)
NFPA	17A-2021	Standard for Wet Chemical Extinguishing Systems	2.1.3.5.(3)
NFPA	18-2021	Standard on Wetting Agents	2.1.3.5.(5)
NFPA	25-2020	Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems	6.4.1.1.(1)
NFPA	30-2018	Flammable and Combustible Liquids Code	4.2.7.6.(1) A-4.1.1.1.(2) A-4.1.4.1.(1) A-4.1.6.1.(1) A-4.2.7.6.(1) A-4.3.16.1.(1)
NFPA	30B-2019	Code for the Manufacture and Storage of Aerosol Products	3.2.5.2.(1) 3.2.5.5.(1) A-3.2.5.2.(1)
NFPA	32-2016	Standard for Drycleaning Facilities	5.4.2.1.(1)
NFPA	33-2018	Standard for Spray Application Using Flammable or Combustible Materials	5.4.5.2.(1)
NFPA	34-2018	Standard for Dipping, Coating, and Printing Processes Using Flammable or Combustible Liquids	5.4.6.2.(1)
NFPA	36-2021	Standard for Solvent Extraction Plants	A-4.1.1.1.(2)
NFPA	37-2018	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines	4.3.13.2.(1)
NFPA	51-2018	Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes	5.2.2.4.(1)
NFPA	55-2020	Compressed Gases and Cryogenic Fluids Code	A-3.1.1.4. A-5.5.5.3.(5)(b) and (7)(b)
NFPA	61-2017	Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities	A-5.3.1.3.(2)
NFPA	68-2013	Standard on Explosion Protection by Deflagration Venting	3.2.8.2.(1) 4.3.14.3.(1) 4.9.3.1.(1) 4.9.4.2.(1) 5.3.1.6.(2)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
NFPA	69-2014	Standard on Explosion Prevention Systems	4.3.2.5.(2) 4.9.4.2.(1) 5.3.1.7.(2)
NFPA	80-2013	Standard for Fire Doors and Other Opening Protectives	2.2.2.4.(5)
NFPA	80A-2012	Recommended Practice for Protection of Buildings from Exterior Fire Exposures	A-2.4.1.1.(6)
NFPA	82-2014	Standard on Incinerators and Waste and Linen Handling Systems and Equipment	2.6.2.2.(1)
NFPA	86-2019	Standard for Ovens and Furnaces	5.4.1.2.(1)
NFPA	91-2015	Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids	3.2.2.3.(5) 4.1.7.2.(5) A-5.3.1.3.(2)
NFPA	96-2021	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations	2.6.1.9.(2)
NFPA	120-2020	Standard for Fire Prevention and Control in Coal Mines	A-5.3.1.3.(2)
NFPA	326-2020	Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair	A-5.6.1.11.(4)
NFPA	484-2019	Standard for Combustible Metals	A-5.3.1.3.(2)
NFPA	497-2021	Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas	A-4.1.4.1.(1)
NFPA	505-2018	Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations	3.1.3.1.(1)
NFPA	654-2017	Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids	A-5.3.1.3.(2)
NFPA	655-2017	Standard for Prevention of Sulfur Fires and Explosions	A-5.3.1.3.(2)
NFPA	664-2017	Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities	5.3.2.1.(1) A-5.3.1.3.(2)
NFPA	705-2018	Recommended Practice for a Field Flame Test for Textiles and Films	2.3.2.2.(1) 2.9.2.1.(1) A-2.3.2.2.(1)
NRCan	2010	Display Fireworks Manual	5.1.1.3.(1)
NRCan	R.S.C. 1985, c. E-17	Explosives Act	3.1.1.3.(1) A-3.2.9.1.(1) 5.1.1.2.(1)
OCIMF	2009	Guide to Manufacturing and Purchasing Hoses for Offshore Moorings, 5th Edition	A-4.8.8.1.(1)(a)
SFPE	4th Edition	Handbook of Fire Protection Engineering	A-4.1.6.1.(1)
STI/SPFA	SP031-2008	Standard for Repair of Shop Fabricated Aboveground Tanks for Storage of Flammable and Combustible Liquids	4.3.1.10.(2)
TC	2001	Standards Respecting Pipeline Crossings Under Railways	4.5.6.5.(3)
TC	General Order No. O-32, C.R.C., c. 1148	Flammable Liquids Bulk Storage Regulations	4.5.6.5.(4) 4.7.2.2.(1) 4.7.4.1.(2)
TC	SOR/82-1015	Railway Prevention of Electric Sparks Regulations	4.7.4.5.(2) 4.8.5.1.(1)
TC	SOR/96-433	Canadian Aviation Regulations – Part III	2.13.1.1.(1)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
TC	SOR/2001-286	Transportation of Dangerous Goods Regulations (TDGR)	1.4.1.2.(1)[3] A-1.4.1.2.(1)[3] 3.1.2.1.(1) 3.2.7.1.(3) Table 3.2.7.1. Table 3.2.7.6. 3.2.7.14.(1) 3.2.7.14.(4) 3.2.7.15.(2) 3.3.4.1.(3) A-3.2.7.1.(3)(b) A-3.2.7.6.(3) A-3.2.7.14.(1) 4.1.1.1.(3) 4.2.3.1.(1) 4.2.3.2.(2) A-4.1.2.1. A-4.2.2.3.(2)
TC	SOR/2012-69	Vessel Pollution and Dangerous Chemicals Regulations	A-4.8.8.1.(1)(a)
ULC	ANSI/CAN/UL/ULC 2258:2018	Standard for Aboveground Nonmetallic Tanks for Fuel Oil and Other Combustible Liquids	4.3.1.2.(1)
ULC	CAN/ULC-S109-14	Standard Method for Flame Tests of Flame-Resistant Fabrics and Films	2.3.2.1.(1)
ULC	CAN/ULC-S137:2017	Standard Method of Test for Fire Growth of Mattresses (Open Flame Test)	2.3.2.3.(2)
ULC	CAN/ULC-S503-05	Standard for Carbon-Dioxide Fire Extinguishers	2.1.5.1.(4)
ULC	CAN/ULC-S504-12	Standard for Dry Chemical Fire Extinguishers	2.1.5.1.(4)
ULC	CAN/ULC-S507-05	Standard for Water Fire Extinguishers	2.1.5.1.(4)
ULC	CAN/ULC-S508-02	Standard for the Rating and Fire Testing of Fire Extinguishers	2.1.5.1.(5)
ULC	CAN/ULC-S512-M87	Standard for Halogenated Agent Hand and Wheeled Fire Extinguishers	2.1.5.1.(4)
ULC	CAN/ULC-S531:2019	Standard for Smoke Alarms	2.1.3.3.(1)
ULC	CAN/ULC-S536:2019	Standard for Inspection and Testing of Fire Alarm Systems	6.3.1.2.(1)
ULC	CAN/ULC-S540-13	Standard for Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance	6.7.1.1.(3)
ULC	CAN/ULC-S552-14	Standard for Inspection, Testing and Maintenance of Smoke Alarms	6.7.1.1.(1)
ULC	CAN/ULC-S553-14	Standard for the Installation of Smoke Alarms	2.1.3.3.(3)
ULC	CAN/ULC-S554:2016	Standard for Water Based Agent Fire Extinguishers	2.1.5.1.(4)
ULC	CAN/ULC-S561:2022	Standard for Installation and Services for Fire Signal Receiving Centres and Systems	6.3.1.3.(1) A-6.3.1.3.(1)
ULC	CAN/ULC-S566:2017	Standard for Halocarbon Clean Agent Fire Extinguishers	2.1.5.1.(4)
ULC	CAN/ULC-S601-14	Standard for Shop Fabricated Steel Aboveground Tanks for Flammable and Combustible Liquids	4.3.1.2.(1) 4.3.3.2.(1)
ULC	CAN/ULC-S602-14	Standard for Steel Aboveground Tanks for Fuel Oil and Lubricating Oil	4.3.1.2.(1)
ULC	CAN/ULC-S603-14	Standard for Steel Underground Tanks for Flammable and Combustible Liquids	4.3.1.2.(1) 4.4.3.2.(4)
ULC	CAN/ULC-S603.1:2022	Standard for External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids	4.3.1.2.(1) 4.3.8.6.(1) 4.3.10.1.(1) 4.5.3.1.(1)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number[2]	Title of Document	Code Reference
ULC	CAN/ULC-S612:2016	Standard for Hose and Hose Assemblies for Flammable and Combustible Liquids	4.6.5.1.(1)
ULC	CAN/ULC-S615-14	Standard for Fibre Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids	4.3.1.2.(1) 4.3.8.6.(2) 4.4.3.2.(4)
ULC	CAN/ULC-S620:2016	Standard for Hose Nozzle Valves for Flammable and Combustible Liquids	4.5.7.1.(2) 4.6.5.2.(1)
ULC	CAN/ULC-S633:2017	Standard for Flexible Connector Piping for Fuels	4.5.6.14.(2)
ULC	CAN/ULC-S642:2021	Standard for Compounds and Tapes for Threaded Pipe Joints	4.5.5.1.(1)
ULC	CAN/ULC-S644:2016	Standard for Emergency Breakaway Fittings for Flammable and Combustible Liquids	4.6.5.2.(4)
ULC	CAN/ULC-S651:2016	Standard for Emergency Valves for Flammable and Combustible Liquids	4.5.7.1.(3) 4.6.6.3.(1)
ULC	CAN/ULC-S652:2016	Standard for Tank Assemblies for the Collection, Storage and Removal of Used Oil	4.3.1.2.(1)
ULC	CAN/ULC-S653:2016	Standard for Aboveground Horizontal Steel Contained Tank Assemblies for Flammable and Combustible Liquids	4.3.1.2.(1)
ULC	CAN/ULC-S655-15	Standard for Aboveground Protected Tank Assemblies for Flammable and Combustible Liquids	4.3.1.2.(1) 4.3.2.1.(7) 4.3.7.4.(2) 4.6.2.1.(3)
ULC	CAN/ULC-S661-10	Standard for Overfill Protection Devices for Flammable and Combustible Liquid Storage Tanks	4.3.1.8.(1) 4.3.1.8.(2)
ULC	CAN/ULC-S663-11	Standard for Spill Containment Devices for Flammable and Combustible Liquid Aboveground Storage Tanks	4.3.6.4.(4)
ULC	CAN/ULC-S664:2017	Standard for Containment Sumps, Sump Fittings, and Accessories for Flammable and Combustible Liquids	4.3.9.2.(1) 4.6.3.2.(1)
ULC	CAN/ULC-S668-12	Standard for Liners Used for Secondary Containment of Aboveground Flammable and Combustible Liquid Tanks	4.3.7.2.(2)
ULC	CAN/ULC-S669-14	Standard for Internal Retrofit Systems for Underground Tanks for Flammable and Combustible Liquids	4.3.1.10.(3) A-4.3.1.10.(3)
ULC	CAN/ULC-S675.1-14	Standard for Volumetric Leak Detection Devices for Underground and Aboveground Storage Tanks for Flammable and Combustible Liquids	A-4.4.2.1.(5) A-4.4.2.1.(7) A-4.4.2.1.(10)(a)
ULC	CAN/ULC-S675.2-14	Standard for Nonvolumetric Precision Leak Detection Devices for Underground and Aboveground Storage Tanks and Piping for Flammable and Combustible Liquids	A-4.4.2.1.(7) A-4.4.2.1.(10)(a)
ULC	CAN/ULC-S676-15	Standard for Refurbishing of Storage Tanks for Flammable and Combustible Liquids	4.3.1.10.(1)
ULC	CAN/ULC-S677-14	Standard for Fire Tested Aboveground Tank Assemblies for Flammable and Combustible Liquids	4.3.1.2.(1)
ULC	CAN/ULC-S679:2017	Standard for Metallic and Nonmetallic Underground Piping for Flammable and Combustible Liquids	4.5.2.1.(3) 4.5.6.14.(2)
ULC	CAN/ULC-S1001-11	Standard for Integrated Systems Testing of Fire Protection and Life Safety Systems	6.8.1.1.(1) A-6.8.1.1.(1)
ULC	ULC/ORD-C30-95	Safety Containers	4.1.5.8.(2) 4.2.3.1.(1) 4.2.6.4.(1) 5.5.5.2.(2)
ULC	ULC/ORD-C107.12-92	Line Leak Detection Devices for Flammable Liquid Piping	4.4.2.1.(11) 4.4.3.4.(2) 4.4.4.2.(1)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number(2)	Title of Document	Code Reference
ULC	ULC/ORD-C410A-94	Absorbents for Flammable and Combustible Liquids	A-4.1.6.3.(3)(b)
ULC	ULC/ORD-C536-98	Flexible Metallic Hose	4.5.6.14.(2)
ULC	ULC/ORD-C558-75	Guide for the Investigation of Internal Combustion Engine-Powered Industrial Trucks	3.1.3.1.(2)
ULC	ULC/ORD-C583-74	Guide for the Investigation of Electric Battery Powered Industrial Trucks	3.1.3.1.(3)
ULC	ULC/ORD-C842-84	Guide for the Investigation of Valves for Flammable and Combustible Liquids	4.5.7.1.(1)
ULC	ULC/ORD-C1275-84	Guide for the Investigation of Storage Cabinets for Flammable Liquid Containers	4.2.10.5.(1)

Notes to Table 1.3.1.2.:

(1) While every effort was made to ensure the accuracy of the information in this Table, the NRC is not responsible for the accuracy, timeliness or reliability of the content presented therein. For all purposes of interpreting and applying the referenced standards, Code users should refer to the most recent official versions of the referenced editions.

(2) Some documents may have been reaffirmed or reapproved. Check with the applicable issuing agency for up-to-date information.

(3) Code reference is in Division A.

(4) Code reference is in Division C.

(5) Subsection 9.3.15, Sprinkler-Protected Glazing, does not apply in the context of Division B.

1.3.2. Organizations

1.3.2.1. Abbreviations of Proper Names

1) The abbreviations of proper names in this Code shall have the meanings assigned to them in this Article.

ACGIH ..... American Conference of Governmental Industrial Hygienists (www.acgih.org)

ANSI ..... American National Standards Institute (www.ansi.org)

API ..... American Petroleum Institute (www.api.org)

ARPM ..... Association for Rubber Products Manufacturers (www.arpminc.com)

ASABE ..... American Society of Agricultural and Biological Engineers (www.asabe.org)

ASME ..... American Society of Mechanical Engineers (www.asme.org)

ASTM ..... ASTM International (www.astm.org)

CAN ..... National Standard of Canada designation (www.scc.ca)

CBHCC ..... Canadian Board for Harmonized Construction Codes (cbhcc-cchcc.ca)

CCBFC ..... Canadian Commission on Building and Fire Codes (see NRC)

CCME ..... Canadian Council of Ministers of the Environment (www.ccme.ca)

CFA ..... Canadian Fuels Association (www.canadianfuels.ca)

CGA ..... Compressed Gas Association (www.cganet.com)

CGSB ..... Canadian General Standards Board (www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html)

CNSC ..... Canadian Nuclear Safety Commission (nuclearsafety.gc.ca/eng)

CSA ..... CSA Group (www.csagroup.org)

EPA ..... Environmental Protection Agency (U.S.) (www.epa.gov)

FM Global ..... FM Global (www.fmglobal.com)

HC ..... Health Canada (www.hc-sc.gc.ca)

Notes to Part 2
Building and Occupant Fire Safety

A-2.1.2.1.(1) The National Building Code of Canada 1990 introduced changes to the method of determining building height. Application of the current method to existing buildings for the purposes of this Code could result in certain buildings being reclassified as higher buildings. For this reason, the NFC suggests that building height is that which was established by the building code that was applicable at the time of construction in the case of original construction, or at the time of alteration if additional storeys have been added to the building.

A-2.1.2.2.(1) Arena-type buildings are often used for events such as community dances, rallies and trade shows. These events may increase the occupant and fuel loads beyond that for which the space was designed. To ensure safety during such events, additional egress facilities may be required to compensate for the additional occupant load and, in some cases, additional fire suppression measures may be required to compensate for the increased fuel load.

Large public corridors in mercantile occupancies are also used on a temporary basis for community activities, merchandising and for special displays. In these cases, additional egress facilities and fire suppression may be needed, depending on the increase in hazard.

A-2.1.3.1.(1) The National Building Code of Canada is most often applied to existing buildings when an owner wishes to rehabilitate a building, change its use, or build an addition; or when an enforcement authority decrees that a building, or a class of buildings, be altered for reasons of public safety. It is not intended that either the NBC or the NFC be used to enforce the retrospective application of new requirements in the NBC to existing buildings. Although the NFC could be interpreted to require the installation of fire alarm, standpipe and hose and automatic sprinkler systems in an existing building for which there were no requirements before the National Building Code of Canada 2005 was issued, it is intended that the NFC not be applied in this manner to these buildings.

It is usually difficult to change structural features of an existing building when undertaking alterations or additions, but the installation of "active" fire protection systems, such as alarms, sprinklers and standpipes, in existing buildings may be possible. These systems may be considered as contributing to an adequate degree of life safety in cases where the structural features of a building do not conform to the NBC.

Sentence 2.1.3.1.(1) is intended to address the installation of fire alarm, sprinkler and standpipe systems in existing buildings presently not so equipped, and in existing buildings that do not provide an acceptable level of safety to meet the current installation standards specified in the NBC. It is not intended that existing fire protection systems that provide an acceptable level of life safety be upgraded with each new edition of the NBC or in conjunction with the inclusion of new requirements not in force at the time that a building was constructed. The authority having jurisdiction is expected to use discretion in enforcing this requirement. The authority having jurisdiction may accept alternatives to strict compliance with the NBC as provided for in Clause 1.2.1.1.(1)(b) of Division A and its Note. (See also Note A-1.1.1.1.(1) of Division A and Note A-1.1.1.1.(1) of Division A of the NBC.)

This provision is also intended to direct Code users primarily to Subsection 3.2.5. of Division B of the NBC, which specifies NFPA 13, "Standard for the Installation of Sprinkler Systems," as the appropriate standard for the design and installation of automatic sprinkler systems and provides several exceptions and supplementary requirements (in certain cases, other provisions in the NBC may also apply). However, where a specific hazard, such as highly piled storage or the storage of flammable and combustible liquids or rubber tires, is not

These Notes are included for explanatory purposes only and do not form part of the requirements. The number that introduces each Note corresponds to the applicable requirement in this Part.

4.6.3. Dispensing Systems

4.6.3.1. Dispensers

1) Fixed dispensers for *flammable liquids* or *combustible liquids* shall conform to CSA B346-M, "Power-Operated Dispensing Devices for Flammable Liquids."

4.6.3.2. Dispenser Sumps

1) *Dispenser sumps* shall conform to the construction and performance requirements of CAN/ULC-S664, "Standard for Containment Sumps, Sump Fittings, and Accessories for Flammable and Combustible Liquids."

4.6.3.3. Location

1) Fixed dispensers for Class I liquids shall be installed outside *buildings* and not less than

a) 3 m from any right-of-way and any property line,
b) 3 m from any propane gas dispenser,
c) 1.5 m from any natural gas dispenser,
d) 6 m horizontally from any fixed source of ignition,
e) 6 m horizontally from any liquefied petroleum gas cylinder or *storage tank*, and
f) 3 m from any *building* openings, other than those that serve as shelter for operating personnel and in which electrical installations conform to Article 4.1.4.1.

2) Fixed dispensers for Class II or IIIA liquids are permitted to be installed inside a *building* when

a) the *building* is not open to the public,
b) the dispensers are located on the *first storey*,
c) drainage is provided, and
d) ventilation is provided in conformance with Subsection 4.1.7. and with the requirements for storage garages in Subsection 6.3.1. of Division B of the NBC.

3) The location of dispensers of Class I liquids within a *building* shall conform to Subsection 3.3.5. of Division B of the NBC.

4.6.3.4. Protection against Collision Damage

1) Fixed dispensers shall be protected against collision damage by

a) a concrete island not less than 100 mm high, or
b) posts or guardrails.

4.6.3.5. Marine Fuel-Dispensing Stations

1) Dispensers at *marine fuel-dispensing stations* shall be in a location that will prevent watercraft or floatplane impact, or other physical damage.

4.6.4. Shut-off Devices

4.6.4.1. Location and Identification

1) A device to shut off power to all dispensers and pumps shall be provided at a location not less than 6 m and not more than 30 m away from the dispensers and pumps. (See Note A-4.6.4.1.(1) and (2).)

2) The device required in Sentence (1) shall be clearly identified and readily accessible to attendants and emergency responders. (See Note A-4.6.4.1.(1) and (2).)

3) Steel shut-off valves shall be provided at connecting outlets on aboveground *storage tanks*.

Remedial Orders

A possible enforcement option in the event of a contravention of the fire safety law is a provision authorizing persons to issue orders requiring that premises be closed or that activities cease, that the building be evacuated where an immediate danger to life or property exists, or even that an act already done be undone. The relevant considerations in provisions regarding the issuing of remedial orders are:

1. in what circumstances and by whom can a remedial order be issued (the lawmaker may wish to draw a distinction between circumstances where an inspector may issue an order and circumstances where an order can only be issued by a court)
2. what can be ordered and in what circumstances
3. in what circumstances, if any, an order shall take immediate effect
4. except for those cases where an order is to take immediate effect, when the order should take effect
5. what person may be required to comply with a remedial order
6. the rights of appeal, if any, in respect of some or all remedial orders
7. the consequences of failure to comply with a remedial order

Notification

The NFC assumes that the authority having jurisdiction will be notified in the following situations:

1. when activities that could lead to a fire or an explosion are to be undertaken
2. when fire protection equipment is to be taken out of service
3. prior to the resurfacing of bowling alleys
4. when a loss is detected from a storage tank containing flammable or combustible liquids
5. prior to the removal from service of an underground storage tank for flammable or combustible liquids
6. prior to fumigation being carried out in a building

A-2.3.1. Documentation of Alternative Solutions. Beyond the purposes of demonstrating compliance and acquiring a building permit, there are other important reasons for requiring that the proponent of an alternative solution submit project documentation (i.e. a compliance report) to the authority having jurisdiction and for the authority having jurisdiction to retain that documentation for a substantial period following the construction of the building or facility:

- Most jurisdictions require that a building or facility be maintained in compliance with the codes under which it was built. Alternative solutions made possible by objective-based codes may have special maintenance requirements, which would be described in the documentation.
- Documentation helps consultants perform code compliance assessments of existing buildings or facilities before they are sold and informs current owners or prospective buyers of existing buildings or facilities of any limitations pertaining to their future use or development.
- Documentation provides design professionals with the basic information necessary to design changes to an existing building or facility.
- An alternative solution could be invalidated by a proposed alteration to a building or facility. Designers and regulators must therefore know the details of the particular alternative solutions that were integral to the original design. Complete documentation should provide insight as to why one alternative solution was chosen over another.
- Documentation is the "paper trail" of the alternative solution negotiated between the designer and the regulator and should demonstrate that a rational process led to the acceptance of the alternative solution as an equivalency.
- It is possible that over time a particular alternative solution may be shown to be inadequate. It would be advantageous for a jurisdiction to know which buildings or facilities included that alternative solution as part of their design: documentation will facilitate this type of analysis.
- Project documentation provides important information to a forensic team that is called to investigate an accident or why a design failed to provide the level of performance expected.

This subject is discussed in further detail in "Recommended Documentation Requirements for Projects Using Alternative Solutions in the Context of Objective-Based Codes," which was prepared for the CCBFC Task Group on Implementation of Objective-Based Codes and is available on the CBHCC's website.