

Draft Regulations

Draft Regulation

Building Act
(R.S.Q., c. B-1.1)

Construction Code — Amendment

Notice is hereby given, in accordance with sections 10 and 11 of the Regulations Act (R.S.Q., c. R-18.1), that the Regulation to amend the Construction Code, appearing below, may be approved by the Government, with or without amendment, on the expiry of 45 days following this publication.

The purpose of the draft Regulation is to establish throughout Québec the basic standards that apply to the construction work of petroleum equipment installations (installations to use, store or dispense petroleum products), to ensure the quality of the work and the safety of the installations. The standards are now adopted by the Régie du bâtiment du Québec under the Building Act (R.S.Q., c. B-1.1).

The standards constitute Chapter VIII of the Construction Code and are essentially the requirements already set out in the Act respecting petroleum products and equipment (R.S.Q., c. P-29.1) and the regulatory requirements currently in force, made under that Act and set out in the Regulation respecting petroleum products and equipment, approved by Order in Council 753-91 dated 29 May 1991 (1991, *G.O.* 2, 1839). Adaptations have been made to the Construction Code to take into account the provisions of the Building Act, to facilitate their applications and mainly to distinguish between the responsibilities of architects, engineers and contractors and those of owners of petroleum equipment installations, which are integrated into the Safety Code.

The draft Regulation also includes framework measures for the monitoring of compliance with the requirements, in particular a process to monitor the compliance of construction work performed on high-risk petroleum equipment forming part of a petroleum equipment installation, using certificates of conformity that must be produced by persons recognized by the Board and furnished by contractors and owner-builders.

The draft Regulation has a positive impact on public safety because it retains the existing requirements. The draft Regulation has, however, an economic impact on

certain enterprises that are to comply with the additional requirements for underground tanks. The impact is estimated at \$3,325M for a period of five years and could affect some 35 small and medium-sized businesses and 80 large businesses. The draft Regulation was the subject of a regulatory impact statement.

Further information may be obtained by contacting Pierre Gauthier, Régie du bâtiment du Québec, 800, place D'Youville, 15^e étage, Québec (Québec) G1R 5S3; telephone: 418 643-9896 or fax: 418 646-9280.

Any interested person having comments to make on the matter is asked to send them in writing, before the expiry of the 45-day period, to Daniel Gilbert, President and Chief Executive Officer, Régie du bâtiment du Québec, 545, boulevard Crémazie Est, 3^e étage, Montréal (Québec) H2M 2V2.

LAURENT LESSARD,
Minister of Labour

Regulation to amend the Construction Code*

Building Act
(R.S.Q., c. B-1.1, ss. 173, 176, 176.1, 178, 179, 185, 1st par., subpars. 1, 2.1, 6.2, 6.3, 37 and 38 and s. 192; 2005, c. 10, ss. 59, 62 and 63)

1. The Construction Code is amended by adding the following after section 7.08:

“CHAPTER VIII PETROLEUM EQUIPMENT INSTALLATION

DIVISION I INTERPRETATION

8.01. In this Chapter, unless the context indicates otherwise,

* The Construction Code, approved by Order in Council 953-2000 dated 26 July 2000 (2000, *G.O.* 2, 4203), was last amended by the regulations approved by Orders in Council 120-2006 dated 28 February 2006 (2006, *G.O.* 2, 1118) and 986-2006 dated 25 October 2006 (2006, *G.O.* 2, 3569). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2006, updated to 1 September 2006.

“airport outlet” means a motor fuel dispensing outlet where aviation fuel is dispensed to an aircraft; (*poste d’aéroport*)

“aviation fuel” means aviation gasoline and aviation turbine fuel; (*carburant d’aviation*)

“aviation turbine fuel” means a medium petroleum distillate for use as motor fuel in turbine engines; (*carburéacteur*)

“biodiesel fuel” means an oxygenated ester- or ether-based fuel derived from vegetable oils or animal fats; (*carburant bio-diesel*)

“booth” means a shelter situated within a dispensing area, to be used for the sale of motor fuel and, where applicable, for controlling motor fuel dispensing equipment; (*kiosque*)

“bulk plant” means a facility for the storage of bulk petroleum products and having a tank truck, tank car or a cargo tank trailer loading facility; (*dépôt*)

“designated location” means a quarry, mine, forest operations site, agricultural establishment, construction site, snowmobile stop, hunting or fishing camp, or a location not accessible year round by a practicable road in the Québec highway network; (*endroit désigné*)

“diesel fuel” means a medium petroleum distillate for use as motor fuel in a compression ignition engine; (*carburant diesel*)

“first storey” means the highest storey having its floor not more than 2 m above average ground level; (*premier étage*)

“flash point” means the minimum temperature at which a liquid within a container gives off vapour in sufficient concentration to form an ignitable mixture with air near the surface of the liquid; (*point d’éclair*)

“fuel oil” means a homogeneous blend of hydrocarbon compounds for use as fuel; (*mazout*)

“gasoline” means a light petroleum distillate for use as motor fuel in an engine with electrical ignition; (*essence*)

“high-risk petroleum equipment” means petroleum equipment having one of the following characteristics:

(1) petroleum equipment, one or more components of which is partially or completely buried, having a capacity of

(a) 500 or more litres, when it is installed to store motor fuel; or

(b) 4,000 or more litres, if it is installed to store fuel oil, except petroleum equipment of less than 10,000 L used for heating a single-family dwelling;

(2) aboveground petroleum equipment that has a capacity of 2,500 or more litres, if it is installed to store gasoline, fuel ethanol or aviation fuel;

(3) petroleum equipment that has a capacity of 10,000 or more litres, if it is installed to store a petroleum product; or

(4) petroleum equipment installed for the purposes of trade in petroleum products;

The capacity of petroleum equipment that is joined, connected to or used with other petroleum equipment is determined by adding together their respective capacities; (*équipement pétrolier à risqué élevé*)

“lower explosive limit” means the minimum concentration of vapour in air at which the propagation of flame occurs on contact with an ignition source; (*limite inférieure d’explosivité*)

“marina outlet” means a motor fuel dispensing outlet where motor fuel is dispensed to motorized vessels; (*poste de marina*)

“motor fuel” means a combustible substance used in an internal combustion engine that includes gasoline, diesel fuel, biodiesel fuel, fuel ethanol and aviation fuel; (*carburant*)

“motor fuel dispensing outlet” means a self-serve facility, an unattended self-serve facility, an airport outlet, a user outlet, a marina outlet and a service station; (*poste de distribution de carburant*)

“petroleum equipment” means any container, piping, apparatus or other equipment or device that may be used for the distribution, handling, transfer or storage of petroleum products, or forming part of a petroleum equipment installation; (*équipement pétrolier*)

“recognized person” means a person able to produce or furnish a certificate of conformity pursuant to sections 16 and 35 of the Building Act; (*personne reconnue*)

“self-serve facility” means a motor fuel dispensing outlet where motor fuel is dispensed to a vehicle under the supervision of an attendant; (*libre-service avec surveillance*)

“service centre” means a site where the fuel system of an internal combustion engine is serviced; (*atelier de mécanique*)

“storey” means that part of a building between the top of a floor and the top of the next floor above it, or if there is no floor above it, that part between the top of a floor and the ceiling; (*étage*)

“tank” means a container that holds more than 225 L; (*réservoir*)

“unattended self-serve facility” means a motor fuel dispensing outlet for commercial vehicles where motor fuel is dispensed to a vehicle without supervision of an attendant; (*libre-service sans surveillance*)

“underground piping” means piping or part of piping that is buried in the ground; (*tuyauterie souterraine*)

“underground tank” means a tank that is partially or entirely buried in the ground; (*réservoir souterrain*)

“user outlet” means a motor fuel dispensing outlet used for a purpose other than trade in motor fuel. (*poste d'utilisateur*)

8.02. For the purposes of this Chapter,

(1) petroleum products are classified as follows:

(a) Class 1: petroleum distillates having a flash point below 37.8 °C as determined by D56, Standard Test Method for Flash Point by Tag Closed Tester, published by the American Society for Testing and Materials;

(b) Class 2: petroleum distillates having a flash point equal to or above 37.8 °C but below 60 °C as determined by D93, Standard Test Method for Flash-Point by Pensky-Martens Closed Cup Tester, published by the American Society for Testing and Materials; and

(c) Class 3: petroleum distillates having a flash point equal to or above 60 °C as determined by D93, Standard Test Method for Flash-Point by Pensky-Martens Closed Cup Tester, published by the American Society for Testing and Materials;

(2) fuel oil is of the following types:

(a) Nos. 0, 1 and 2: distillate fuel for home heating appliances;

(b) Nos. 4 and 5: a distillate, a residue or a blend of the two, used as fuel usually for burner installations without preheating devices; and

(c) No. 6: a distillate, a residue or a blend of the two, used as fuel for burner installations with a preheating device.

DIVISION II APPLICATION OF CODES AND STANDARDS

8.03. Subject to the regulatory exemptions under subparagraph 1 of the first paragraph of section 182 of the Building Act (R.S.Q., c. B-1.1), the codes, standards and provisions of this Chapter apply to all construction work on a petroleum equipment installation to which that Act applies, including its vicinity, carried out as of the date of coming into force of this Chapter.

DIVISION III DOCUMENTS INCORPORATED BY REFERENCE

8.04. The requirements of the documents incorporated by reference, in this Chapter, apply only to the extent that they refer to petroleum equipment.

8.05. Where the requirements incorporated by reference are inconsistent with those of a provision of this Chapter, the latter prevails.

8.06. The editions of the documents incorporated by reference in this Chapter are those indicated in the table below.

TABLE 1

Documents incorporated by reference

Agency	Designation	Title	Reference
API	5L-2000	Line Pipe	8.25, 1st paragraph, subpar. 1
API	650-1998	Welded Steel Tanks for Oil Storage	8.24, 1st paragraph, subpar. 8
API	1104-1999	Welding Pipelines and Related Facilities	8.70
API	1542-2002	Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fuelling Equipment	8.188
API	2000-1998	Venting Atmospheric and Low Pressure Storage Tanks: Nonrefrigerated and Refrigerated	8.102
ASME	B16.5-2003	Pipe Flanges and Flanged Fittings	8.107, 2nd paragraph
ASME	B31.3-2004	Process Piping	8.25, 2nd paragraph
ASTM	A53/A53M-05	Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless	8.25, 1st paragraph, subpar. 2
ASTM	A193/A193M-06	Alloy-Steel and Stainless Steel Bolting Materials for High Temperature or High Pressure Service and Other Purpose Applications	8.109, 1st paragraph
ASTM	D56-05	Standard Test Method for Flash Point by Tag Closed Tester	8.02, paragraph 1, subpar. <i>a</i>
ASTM	D93-02a	Standard Test Method for Flash-Point by Pensky-Martens Closed Cup Tester	8.02, paragraph 1, subpars. <i>b</i> and <i>c</i>
BNQ	CAN/BNQ 2501-255-3rd edition	Soils - Determination of the Water-Density Relation - Modified Effort Compaction Test (2700 kN.m/m ³)	8.33, 1st paragraph, subpars. 2 and 3
CCBFC	NRCC 47667	National Fire Code– Canada 2005	8.21, 1st paragraph
CSA	CSA-B139-04	Installation Code for Oil Burning Equipment	8.21, 2nd paragraph 8.84, paragraph 1, subpar. <i>c</i>
CSA	CSA-B140.0-03	Oil Burning Equipment: General Requirements	8.26
CSA	CSA-B346-M1980	Power-Operated Dispensing Devices for Flammable Liquids	8.141
CSA	Z245.1-02	Steel Pipe	8.25, 1st paragraph, subpar. 3
CSA	CAN/CSA-Z662-03	Oil and Gas Pipeline Systems	8.103
EPA	EPA 530/UST-90/004	Standard Test Procedures for Evaluating Leak Detection Methods: Volumetric Tank Tightness Testing Methods	8.130, 2nd paragraph
EPA	EPA 530/UST-90/007	Standard Test Procedures for Evaluating Leak Detection Methods: Statistical Inventory Reconciliation Methods	8.130, 2nd paragraph
CPPI	1990	Colour-Symbol System to Mark Equipment and Vehicles for Product Identification	8.106, 1st paragraph 8.194
NACE International	RP0169-2002	Control of External Corrosion on Underground or Submerged Metallic Piping Systems	8.42, 1st paragraph, subpar. 2 8.130, 1st paragraph
NACE International	RP0285-2002	Corrosion Control of Underground Storage Tank System by Cathodic Protection	8.42, 1st paragraph, subpar. 2 8.130, 1st paragraph

Agency	Designation	Title	Reference
NFPA	30-2003	Flammable and Combustible Liquids Code	8.65, paragraph 3
SAE	AS 1852-1997	Nozzles and Ports-Gravity Fueling Interface Standard for Civil Aircraft	8.181
TC	No. 0-32	Flammable Liquids Bulk Storage Regulations	8.196
ULC	ULC-S601-00	Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids	8.24, 1st paragraph, subpar. 1
ULC	CAN/ULC-S602-03	Aboveground Steel Tanks for the Storage of Combustible Liquids Intended to be Used as Heating and/or Generator Fuels	8.24, 1st paragraph, subpar. 2
ULC	ULC-S603-00	Standard for Steel Underground Tanks for Flammable and Combustible Liquids	8.23, 1st paragraph, subpar. 1
ULC	Technical Supplement, ULC-S603(A)-2001	Refurbishing of Steel Underground Tanks for Flammable and Combustible Liquids	8.44, paragraph 1
ULC	CAN/ULC-S603.1-03	External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids	8.42, 1st paragraph, subpar. 1 8.88, 1st paragraph, subpar. 1
ULC	CAN/ULC-S612-99	Hose for Flammable and Combustible Liquids	8.153
ULC	ULC-S615-98	Standard for Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids	8.23, 1st paragraph, subpar. 2
ULC	Technical Supplement, ULC-S615(A)-2002	Refurbishing of Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids	8.44, paragraph 2
ULC	CAN/ULC-S620-99	Hose Nozzle Valves for Flammable and Combustible Liquids	8.154
ULC	ULC-S630-00	Shop Fabricated Steel Aboveground Vertical Tanks for Flammable and Combustible Liquids	8.24, 1st paragraph, subpar. 3 8.54, paragraph 2
ULC	CAN/ULC-S642-M87	Compounds and Tapes for Threaded Pipe Joints	8.69
ULC	ULC-S643-00	Shop Fabricated Steel Aboveground Utility Tanks for Flammable and Combustible Liquids	8.24, 1st paragraph, subpar. 4
ULC	ULC-S651-00	Emergency Valves for Flammable and Combustible Liquids	8.115 8.149
ULC	ULC-S653-05	Standard for Aboveground Steel Contained Tank Assemblies for Flammable and Combustible Liquids	8.24, 1st paragraph, subpar. 5 8.143
ULC	ULC-S655-98	Aboveground Protected Tank Assemblies for Flammable and Combustible Liquids	8.24, 1st paragraph, subpar. 6
ULC	ULC/ORD-C58.9-1997	Secondary Containment Liners for Underground and Aboveground Flammable and Combustible Liquid Tanks	8.62, paragraph 5, subpar. <i>a</i>
ULC	ULC/ORD-C58.10-1992	Jacketed Steel Underground Tanks for Flammable and Combustible Liquids	8.23, 1st paragraph, subpar. 3 8.35, 1st paragraph, subpar. 2, subpar. <i>b</i> 8.42, 2nd paragraph
ULC	ULC/ORD-C58.12-1992	Leak Detection Devices (Volumetric Type) for Underground Flammable Liquid Storage Tanks	8.29, paragraph 2
ULC	ULC/ORD-C58.14-1992	Non-Volumetric Leak Detection Devices for Underground Flammable Liquid Storage Tanks	8.28, 3rd paragraph 8.29, paragraph 2

Agency	Designation	Title	Reference
ULC	ULC/ORD-C58.15-1992	Overfill Protection Devices for Flammable Liquid Storage Tanks	8.61, 1st paragraph, subpar. 1, subpar. <i>a</i> 8.125, paragraph 1 8.127
ULC	ULC/ORD-C58.19-1992	Spill Containment Devices for Underground Flammable Liquid Storage Tanks	8.127
ULC	ULC/ORD-C107.12-1992	Line Leak Detection Devices for Flammable Liquid Piping	8.28, 3rd paragraph
ULC	ULC/ORD-C107.21-1992	Under-Dispenser Sumps	8.143
ULC	ULC/ORD-C142.5-1992	Concrete Encased Steel Aboveground Tank Assemblies for Flammable and Combustible Liquids	8.24, 1st paragraph, subpar. 7
ULC	ULC/ORD-C142.18-95	Rectangular Steel Aboveground Tanks for Flammable and Combustible Liquids	8.24, 1st paragraph, subpar. 9
ULC	ULC/ORD-C142.19-94	Spill Containment Devices for Aboveground Flammable and Combustible Liquid Storage Tanks	8.61, 1st paragraph, subpar. 1, subpar. <i>a</i>
ULC	ULC/ORD-C842-M1984	Guide for the Investigation of Valves for Flammable and Combustible Liquids	8.115
ULC	ULC/ORD-C971-05	Nonmetallic Underground Piping for Flammable and Combustible Liquids	8.27

8.07. Unless otherwise indicated in this Chapter, the documents incorporated by reference include the amendments, revisions or supplements in force on (*insert the date of coming into force of this Regulation*).

DIVISION IV **APPROVAL OF EQUIPMENT**

8.08. Petroleum equipment used in a petroleum equipment installation must, when required by a provision of this Chapter, be approved for the use for which it is intended.

The sale or leasing of such equipment that has not been approved is prohibited. The use of such equipment in a petroleum equipment installation that has not been approved, except for approval purposes, is also prohibited.

Petroleum equipment may, however, during an exhibition, a presentation or a demonstration, be used without prior approval provided that it is accompanied by a notice with the following warning in characters measuring at least 15 mm: “WARNING: this material has not been approved for sale or rental as required under Chapter VIII of the Construction Code.”.

8.09. Petroleum equipment certified by one of the following agencies is considered to be approved:

- (1) CSA International (CSA);
- (2) Underwriters’ Laboratories of Canada (ULC);
- (3) Intertek Testing Services NA LTD. (WH, cETL);
- (4) Underwriters Laboratories Incorporated (cUL);
- (5) American Petroleum Institute (API); and
- (6) any other certification agency accredited by the Standards Council of Canada as a certification agency for petroleum equipment having notified the Régie du bâtiment du Québec of its accreditation.

8.10. Despite section 8.08, approval is not required for each component of petroleum equipment if the petroleum equipment has received overall approval.

8.11. For the purposes of this Chapter, “certification” or “certified” means recognition by one of the agencies referred to in section 8.09, by means of a label affixed on certified equipment certifying that the equipment complies with the construction and testing requirements pub-

lished by the standards development organizations accredited by the Standards Council of Canada to develop petroleum equipment standards.

DIVISION V CERTIFICATE OF CONFORMITY

8.12. A contractor or owner-builder must, after construction work related to the installation, alteration or demolition of high-risk petroleum equipment or complete piping connected to it, provide the Régie du bâtiment du Québec with a certificate of conformity with this Chapter produced and signed by a recognized person under section 8.12 stating that

(1) the work has been carried out in accordance with sections, 8.21, 8.23, 8.24, 8.26 to 8.28, paragraphs 1 to 3 of section 8.29, sections 8.30, 8.31 and section 8.32, as regards only the clearance between the top of the tank and ground level, sections 8.42 to 8.44, paragraphs 1 and 2 of section 8.45, section 8.46, except paragraphs 1 to 3 of the second paragraph, sections 8.48 to 8.50, paragraph 1 of section 8.51, sections 8.53, 8.55 to 8.57, 8.60 to 8.65, except paragraph 4 of that section, paragraph 2 of section 8.66, sections 8.69, 8.72, 8.75, 8.77, 8.79, 8.80 and section 8.83, as regards only the clearance between piping and ground level, sections 8.85, 8.88 to 8.95, the third paragraph of section 8.96, sections 8.97, 8.98, 8.100, 8.102, 8.108, paragraph 1 of section 8.110, the third paragraph of section 8.112, sections 8.116, 8.124, 8.125, 8.127, 8.128, 8.138, 8.141 to 8.147, 8.149 to 8.151, 8.153, 8.154, 8.156, 8.159, 8.160, the first paragraph of section 8.162, the first and second paragraphs of section 8.166, sections 8.168, 8.170 to 8.172, 8.174, 8.175, the second paragraph of section 8.177, section 8.178, except paragraph 5 of that section, sections 8.179, 8.180, 8.182, 8.185, 8.186, 8.195, 8.197 to 8.199 and section 8.200 as regards the manual valve, sections 8.201, 8.203 to 8.205, 8.207 to 8.209, 8.211 to 8.213 and 8.215 to 8.217;

(2) the tests and inspections referred to in those sections for that work have been performed and their results are satisfactory; and

(3) the equipment covered by the certificate is free from leaks and presents no danger to public safety.

Otherwise, the recognized person must inform the contractor or owner-builder and the Régie, within 30 days, of any irregularities found and the reasons for refusing to produce the required certificate of conformity.

The certificate must also contain a description of the petroleum equipment inspected, its type, make, the petroleum product it is to contain, its model, capacity,

serial number, the standard under which it has been approved or manufactured, the address of the site where the construction work on the petroleum equipment was carried out, the nature of the work carried out, the licence number of the contractor or owner-builder who carried out the work, the date of signature, the name, address, telephone number and professional order membership number, temporary or accreditation permit, issued under the Act respecting petroleum products and equipment, of the recognized person who produced the certificate and the date of the beginning and end of the construction work. The certificate may be produced on the form provided for that purpose by the Régie.

If high-risk petroleum equipment has already been installed, altered or demolished, the contractor or owner-builder must take the necessary measures so that the recognized person may produce the certificate.

8.13. The following persons whose professional activities are related to the inspection, surveillance or design of petroleum equipment installations may be recognized by the Régie to produce and sign the certificate of conformity required under section 8.12:

(1) an engineer who is a member of the Ordre des ingénieurs du Québec;

(2) a holder of a temporary licence issued under the Engineers Act (R.S.Q., c. I-9) and

(3) a professional technologist holding a license issued by the Ordre des technologues professionnels du Québec.

Those persons must not be in a situation of conflict of interest, such as

(1) performing work on petroleum equipment or decontamination work on sites polluted by petroleum products, or supervising such work, in the capacity of a contractor or employee; or

(2) having a direct or indirect interest in an enterprise that performs work on petroleum equipment, designs or manufactures petroleum equipment or engages in activities in the field of petroleum product sales, storage or transportation.

8.14. The person referred to in section 8.13 who applies for recognition must

(1) file an application with the Régie that contains the following:

(a) the person's name, home address, telephone number and membership number of the person's professional order or the person's temporary licence number; and

(b) the number of years of experience acquired in activities related to the fields referred to in section 8.13;

(2) pay the fees of \$500; and

(3) certify the accuracy of the information contained in the application.

8.15. The recognition of a person may be revoked by the Régie for the following reasons:

(1) the person no longer meets the conditions set out in section 8.13; or

(2) the person has been convicted of an offence under section 194 of the Building Act.

DIVISION VI GENERAL

8.16. Construction work carried out on a petroleum equipment installation must be carried out so as to ensure that the equipment provides, in normal conditions of use and when used as intended, satisfactory levels of performance while minimizing danger to the public.

8.17. A contractor or owner-builder must, during construction work,

(1) use construction procedures suitable for the work;

(2) use the materials, appliances, equipment or devices designed for that purpose; and

(3) take the necessary precautions to prevent a risk of explosion, fire, spillage or other accidents of that nature.

DIVISION VII SPECIAL PROVISIONS APPLICABLE TO PETROLEUM PRODUCTS

8.18. Petroleum equipment must

(1) be installed in such a way as to safely contain the petroleum products to be handled and to resist wear, normal handling, fire and shocks;

(2) be sufficiently leakproof to prevent the risk of explosion, fire, spillage or any other accident of that nature when used during construction work;

(3) be installed in such a way as to prevent anyone not authorized by the person responsible for the equipment from gaining access to the equipment and be protected from coming into contact with any object that could cause an accident;

(4) be installed and have the necessary protection devices to ensure the safety of the persons who have access to the equipment or who are supplied from it;

(5) be designed, erected, installed or placed so that maintenance, repair or demolition work may be carried out; and

(6) be designed for the use for which it is intended and to resist to the conditions of use to which it is submitted.

8.19. Petroleum equipment used to store a Class 1 petroleum product may not be installed in a heated room unless the room is heated by means of an appliance that has no ignition source.

8.20. Petroleum equipment used to store a Class 1 or Class 2 petroleum product may not be installed in a room housing an electrical appliance or a pump.

8.21. Subject to the provisions of this Chapter, construction work carried out on an aboveground tank used to store petroleum products inside a building must be carried out in compliance with the requirements of section 4.3. of the National Fire Code of Canada, published by the Canadian Commission on Building and Fire Codes of the National Research Council of Canada, and any construction work carried out on aboveground piping and other petroleum equipment connected to such a tank and situated inside a building must be carried out in compliance with the requirements of Part 4 of that Code.

The installation inside a building of petroleum equipment used to store and supply a generator engine or a heating oil system referred to in CSA Standard B139 Installation Code for Oil Burning Equipment, published by the Canadian Standards Association, must meet the requirements of that standard.

8.22. The erection or installation of an underground or aboveground storage tank, a petroleum products distributor and a pump or piping containing such products is prohibited less than 3 m from a vertical plane touching the closest outside wall of a subway works.

8.23. A contractor or owner-builder may not install an underground tank unless the underground tank has been approved under one of the following standards:

(1) ULC-S603 Steel Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada;

(2) ULC-S615 Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada; or

(3) ULC/ORD-C58.10 Jacketed Steel Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada.

The installation must also be carried out in compliance with the standard under which the tank has been approved.

8.24. A contractor or owner-builder may not install an aboveground tank unless the aboveground tank has been approved under one of the following standards:

(1) ULC-S601 Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada;

(2) CAN/ULC-S602 Aboveground Steel Tanks for the Storage of Combustible Liquids Intended to be used as Heating and/or Generator Fuels, published by Underwriters' Laboratories of Canada;

(3) ULC-S630 Shop Fabricated Steel Aboveground Vertical Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada;

(4) ULC-S643 Shop Fabricated Steel Aboveground Utility Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada;

(5) ULC-S653 Aboveground Steel Contained Tank Assemblies for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada;

(6) ULC-S655 Aboveground Protected Tank Assemblies for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada;

(7) ULC/ORD-C142.5 Concrete Encased Steel Aboveground Tanks Assemblies for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada;

(8) API-650 Welded Steel Tanks for Oil Storage, published by the American Petroleum Institute; or

(9) ULC/ORD-C142.18 Rectangular Steel Aboveground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada.

8.25. A contractor or owner-builder may install steel piping only if it meets the manufacturing requirements of one of the following standards:

(1) API-5L Line Pipe published by the American Petroleum Institute;

(2) ASTM-A53/A53M Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless, published by the American Society for Testing and Materials; or

(3) CSA-Z245.1 Steel Pipe, published by the Canadian Standards Association.

In addition, if service pressure exceeds 875 kPa, piping and fittings must meet the requirements of ASME Standard B31.3 Process Piping, published by the American Society of Mechanical Engineers.

8.26. A contractor or owner-builder may install copper piping only for fuel oil to supply a heating appliance, diesel fuel or biodiesel fuel to supply a generator engine. In addition, the piping must meet the requirements of CSA Standard B140.0 Oil Burning Equipment: General Requirements, published by the Canadian Standards Association.

8.27. A contractor or owner-builder may install non-metallic piping only if it meets the requirements of ULC/ORD Standard C971 Nonmetallic Underground Piping for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada. The piping must be installed so that there are no joints in the ground.

8.28. A contractor or owner-builder may install double-walled piping only if it meets the requirements of

(1) section 8.25, if it is steel;

(2) section 8.26, if it is copper; or

(3) section 8.27, if it is nonmetallic.

Such piping must be installed inside other piping that meets the requirements of section 8.25, 8.26 or 8.27, as the case may be.

It must also have an automatic leak detection system with a visual and audible alarm that meets the requirements of ULC/ORD Standard C107.12 Line Leak Detection Devices for Flammable Liquid Piping or ULC/ORD Standard C58.14 Non-Volumetric Leak Detection Devices for Underground Flammable Liquid Storage Tanks, published by Underwriters' Laboratories of Canada.

DIVISION VIII
SPECIAL PROVISIONS APPLYING TO HIGH-RISK
PETROLEUM EQUIPMENT

§1. Underground tanks

8.29. An underground tank must, to be installed,

(1) have a double wall and a capacity of more than 110,000 L;

(2) have, in its interstitial space, an automatic leak detection system with a visual and audible alarm manufactured under the requirements of ULC/ORD Standard C58.12 Leak Detection Devices (Volumetric Type) for Underground Flammable Liquid Storage Tanks or ULC/ORD Standard C58.14 Non-Volumetric Leak Detection Devices for Underground Flammable Liquid Storage Tanks, published by Underwriters' Laboratories of Canada;

(3) contain, in its interstitial space, where applicable, brine composed exclusively of calcium chloride with or without potassium chloride or sodium chloride where the respective concentration does not exceed 42%, 3% and 2%; and

(4) have any damage repaired, before the tank is backfilled, according to the manufacturer's specifications.

8.30. An underground tank must be installed

(1) at least 1 m from the foundations of any building;

(2) at least 1 m from any other tank;

(3) at least 1 m from the property line;

(4) at least 750 mm from the inner wall of the excavation; and

(5) in such manner that the loads carried by the foundations or the supports of a building cannot be transmitted to the tank; in addition, the soil must not be removed from the footing down to the bed of the excavation, in a 45° slope.

8.31. An underground tank likely to be subjected to overhead vehicular traffic must be sited

(1) at a depth not less than 1 m below ground level, be covered with not less than 900 mm of a backfill material referred to in section 8.33 and be covered with not less than 100 mm of bituminous concrete; or

(2) at a depth of not less than 450 mm, be covered with at least 300 mm of a backfill material referred to in section 8.33 and be covered with a reinforced concrete slab not less than 150 mm thick; the slab must also extend at least 300 mm horizontally beyond the perimeter of the tank.

8.32. An underground tank not to be subjected to overhead vehicular traffic must be sited

(1) at a depth of not less than 600 mm below ground level and be covered with a backfill material referred to in section 8.33; or

(2) at a depth of not less than 400 mm, be covered with a backfill material referred to in section 8.33 and be covered with a reinforced concrete slab at least 100 mm thick.

8.33. An underground tank must be installed on a backfill foundation at least 300 mm thick, that exceeds the tank's perimeter by at least 300 mm and is composed of one of the following materials:

(1) in the case of a fibreglass tank, pea gravel, rounded pea gravel between 3 and 20 mm or crushed stone at least 3 mm and not more than 13 mm; in addition, each material used must be clean and without dust, sand, debris, organic material, ice or snow so that not more than 3 % of its weight passes through a 2.5 mm sieve;

(2) in the case of a steel tank, clean or natural sand free of stones compacted to at least 90% of the optimal density of the modified proctor determined according to CAN/BNQ Standard 2501-255, Soils - Determination of the Water-Density Relation - Modified Effort Compaction Test (2700 kN.m/m³), published by the Bureau de normalisation du Québec, and be without stone, debris, organic material, ice or snow; or

(3) in the case of a jacketed steel underground tank, clean or natural sand free of stones compacted to at least 90% of the optimal density of the modified proctor determined according to CAN/BNQ Standard 2501-255, Soils - Determination of the Water-Density Relation - Modified Effort Compaction Test (2700 kN.m/m³), published by the Bureau de normalisation du Québec, and be without stone, debris, organic material, ice or snow, or pea gravel or rounded pea gravel between 3 and 20 mm.

The tank must be backfilled, as applicable, with the materials described in subparagraphs 1 to 3 of the first paragraph and be covered with a finishing grade layer not more than 300 mm thick.

8.34. An underground tank must be lowered into an excavation by the use of lifting lugs and hooks designed for that purpose or spreader bars, if required by the manufacturer's instructions; the use of chains or slings around the tank is prohibited.

8.35. After an underground tank has been set in the excavation, it must undergo the leak tests listed below that are to be conducted in compliance with the following requirements:

(1) for the inner wall of a tank,

(a) all the tank's caps must be removed and steel caps must be installed, after a joint compound or tape has been applied that meets the requirements of section 8.69;

(b) a safety valve set to a pressure of not more than 40 kPa capable of discharging the flow from the pressure source must be installed on a tank opening and its operation inspected before each test;

(c) the pressure inside the tank and in its interstitial space must be measured simultaneously using a pressure gauge calibrated in units of not more than 1 kPa;

(d) a pressure of at least 30 kPa and not more than 35 kPa must be created inside the tank; and

(e) the pressure in the interstitial space must remain stable;

(2) for the outer wall of a tank,

(a) the pressure inside the tank and in its interstitial space must be measured simultaneously using a pressure gauge calibrated in units of not more than 1 kPa;

(b) the pressure source must come from the inside part of the tank and be transferred into the interstitial space until it reaches a pressure of at least 30 kPa and not more than 35 kPa; a tank manufactured under ULC/ORD Standard C58.10 Jacketed Steel Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada, may be pressurized according to the manufacturer's instructions;

(c) it must be tested using leak detection fluid; and

(d) the interstitial space of a fibreglass tank must be inspected according to the manufacturer's recommendations.

During the tests, once the temperature has been stabilized and the pressure source removed, the pressure created must be maintained for at least one hour.

The pressure created in the interstitial space of the tank must be released before the pressure of the inner wall.

During each test period, the necessary inspections must be made to ensure the tests are properly conducted and to prevent accidents.

8.36. In the case of a tank with compartments, each compartment must be tested separately in accordance with section 8.35, not simultaneously and only if the adjacent compartment is not under pressure.

8.37. If the tank has already contained a petroleum product or other flammable product, the leak tests required by section 8.35 must be conducted using nitrogen.

8.38. The tests required by section 8.35 need not be conducted if the contractor or owner-builder

(1) ascertains that depressurization of at least 42 kPa created by the manufacturer in the interstitial space of the tank is maintained after it has been placed in the excavation; or

(2) has conducted a vacuum test on the interstitial space at a pressure of at least 42 kPa for at least one hour, if such a test is authorized by the manufacturer.

8.39. When leakage is detected during the leak tests, the tank must be repaired and subjected to a new test or be replaced.

8.40. A contractor or owner-builder may not use a petroleum product to ballast a tank unless the tank has a fill pipe and a vent line and all other openings have been plugged.

8.41. If the water table is reached during excavation work to install an underground tank, the contractor or owner-builder must comply with the following requirements:

(1) the up-lift stress of the tank must be calculated and a copy of the calculation must accompany the analysis documents and be sent to the owner to be filed in the petroleum equipment installation register that the owner must make available to the Régie in accordance with Chapter VI of the Safety Code made under the Building Act;

(2) the calculation must be based on the highest estimated water-level elevation;

(3) if the calculation indicates that the up-lift stress is such that an empty tank could be displaced, the tank must be anchored by anchor straps attached to a reinforced concrete slab or to anchor weights under the tank, by ground anchors or by use of a reinforced concrete slab above the tank;

(4) the size of the slab or anchors must be designed on the basis of the up-lift stress to which the empty tank will be submitted and in a manner to prevent it from lifting;

(5) the tank must be separated from a concrete slab or anchor weight by a layer at least 300 mm thick of a backfill material referred to in section 8.33;

(6) every anchor strap or ground anchor must be electrically insulated from the tank, be installed in such a manner that it does not damage the tank's protective coating, and be tightened by hand in the case of a strap; and

(7) the strength of the anchor straps and ground anchors must be determined on the basis of the factors mentioned in paragraph 4.

8.42. A contractor or owner-builder may not carry out construction work on a steel underground tank unless it is protected against corrosion using a method in either of the following documents:

(1) CAN/ULC Standard S603.1 External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada; or

(2) RP0619 Standard 2002 Control of External Corrosion on Underground or Submerged Metallic Piping Systems or RP0285 Standard 2002 Corrosion Control of Underground Storage Tank System by Cathodic Protection, published by NACE International, if the petroleum equipment installation is protected by an induced current system.

Despite the foregoing, a tank that meets the requirements of ULC/ORD Standard C58.10 Jacketed Steel Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada, need not be protected against corrosion.

8.43. Every excavation in which a tank is installed must have at least one observation well.

The observation well must consist of a perforated pipe at least 150 mm in diameter installed vertically, extending down 900 mm below the bottom of the tank,

and be accessible from the ground. The pipe must also be enclosed inside a permeable lining if it is buried in sand.

8.44. A contractor or owner-builder may not install

(1) a steel underground tank that has been removed from the ground, unless it has been approved in accordance with the requirements of the ULC-S603(A) Technical Supplement Document, Refurbishing of Steel Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada; or

(2) a fibreglass underground tank that has been removed from the ground, unless it has been approved in accordance with the requirements of the ULC-S615(A) Technical Supplement Document, Refurbishing of Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada.

8.45. If construction work consists in removing petroleum equipment from the ground, the contractor or owner-builder must, as the case may be,

(1) empty all petroleum product from the tank, piping and motor fuel dispensers, before their removal;

(2) remove the tank and piping from the ground and from the site along with the motor fuel dispenser connected to it, after purging the tank of all vapours until the flammable vapour concentration is less than 20 % of the lower explosive limit; or

(3) destroy the tank as provided by section 8.68 or have it approved as provided by section 8.44, in which case it must be purged of any vapour and its openings must be hermetically sealed other than a ventilation opening of at least 60 mm in diameter.

8.46. A contractor or owner-builder may not carry out alteration work to an underground tank that may be abandoned on site, unless the contractor or owner-builder has obtained the certificate of a person recognized under section 8.10, stating that

(1) removing the tank would jeopardize the integrity of the building's structure or of a part that is essential for the intended use of the building; or

(2) the machinery required for the removal of the tank cannot be taken onto the site.

The contractor or owner-builder must then

(1) remove all sludge from the tank so as to prevent any explosion and dispose of it in a tank or other closed container compatible with petroleum products;

(2) remove the piping from the ground;

(3) purge the tank of all vapours until the concentration is less than 10% of the lower explosive limit; and

(4) fill the tank with inert material such as sand, gravel or concrete and plug the openings.

§2. Aboveground tanks

8.47. An aboveground tank, a loading or unloading facility and metal piping installed on a tank must be protected against external corrosion by the use of paint, wrapping or coating.

8.48. Siting of an aboveground tank must conform to the requirements of the following Tables 2 and 3:

TABLE 2
SITING OF ABOVEGROUND TANKS

Tank capacity (Litres)	PRODUCT	Minimum distance, in metres, measured horizontally, between any point on outside tank shell and		
		Dike centre line when required by sections 8.60 and 8.61	Closest building*	Property line
2,000 to 5,000	Class 1	D	D	D
	Class 2 and Class 3	0.5	0.5	1.5
5,001 to 47,000	Class 1	D	D	D
	Class 2 and Class 3**	1.5	1.5	1.5
	Class 3 - flash point above 93.3 °C	0.5	0.5	1.5
47,001 to 200,000*	Class 1	D	D	D
	Class 2 and Class 3**	D	D	D
	Class 3 - flash point above 93.3 °C	1	1	D

Tank capacity (Litres)	PRODUCT	Minimum distance, in metres, measured horizontally, between any point on outside tank shell and		
		Dike centre line when required by sections 8.60 and 8.61	Closest building*	Property line
200,001 to 400,000	All	D	5	5
400,001 to 2,000,000	All	D	9	9
2,000,001 to 4,000,000	All	D	12	12
More than 4,000,000	All	D	15	15

D: The greater distance between 3 m and one-half tank height. Tank height is measured from the bottom of the diked area.

* For tanks installed inside a building, distance is measured from the tank shell to the walls and ceiling of the building housing them.

** Class 3 products with a flash point not above 93.3 °C.

TABLE 3
DISTANCES BETWEEN TWO ABOVEGROUND TANKS

Tank capacity	Minimum free distance
Tanks where none exceeds 230,000 L	1 m
Tanks of various capacities, one only exceeding 230,000 L	One-half of smallest tank diameter, but never less than 1 m
Tanks of equal capacity, each exceeding 230,000 L	One-half diameter of one tank
Tanks of various capacities, each exceeding 230,000 L	One-half diameter of smallest tank

8.49. Despite section 8.48, an aboveground tank used to store motor fuel in a motor fuel dispensing outlet situated in a designated location must be installed so that the tank and the end of the motor fuel dispensing hose are at all times at least 12 m from any building or property line.

8.50. An aboveground tank used to store and sell motor fuel that is installed in a designated location within the limits of a municipality must be protected by a fence that meets the requirements of section 8.217.

8.51. A contractor or owner-builder may not install

(1) an aboveground vertical tank, unless it rests on concrete or masonry foundations or on a bed of crushed stone, gravel, sand or a combination of those materials; or

(2) an aboveground horizontal tank, unless it sits above ground level on a support of concrete, masonry or steel coated with an anti-corrosive material.

8.52. A steel support on which an aboveground tank is installed must have a fire-resistance rating longer than 2 hours within the meaning of Chapter I, except for a steel stand if the lowest point of the tank supported by it is not more than 300 mm above ground.

8.53. A contractor or owner-builder may not install a vertical tank directly on the ground, unless the slope allows water to flow away from the base of the tank.

8.54. In areas subject to earthquake forces, a tank used to store petroleum products, its supports and connections must be designed to resist such forces in compliance with

(1) Part 4 of the Code referred to in Chapter I, as amended by Division III of that Chapter; and

(2) Appendix A of ULC Standard S630 Shop Fabricated Steel Aboveground Vertical Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada.

8.55. A contractor or owner-builder may not install an aboveground tank on a floodplain referred to in the Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains, adopted by Order in Council 468-2005 dated 18 May 2005, unless it is anchored to prevent floating.

8.56. A contractor or owner-builder may not install an aboveground tank, unless it is protected from vehicle impact.

8.57. A contractor or owner-builder may not install an aboveground tank that has piping or a fitting connected to it at a point below the highest level to which the petroleum product it contains may rise, unless the piping or fitting has a shut-off valve that meets the requirements of one of the standards referred to in section 8.115 and is located as near as is practicable to the shell of the tank.

8.58. A contractor or owner-builder may not install an aboveground tank used to store petroleum products, unless openings for gauging tanks have a vapour tight and lockable cover.

8.59. A contractor or owner-builder may not install an aboveground tank with a heating appliance, except if it has thermometers and thermostats so that the temperature of the product it contains is maintained at least 10 °C below the product's flash point.

8.60. A contractor or owner-builder may not install an aboveground tank used to store petroleum products, unless it has a dike to form a diked area around the aboveground tank or tank farm holding 5,000 L or more.

To that end, the diked area that protects

(1) one tank only must have a capacity sufficient to contain a volume of liquid at least 10% greater than the volume of the tank;

(2) several tanks must have a capacity sufficient to contain a volume of liquid at least equal to the volume of the greater of

(a) the capacity of the largest tank plus 10% of the aggregate capacity of all the other tanks; and

(b) the capacity of the largest tank plus 10%.

In calculating the capacity of the diked area, the volume of the part of the tanks situated below the top of the dike must be included.

8.61. The dike referred to in section 8.60 is not required for

(1) a tank with a capacity of 50,000 L or less that meets the following requirements:

(a) it has an overflow protection device that meets the requirements of ULC/ORD Standard C58.15 Overflow Protection Devices for Flammable Liquid Storage Tanks, published by Underwriters' Laboratories of Canada, and a containment device with a capacity of at least 15 L that meets the requirements of ULC/ORD Standard C142.19 Spill Containment Devices for Aboveground Flammable and Combustible Liquid Storage Tanks, published by Underwriters' Laboratories of Canada; and

(b) it meets one of the standards referred to in paragraphs 5 to 7 of section 8.24 or, in the case of a double-walled tank, one of the standards referred to in paragraphs 1 and 3 of that section; or

(2) a tank used to store Type No. 4, No. 5 or No. 6 fuel oil if it has a system capable in the event of leakage of containing or directing the product to a safe location.

8.62. A contractor or owner-builder may not construct a dike around an aboveground tank, unless it meets the following requirements:

(1) the dike must be of earthwork, steel, concrete or bonded masonry, be liquid-tight and be capable of withstanding a full hydrostatic head;

(2) the slope of the walls of the dike must be consistent with the angle of repose of the material used;

(3) the dike must not be higher than 1.8 m from the bottom of the diked area;

(4) the minimum distance between the dike centre line and the outer tank shell must meet the requirements of Table 2 of section 8.48; and

(5) the inner wall and the bottom of a diked area must be impermeable to petroleum products and, to that end, the impermeability must be ensured by

(a) a liner protected against loads and fire complying with ULC/ORD Standard C58.9 Secondary Containment Liners for Underground and Aboveground Flammable and Combustible Liquids Tanks, published by Underwriters' Laboratories of Canada;

(b) a compacted layer of homogeneous soil at least 3 m thick where the water permeability coefficient of the soil is equal to or less than 10^{-6} cm/s; and

(c) a construction consisting of concrete or other incombustible material, provided that the diked area is approved by an engineer who is a member of the Ordre des ingénieurs du Québec.

8.63. In the case of subparagraph *b* of paragraph 5 of section 8.62, the contractor or owner-builder must obtain a laboratory report attesting to the required permeability and thickness of the soil. A copy of the report must be sent to the owner of the tank to be filed in the register referred to in paragraph 1 of section 8.41.

8.64. A contractor or owner-builder may not install a tank used to store a Class 1 petroleum product, except if access to the roof of the tank and to the shut-off valve controls is situated higher than the height of the dike, the height of the dike exceeds 3.5 m and the distance between the tank and the top inside edge of the dike wall is lower than the height of the dike.

8.65. A contractor or owner-builder may not construct a diked area for an aboveground tank, unless

(1) the diked area has a drainage system such as a sump or a channel located at its lowest point and has a closed valve to drain the water;

(2) the control for the drainage system valve is accessible at all times;

(3) the bottom of the diked area has a uniform slope of at least 1% between any tank and the lowest point; and

(4) the diked area complies with paragraph *f* of section 4.3.2.3.2 of NFP Standard A30 Flammable and Combustible Liquids Code, published by the National Fire Protection Association, if it contains more than one tank.

8.66. If construction work consists in removing aboveground petroleum equipment, the contractor or owner-builder must

(1) drain petroleum products from tanks, piping, motor fuel dispensers and loading and unloading equipment before they are removed; and

(2) remove all tanks, piping, motor fuel dispensers, loading and unloading equipment and any leakage and spillage protection work from the site.

8.67. A contractor or owner-builder may not install an aboveground tank or aboveground piping that has already been used, unless the following requirements are met:

(1) the tank must be manufactured and approved in accordance with the provisions of section 8.24, and the plates identifying the manufacturer and the certification agency referred to in section 8.09 must be affixed to the tank and be legible;

(2) the tank must be cleaned, inspected and subjected to pneumatic leak testing with inert or hydrostatic gas in compliance with the standards prescribed in section 8.24, and be protected against external corrosion; and

(3) the piping must be cleaned, inspected and protected against external corrosion.

§3. Demolition work

8.68. A contractor or owner-builder may not demolish a tank unless the tank has been

(1) cleaned of any petroleum product residue; and

(2) purged of any vapour while ensuring that, during the demolition operation, the concentration of vapours is less than 10% of the lower explosive limit at all times.

The work must be carried out in such a manner as to render the tank unusable and to prevent any accumulation of flammable vapours. The work must in addition be carried out in a safe location where the public has no access, using the equipment necessary to recover all petroleum product residue; that location must also comply with the planning by-laws in force in the territory of the municipality where the work is carried out.

A contractor or owner-builder must in addition place petroleum product residue in a tank or other closed container compatible with petroleum products. The residue and materials from the dismantling must be shipped to a site authorized under the Environment Quality Act (R.S.Q., c. Q-2).

§4. Piping

8.69. The threaded joint in piping used to contain petroleum products must be made using a joint compound or polytetrafluoroethylene tape that meets the requirements of CAN/ULC Standard S642 Compounds and Tapes for Threaded Pipe Joints, published by Underwriters' Laboratories of Canada.

8.70. Piping used to contain petroleum products must be welded in compliance with API Standard 1104 Welding of Pipelines and Related Facilities, published by the American Petroleum Institute.

8.71. Except in the case of piping supplying a marina bulk plant, a contractor or owner-builder may install a petroleum equipment installation only if it has separate pipe lines for

- (1) unleaded regular or premium gasoline included in Class 1 petroleum products;
- (2) Class 1 petroleum products other than gasoline;
- (3) Class 2 petroleum products; and
- (4) Class 3 petroleum products.

8.72. A contractor or owner-builder may not install metallic piping on a petroleum equipment installation, including its couplings, flanges and bolts, unless it is protected against external corrosion.

8.73. A contractor or owner-builder may not install the transfer pump of a petroleum equipment installation able to create a pressure greater than that which the downstream piping components can withstand, unless the pump has a safety valve and a bypass.

8.74. A contractor or owner-builder may not use in construction work aboveground piping, valves, connections or any other material, unless they are suitable for the maximum pressure and temperature for proper operation and for the chemical properties of the liquid the piping is to contain.

The contractor or owner-builder also may not use material that cannot withstand internal stress or mechanical damage related to its use or a combustible or low-melting material subject to failure even in a light fire.

8.75. The underground piping of a petroleum equipment installation that is to pass through concrete must be installed in a sleeve to allow for expansion.

8.76. Aboveground piping that is to contain petroleum products must, to be used, have been designed to make provision for thermal expansion and contraction related to its use.

8.77. Piping that is to contain petroleum products must be installed to be accessible where it enters a building, and have inside and outside control valves.

8.78. Every underground part of piping that is to contain petroleum products must, to be used, have a double wall that meets the requirements of section 8.28 and be connected at its lowest point with a liquid-tight collector well.

The collector well must, in addition, have an automatic leak detection system with a visual and audible alarm that meets the requirements of section 8.28.

8.79. Construction work carried out on underground piping must, in addition to meeting the requirements of this Chapter, be carried out according to the manufacturer's instructions.

8.80. A joint at the point of connection of underground piping with a tank must be a swing joint or have an underground flexible connection, unless the piping is vertical at its point of connection to the tank over its entire length.

In addition, a swing joint or flexible connection must be connected at the base of each dispenser, at the connection of a submersible pump and the vertical portion of the vent.

Despite the foregoing, a swing joint is not required if the piping is flexible.

8.81. Piping connected to an underground tank that is to supply it must be connected at the top of the tank. The piping must also be free of pockets or traps allowing liquid to accumulate, and have a minimum 1% slope towards the tank.

8.82. Piping must be backfilled

(1) with clean or natural sand free of stones compacted mechanically on site in the case of steel piping;

(2) with crushed stone or pea gravel in the case of fibreglass piping; or

(3) according to the manufacturer's instructions in the case of flexible piping.

8.83. Underground piping must be backfilled with one of the materials referred to in section 8.82 in such manner that

(1) the piping is bedded on at least 150 mm of backfill;

(2) there is at least 150 mm of backfill measured horizontally between the piping and the excavation wall;

(3) the backfill between each pipe is at least twice as thick as the nominal diameter of the largest pipe; and

(4) the backfill above the piping is at least 450 mm deep including the finishing grade layer.

8.84. Underground piping must, before being connected to a tank, be subjected to a leak test conducted in compliance with the following requirements:

(1) for the inner wall,

(a) the ends of the pipes must be hermetically plugged;

(b) the pressure created inside the piping must be measured using a pressure gauge calibrated in units of not more than 10 kPa;

(c) air or nitrogen hydrostatic pressure of not less than 350 kPa and not more than 700 kPa must be applied; despite the foregoing, the suction piping that is to contain fuel oil or motor fuel to supply a generator engine and that is referred to in CSA Standard B139 Installation Code for Oil Burning Equipment, published by the Canadian Standards Association, may be vacuum tested under at least 68 kPa;

(d) each connection or accessible part of the piping must be tested before being backfilled, using leak detection fluid;

(e) once the temperature has been stabilized and the pressure source removed, the pressure created must be maintained for at least one hour; and

(f) if the piping is designed to be exclusively used as suction piping, it must be leak tested according to the manufacturer's instructions; and

(2) for the outer wall of double-walled piping, the leak test must be conducted according to the manufacturer's instructions.

8.85. Every connection to underground piping that has not been leak tested under section 8.84 must, after being connected to the tank, be subjected to an air leak test or nitrogen leak test conducted in compliance with the following requirements:

(1) a safety valve of not more than 40 kPa capable of discharging the flow from the pressure source must be installed and inspected before each test;

(2) the pressure created inside the tank and the piping must be measured using a pressure gauge calibrated in units of not more than 1 kPa;

(3) a pressure of not less than 30 kPa and not more than 35 kPa must be applied over the entire petroleum equipment installation being tested;

(4) all the connections between the tank and the piping must be leak tested with leak detection fluid while the entire installation is under pressure; and

(5) once the temperature has been stabilized and the pressure source removed, the pressure must be maintained for at least one hour.

8.86. Despite sections 8.84 and 8.85, air may not be used in a leak test for petroleum equipment that has already contained a petroleum product or that has not been purged of all petroleum product vapour.

8.87. If a leak test reveals leakage, all connections between the tank and the piping must be repaired or replaced and subjected to the tests referred to in sections 8.84 and 8.85.

8.88. Metal material that is to contain petroleum products and that is used during the installation, repair or alteration of underground piping, including galvanized steel piping, valves and underground metallic connections, must be new and protected against corrosion in compliance with Appendix A of CAN/ULC Standard S603.1 External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada.

Corrosion protection in compliance with that method is not required if the piping is used in a designated location for a period of less than two years.

8.89. Underground metallic piping installed during construction work must be installed with at least 2,000 kPa resistance screwed fittings or Schedule 40 welded fittings.

The use of tightened end joints or fully threaded joints for that purpose is prohibited.

8.90. A coupler used on underground piping must be a 2,000 kPa coupler designed for petroleum products.

8.91. A swing joint connected during construction work on threaded steel underground piping must be connected with two 90° elbows and a nipple.

For that purpose, the use of the following is prohibited:

- (1) a male-female elbow,
- (2) a close fully-threaded nipple, and
- (3) a 45° elbow.

8.92. Underground galvanized steel piping may not be welded during construction work.

8.93. Non-metallic piping used during construction work must be underground.

8.94. A swing joint connected during construction work on rigid non-metallic underground piping must have a 90° elbow that can be connected to the petroleum product extraction system, a 1.5 metre-long non-metallic nipple connected to another 90° elbow in turn connected to non-metallic piping at least 1.5 m in length, installed respecting that sequence.

That type of swing joint may not be connected at the base of a dispenser.

8.95. The tank of a petroleum equipment installation installed during construction work must have a vent.

The vent may not be connected to more than one tank unless it is of a diameter that allows the vapours from the various tanks to be purged without causing the allowable stress for each tank to be exceeded.

The vent on a tank that is to contain a Class 1 petroleum product may not be connected to the vent of a tank that is to contain a Class 2 or Class 3 petroleum product.

8.96. The vent referred to in section 8.95 must, in the case of a tank that is to contain a Class 1 or Class 2 petroleum product, have a weather-proof hood, and a flame arrester device in the case of a tank that is to contain a Class 1 petroleum product.

Such a device must not create additional resistance to the flow of gases.

The vent must also be connected to the top of the tank by means of piping with a minimum 1% slope towards the tank and the aboveground portion of the vent must be protected from vehicle impact.

8.97. The vent referred to in section 8.95 must be located outside a building and positioned in such a manner that flammable vapours cannot be drawn into the building.

The end must be

- (1) higher than the end of the fill pipe;
- (2) at a distance of not less than 3.5 m, in the case of a tank containing a Class 1 petroleum product, or 2 m in the case of a tank containing other petroleum products;
- (3) at a distance of not less than 1.5 m from any building opening in the case of a tank containing a Class 1 petroleum product, or not less than 600 mm in the case of a tank containing other petroleum products; and
- (4) at a distance of not less than 7.5 m from any dispenser, in the case of an underground tank containing gasoline.

8.98. Vent piping for an underground tank must have a cross-sectional area sufficient to allow filling or withdrawal at the maximum rate without causing the allowable stress for the tank to be exceeded.

8.99. Vent piping for an underground tank must be installed so that it is free from any device likely to cause back pressure exceeding the allowable stress for the tank.

In the case of an underground tank to be used to store a Class 2 or Class 3 petroleum product, vent piping may be fitted with return bends, coarse screens or other devices designed to minimize the entry of material.

8.100. The minimum diameter of the vent referred to in section 8.99 must respect the values in the following Table 4 if the vent piping does not have more than 7 elbows; in other cases, the diameter must exceed the values so that the allowable stress for the tank is not exceeded.

TABLE 4
VENT DIAMETERS (mm)

Maximum flow rate (L/min)	Pipe length		
	15 m	30 m	60 m
380	32	32	32
760	32	32	32
1,140	32	32	38
1,520	32	38	50
1,900	32	38	50
2,280	38	50	50
2,660	50	50	50
3,040	50	50	75
3,420	50	50	75
3,800	50	50	75

N. B.: Vent size is based on the highest filling or emptying flow rate.

8.101. The vent referred to in section 8.99 may not extend more than 25 mm inside an underground tank, unless it has an alarm.

8.102. A contractor or owner-builder may not install an aboveground tank unless it has safety venting that meets API Standard 2000 Venting Atmospheric and Low Pressure Storage Tanks: Nonrefrigerated and Refrigerated, published by the American Petroleum Institute or one of the construction standards referred to in section 8.24.

8.103. A contractor or owner-builder may not install, in a petroleum equipment installation, aboveground piping that crosses a road, public road or public service installation, unless the piping meets the requirements of CAN/CSA Standard Z662 Oil and Gas Pipeline Systems, published by the Canadian Standards Association.

8.104. An aboveground piping system installed on a petroleum equipment installation must have bypasses or safety valves capable of preventing over-pressurization.

8.105. Aboveground piping used during construction work must have been designed and installed so that petroleum product velocity in the piping does not exceed 2.5 m/s, unless the piping is directly connected to a marine wharf.

In addition, insulation wrapping on aboveground piping must be non-combustible and, if inside a building, must meet the requirements of Chapter I.

8.106. Aboveground piping that is to contain petroleum products, the piping valves and fill pipe of a petroleum equipment installation installed during construc-

tion work must display permanent identification of contents in compliance with the document entitled "Colour-Symbol System to Mark Equipment and Vehicles for Product Identification", published by the Canadian Petroleum Products Institute.

In addition, the piping may not be red in colour.

8.107. Flanged joints for aboveground piping must be provided in welded systems at intervals that will facilitate dismantling and avoid subsequent in-place cutting and welding operations.

Flanged joints must be made with forged or cast steel flanges designed, manufactured and installed in compliance with ASME Standard B16.5 Pipe Flanges and Flanged Fittings, published by the American Society of Mechanical Engineers; bronze flanges may be used on copper or brass piping not exceeding 50 mm in diameter.

8.108. Only welded, screwed or flanged connections may be installed on piping inside a tank dike.

8.109. Bolting materials for flanged connections installed on piping that is to contain petroleum products must be of alloy steel corresponding to Grade B-7 in ASTM Standard A193/A193M, Alloy-Steel and Stainless Steel Bolting Materials for High Temperature or High Pressure Service and Other Purpose Applications, published by the American Society for Testing and Materials.

Gaskets in flanged connections must be of a material resistant to the liquid contained in the piping and capable of withstanding temperatures of at least 650 °C without damage.

8.110. At the time of installation, aboveground piping must be subjected to a leak detection test conducted in compliance with the following requirements:

(1) a test pressure of not less than 350 kPa, or 1 1/2 times the maximum operating pressure that may be produced within the piping, whichever is greater, must be created within the piping;

(2) the piping system and its joints must be inspected with leak detection fluid;

(3) the pressure created in the piping must be measured using a pressure gauge calibrated in units of not more than 4 kPa for gauge pressure equal to or less than 700 kPa and in units not greater than 1% of the test pressure, if it exceeds 700 kPa and the piping system is designed for such pressures.

If test pressures exceed the design pressures for pumps or similar components in the piping system, the pumps or components need not be pressure tested.

8.111. Aboveground piping containing petroleum products and installed within a building must be as short and direct as practicable.

8.112. Aboveground piping must be installed in such manner as to reduce vibrations and stress to a minimum and not come directly into contact with the ground.

The use of expansion shields to suspend aboveground piping is prohibited in lightweight concrete or gypsum assemblies.

Aboveground piping must also be protected by barriers in areas subject to vehicle impact.

8.113. The installation of the following is prohibited:

(1) aboveground outdoor piping on walls unless the walls are of non-combustible construction;

(2) outdoor piping above windows;

(3) outdoor piping above roofs, except roofs that are non-combustible and impermeable to petroleum products with provision for the collection of spillage to prevent a fire; and

(4) piping containing petroleum products in service tunnels used for pedestrian traffic other than tunnels reserved for maintenance personnel.

8.114. Aboveground indoor piping containing petroleum products must be supported overhead or be located in a trench; it must not be installed under combustible flooring.

The trench referred to in the first paragraph must have trapped drains or positive ventilation to the outdoors preventing the accumulation of flammable vapours.

The aboveground piping must be located close to the ceiling or beams, or along walls not less than 1.8 m above the floor, subject to section 3.3.1.8 of the Code referred to in Chapter I, as amended by Division III of that Chapter.

8.115. A contractor or owner-builder may not install valves or safety valves in aboveground piping that is to carry petroleum products, unless they meet the manufacturing specifications in either of the following standards: ULC/ORD-C842 Guide for the Investigation of Valves for Flammable and Combustible Liquids or

ULC-S651 Emergency Valves for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada.

8.116. A shut-off valve must be installed on the aboveground piping of a petroleum equipment installation at the following locations:

(1) at connections of the piping to aboveground tanks;

(2) on supply piping where it enters buildings or any other works or place immediately accessible from the outside of the buildings or works;

(3) on branch lines from the main supply line;

(4) on supply lines at petroleum products dispensing locations;

(5) at connections of meters or air bleeder valves; and

(6) at connections of pumps.

8.117. Diaphragm valves must have no direct connections to aboveground piping between the liquid and air section.

8.118. Globe valves installed on aboveground piping must be arranged so that the packing is on the low pressure side.

8.119. Rising stem or other indicating-type valves must be used to determine whether the valves are open or shut.

8.120. Cast-iron meters installed on aboveground piping must have steel valves on each side.

8.121. Valves installed on aboveground piping must be identified in compliance with section 8.106.

8.122. Water bleed valves installed on aboveground tanks must be made of steel and protected from impact if the valves are outside the aboveground tanks.

8.123. Heating equipment for aboveground piping containing petroleum products that is installed on a petroleum equipment installation must be designed not to overheat or create an ignition source for the liquids being heated.

For that purpose, the heating equipment may consist of

(1) steam lines if

(a) the minimum steam temperature and pressure to make the liquid fluid are used;

(b) a pressure regulator is provided on the steam line with a relief valve on the downstream side of the regulator; and

(c) the steam lines and piping are insulated in compliance with the requirements of Chapter I;

(2) a set of electrical heating cables; and

(3) low-voltage alternating current passing through the piping provided that

(a) the heated sections of piping are isolated from the unheated sections by non-conductive material; and

(b) all piping and fittings are enclosed by insulating coverings that prevent accidental grounding of the heating equipment.

8.124. The intake end of a fill pipe or gauge pipe of an underground tank must be

(1) located outside a building, more than 1.5 m from any building opening and in a place free of any ignition source;

(2) located not less than 600 mm from any building opening in the case of a tank containing motor fuel as a Class 2 petroleum product and that supplies a generator engine or in the case of a fuel oil tank supplying heating equipment; and

(3) capable of filling a tank containing motor fuel on land not forming part of a public road within the meaning of the second paragraph of section 66 of the Municipal Powers Act (R.S.Q., c. C-47.1).

8.125. A remote intake end of a fill pipe referred to in section 8.124 from an underground tank must be located lower than other outlets from the tank, unless the tank

(1) is a tank with an overfill protection device that meets ULC/ORD Standard C58.15 Overfill Protection Devices for Flammable Liquid Storage Tanks, published by Underwriters' Laboratories of Canada, adapted so as to include in the tank the volume of petroleum product that could be contained in the fill pipe without exceeding the maximum filling level of the tank as specified in the Standard; or

(2) is a tank with a backflow device inside the piping connected to other openings.

8.126. A fill pipe installed on an underground tank must be connected to the top part of the tank.

8.127. A contractor or owner-builder may not install an underground tank that is to contain motor fuel, except a tank that is to supply a generator engine, unless the tank has an overfill protection device that meets the requirements of ULC/ORD Standard C58.15 Overfill Protection Devices for Flammable Liquid Storage Tanks and a spill containment device that meets the requirements of ULC/ORD Standard C58.19 Spill Containment Devices for Underground Flammable Liquid Storage Tanks, published by Underwriters' Laboratories of Canada.

8.128. The intake end of a fill pipe or gauge pipe installed on an underground tank must have a tight-fitting cap.

It must also be protected against vehicle impact by at least one barrier if the pipe extends above ground level.

If the intake end of a fill pipe or gauge pipe is below or at ground level, it must be protected by a box with a cover made of metal or concrete that prevents any transmission of surface loads to the tank.

8.129. A fill pipe installed on a tank that is to store motor fuel, except a fill pipe installed on a tank connected to a generator engine that is to use diesel fuel or biodiesel fuel, must extend to not more than 200 mm from the bottom of the tank and be fixed in such a way as to minimize vibration.

8.130. If a petroleum equipment installation is altered to replace an underground tank, steel piping that is not protected against corrosion and connected to the tank must be removed from the ground, unless it is subjected to a leak detection test that meets the requirements of the second paragraph indicating that it is liquid-tight and protected against corrosion in compliance with RP0169-2002 Control of External Corrosion on Underground or Submerged Metallic Piping Systems or RP0285-2002 Corrosion Control of Underground Storage Tank System by Cathodic Protection, published by NACE International.

The leak detection test must be conducted using a hydrostatic or vacuum method capable of detecting leaks of 1.2 L/h with a 95% probable success rate and a margin of error of no more than 5%, or using any other method capable of detecting leaks of 0.76 L/h, with the same probabilities, with the exception of pneumatic tests using gas, in the case of tanks except observation well surveillance systems. The methods must in addition meet the requirements of one of the following standards: EPA

530/UST-90/004 Standard Test Procedures for Evaluating Leak Detection Methods: Volumetric Tank Tightness Testing Methods, EPA 530/UST-90/007 Standard Test Procedures for Evaluating Leak Detection Methods: Statistical Inventory Reconciliation Methods, published by the Environmental Protection Agency.

§5. *Maintenance work*

8.131. Construction work carried out on piping for a petroleum equipment installation must be carried out only when it is not under pressure.

8.132. The piping for a petroleum equipment installation must be drained before being dismantled.

8.133. The ambient air must be tested with a flammable vapour indicator before cutting or welding work on a petroleum equipment installation to ensure that no explosive concentration is present.

Two portable extinguishers having a minimum rating of 20-B: C must also be available on the work site while the work is being carried out.

DIVISION IX

PROVISIONS APPLICABLE TO MOTOR FUEL DISPENSING OUTLETS AND SERVICE CENTRES

§1. *General*

8.134. A sign must be posted indicating the operating instructions of a self-serve facility.

In the case of an unattended self-serve facility, a service station or a motor fuel dispensing outlet where an attendant dispenses motor fuel to a vehicle, a sign must be posted indicating the operating instructions of every pump island if the dispensing outlet has more than one pump island.

Every pump island must also have a sign at least 100 mm in height by 180 mm in width visible from the fuelling area and displaying

(1) the words: “DÉFENSE DE FUMER” and “ARRÊTEZ LE MOTEUR AVANT LE REMPLISSAGE” in letters at least 25 mm in height; or

(2) the pictograms as illustrated in Schedule I.

8.135. Dispensing outlets in an installation dispensing a petroleum product must be clearly legible and indicate the type of motor fuel dispensed.

8.136. The intake end of a fill pipe installed on a tank storing motor fuel must have a tight-fitting device that prevents opening by a person who is not authorized by the person responsible for the equipment.

8.137. The fuelling area of an installation dispensing motor fuel must be lighted to the intensity of at least 50 lx or 5 W/m² for incandescent lighting.

8.138. The total capacity of all underground tanks in a motor fuel dispensing outlet may not exceed 250,000 L.

8.139. Aboveground tanks that are to store motor fuel may be installed only for the supply of

(1) a vehicle in a designated location that is not within the limits of a municipality;

(2) an all-terrain vehicle, a snowmobile or any other vehicle of the same kind;

(3) a vehicle in a user outlet;

(4) an aircraft or a water craft; or

(5) a vehicle in a territory north of the 50th parallel of north latitude and east of the 63rd meridian, or north of the 53rd parallel of north latitude.

An outside aboveground tank in a motor fuel dispensing outlet must have a capacity of not more than 50,000 L and the aggregate capacity of all tanks in the outlet may not exceed 150,000 L.

8.140. A booth erected in a motor fuel dispensing outlet must be made of materials that do not sustain a flame and provide an unobstructed view from inside the booth at all times of the interior surroundings and of the fuelling areas in their entirety.

No combustion heating appliance may be located in a booth.

8.141. A contractor or owner-builder may not install a Class 1 or Class 2 petroleum product motor fuel dispenser unless it meets the requirements of CSA Standard B346 Power-Operated Dispensing Devices for Flammable Liquids, published by the Canadian Standards Association.

8.142. A motor fuel dispenser in a motor fuel dispensing outlet must be situated on an island at least 100 mm high, made of concrete or other non-combustible material or be protected from vehicle impact by barriers; that requirement does not apply to a dispenser fixed on an aboveground tank.

8.143. A contractor or owner-builder may not install a pump island, unless it has, for each dispenser, a dispenser sump that meets the requirements of ULC/ORD Standard C107.21 Under-Dispenser Sumps or ULC Standard S653 Aboveground Steel Contained Tank Assemblies for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada; that requirement does not apply to a pump island on a floating wharf.

8.144. The fuelling area in a motor fuel dispensing outlet must be impermeable to petroleum products over a surface extending at least 3 m in front and 1.5 m to the sides of each motor fuel dispenser measured from the centre of the dispenser. Despite the foregoing, that requirement does not apply to a fuelling area

- (1) for off-highway vehicles or farm equipment;
- (2) to be used for a single period of less than one year;
- (3) situated in a designated location; or
- (4) the tanks of which have a capacity lower than 2,500 L.

The impermeability referred to in the first paragraph may be obtained using a reinforced concrete apron or an asphalt layer treated to make it resistant and impermeable to petroleum products.

8.145. A dispenser installed or altered in a motor fuel dispensing outlet must comply with the clearances in the following Table 5:

TABLE 5
Dispenser clearances (m)

	Dispenser outlet	Unattended self-serve facility	Marina outlet	User outlet	Airport outlet
From a building except a booth	4.5 ⁽²⁾	6 ⁽³⁾	5	1 ⁽⁴⁾	15
From the property lines	4.5 ⁽²⁾	6 ⁽³⁾	4.5 ⁽²⁾	4.5 ⁽⁴⁾	15
From a stationary ignition source	6 ⁽¹⁾	6 ⁽¹⁾	8	7.5 ⁽⁴⁾	6 ⁽¹⁾
From a building opening other than a booth opening	—	—	—	4.5 ⁽⁴⁾	—
From a dock, wharf, pier or pontoon or approach thereto	—	—	5	—	5

⁽¹⁾ Applies only to a Class 1 petroleum product fuel dispenser.

⁽²⁾ If a petroleum product installation is altered, a dispenser installed before 1973 need not be relocated or may be replaced by another dispenser at the same place if it has the same number of dispensing hoses and dispenses the same number of products. In the case of a marina outlet, the shore is not to be considered a property line.

⁽³⁾ If a petroleum product installation is altered, a dispenser installed before 19 May 1984 need not be relocated or may be replaced by another dispenser at the same place if it has the same number of dispensing hoses and dispenses the same number of products.

⁽⁴⁾ If a petroleum product installation is altered, a dispenser installed before 11 July 1991 need not be relocated or may be replaced by another dispenser at the same place if it has the same number of dispensing hoses and dispenses the same number of products.

In addition, the clearances must be increased, if necessary, so that any vehicle to be fuelled from that dispenser is completely within the property lines of the place where the dispenser is located.

8.146. A clearly identified and accessible emergency shut-off switch must be located away from any motor fuel dispenser at a distance not exceeding 25 m.

8.147. A motor fuel dispenser may be installed inside a building if the product it dispenses is a Class 2 or Class 3 liquid provided that

- (1) the building is not accessible to the public;
- (2) the dispenser is on the first storey;
- (3) the ventilation of the building meets the requirements of Part 6 of Chapter I; and
- (4) a drainage system is installed for petroleum products that may be spilled.

8.148. The pumps of a motor fuel dispenser installed or altered in a motor fuel dispensing outlet must have a mechanism that will prevent the dispenser pump from operating until a dispensing nozzle has been removed from its housing if the pump has been hand-activated, and that will shut off the pump when all nozzles have been reinserted in their housing; if the pump is connected to a satellite dispenser, it must also have a mechanism that prevents simultaneous dispensing of motor fuel.

The first paragraph does not apply to a dispenser that has a coiling mechanism.

8.149. If a submersible pump is installed in a motor fuel dispensing outlet, the dispenser must have a fusible safety valve set not higher than 70 °C, firmly attached to the pump island and meeting the requirements of ULC Standard S651 Emergency Valves for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada.

That requirement also applies to a tank installed or altered at a level higher than the base of a motor fuel dispenser. If it is an aboveground tank, it must have a mechanical or electrical anti-siphon valve installed where the piping connects to the tank. The safety valve must also be installed so that the shear point is situated in the zone extending 25 mm below the base of a motor fuel dispenser to 13 mm above the base.

8.150. The pump referred to in section 8.149 must have a leak detector device that, if the circumstances require, prevents the pump from operating.

8.151. The pumps of a motor fuel dispenser installed in a motor fuel dispensing outlet must have a control device to prevent the pressure created from exceeding the allowable stress limit.

8.152. The pit for a submersible pump or the piping of a submersible pump in a motor fuel dispensing outlet must be enclosed in a liquid-tight casing resistant to petroleum products. The casing must also be covered and installed in such a manner as to prevent external loads being transmitted to the tank or piping.

The pit must be large enough to enable the pump to be inspected and serviced.

8.153. The dispensing nozzle on a dispenser hose in a motor fuel dispensing outlet must have

- (1) an automatic shut-off device if it dispenses a Class 1 or Class 2 petroleum product motor fuel, except in the case of an airport outlet; and
- (2) a rubber anti-splash collar.

The installation of a dispensing nozzle with a latch-open device at a self-serve facility, an airport outlet or a marina outlet is prohibited.

8.154. A contractor or owner-builder may not install a dispensing nozzle on a motor fuel dispenser hose unless the nozzle meets the requirements of CAN/ULC Standard S620 Hose Nozzle Valves for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada, or is of a type used for aviation fuel, at an airport outlet.

8.155. A contractor or owner-builder may not install on a motor fuel dispenser a hose that dispenses a Class 1 or Class 2 petroleum product unless the hose meets the requirements of CAN/ULC Standard S612 Hose for Flammable and Combustible Liquids, published by Underwriters' Laboratories of Canada, or is a type used for aviation fuel, at an airport outlet. The dispenser must also be designed so that a person fuelling a vehicle activates the dispensing nozzle manually.

8.156. A hose on a motor fuel dispenser must be no longer than

- (1) 5 m; it may however be 6 m long if it has a retracting mechanism;
- (2) 6 m for an unattended self-serve facility; it may however be 7.5 m long if it has a retracting or coiling mechanism; or

(3) 7.5 m for an airport outlet, a user outlet or a marina outlet if it has a retracting mechanism; that requirement does not apply to a hose with a coiling mechanism.

§2. *Service stations and service centres*

8.157. Petroleum equipment may be installed in or near a building housing a service station or service centre if

(1) the hazardous areas listed in Schedule II are separated from any room housing a solid or liquid fuel or gas heating appliance by walls having a fire-resistance rating of at least one hour within the meaning of Chapter I;

(2) the room containing such heating appliance

(a) does not have an opening less than 2.5 m from the floor; or

(b) is not used to store a Class 1 or Class 2 petroleum product or as a service area where work on the fuel supply system of internal combustion engines or any dispensing, transferring or handling of Class 1 petroleum products is being performed; the bottom of the combustion chamber must be at least 500 mm above the floor and the heating appliance must be protected from impact;

(3) the combustion air necessary for the appliance comes from outside the building;

(4) the return air intake of a forced-air heating appliance is at least 1.25 m from the floor if it is located in a room listed as a hazardous area in Schedule II; and

(5) the burner and combustion chamber of the equipment are at least 2.5 m from the floor, in an area used for dispensing, transferring or handling Class 1 petroleum products.

§3. *Self-serve facilities*

8.158. Every motor fuel dispenser in a self-serve facility must have a remote on and off control of a console type located within a building.

8.159. The console referred to in section 8.158 must

(1) house the on and off controls of not more than 12 motor fuel dispensers;

(2) allow not more than eight dispenser nozzles to be used simultaneously; and

(3) have an emergency master control that shuts off the dispensing of motor fuel to all dispensers simultaneously.

8.160. The console referred to in section 8.158 must be located at a distance that is

(1) not more than 25 m from the motor fuel dispenser; or

(2) not more than 35 m from the motor fuel dispenser if the attendant is able to monitor from the work station the use of the dispenser using a camera and screen electrically interlocked with the dispenser.

8.161. A pump island in a self-serve facility must have a two-way communication system between the attendant and the consumer.

8.162. The location of motor fuel dispensers referred to in section 8.158 must be within a 160° visual field from the console.

A dispenser not intended to be operated as a self-serve facility must not be located between the console and a self-serve dispenser.

An unattended motor fuel dispenser in a self-serve facility must be located on the island farthest from the console.

8.163. Signs posted in a self-serve facility must direct all heavy vehicles likely to block the line of vision of an attendant to refuel at the island farthest from the console.

8.164. The siting of a pump island in a self-serve facility must allow an attendant to monitor, from the work station, the use of the dispensing nozzles, unless the island has mirrors or cameras and a screen for that purpose.

§4. *Unattended self-serve facilities*

8.165. A sign at least 5 mm high stating the procedure to follow in the event of fire or a fuel spill must be conspicuously posted in the fuelling area in an unattended self-serve facility.

8.166. The fuelling area referred to in section 8.165 must have a drainage system able to collect motor fuel in that area in the event of a leak or spill.

The drainage system must consist of a concrete apron having a minimum 1% slope away from the pump island, an oil separator and a drain connecting the apron and the separator.

The oil separator must be of a capacity sufficient to accept rainwater flow from the apron and flow from the motor fuel dispenser having the greatest flow.

8.167. A coin, card or key-activated motor fuel dispenser that enables fuelling without the intervention of an attendant may be installed only in an unattended self-serve facility.

The flow of the unattended motor fuel dispenser must not exceed 70 L/min for motor fuel that is a Class 1 petroleum product or 180 L/min for motor fuel that is a Class 2 petroleum product.

The pump for such a dispenser must shut off automatically after 5 minutes of operation for motor fuel that is a Class 1 petroleum product and after 10 minutes for motor fuel that is a Class 2 petroleum product.

8.168. An unattended motor fuel dispenser situated near a bulk plant must be located at a distance that is

- (1) not less than 6 m from the fenced area of the bulk plant;
- (2) not less than 30 m from an aboveground tank; and
- (3) not less than 15 m from the loading and unloading facilities of the bulk plant.

§5. *Marina outlets*

8.169. A motor fuel dispenser in a marina outlet and the piping installed on a dock, wharf, pier or pontoon must be protected, where applicable, from impact such as impact from a water craft or seaplane.

8.170. The piping of a tank installed at an elevation above the base of the motor fuel dispenser must have a solenoid check valve at the tank outlet that is designed to open only when the dispenser is being operated.

If the piping is connected to a submersible pump with a leak detection system, the solenoid check valve must be installed between the tank and the leak detection system.

8.171. Every motor fuel dispenser in a marina outlet must have a safety valve that meets the requirements of section 8.149.

8.172. A tank that is to store motor fuel must be situated not less than 4.5 m from the average annual high-water mark within the meaning of the Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains.

8.173. An underground tank installed at a marina outlet must have an observation well situated between the outlet and the shore and extend 900 mm below the low water line.

8.174. A tank that is to store motor fuel for trade purposes may not be installed aboveground unless it is surrounded by a dike and a fence that meet, where applicable, the requirements of sections 8.61 to 8.63, paragraphs 1 and 3 of section 8.65 and paragraphs 1 and 2 of section 8.217.

8.175. Piping installed on a dock, wharf, pier or pontoon must have two accessible shut-off valves designed to stop the supply of motor fuel from the shore. One of the valves must be located less than 350 mm from the edge of the dock, wharf, pier or pontoon, and the second valve must be located less than 350 mm from the connection with the dispenser.

8.176. Piping installed between the shore and piers or wharves must be provided with swing joints or flexible connections to enable the pier or wharf and shore piping to move independently without strain on the piping.

8.177. A motor fuel dispenser installation for a marina outlet must be installed

- (1) on the shore; or
- (2) on a dock, wharf, pier or pontoon.

A motor fuel dispenser must, if installed on a floating pontoon, be as close as practicable to the shore so that the piping installed above the water is as short as practicable.

§6. *Airport outlets*

8.178. An airport outlet tank that is to store aviation fuel must be installed in compliance with the following requirements:

- (1) it must have a manhole;
- (2) all its metallic components must be bonded and grounded in accordance with Chapter V if the tank is fibreglass;

(3) it must have a 1% slope if it is a horizontal tank;

(4) it must have a water draw-off device located at the lowest point on the tank; and

(5) it must have a floating suction system, if it is to store aviation turbine fuel.

8.179. The use of galvanized steel piping that is to contain aviation fuel during construction work is prohibited.

8.180. Piping installed downstream of the filter must be of a non-corrosive material that is

- (1) aluminum alloy;
- (2) reinforced glass fibre;
- (3) stainless steel; or
- (4) flexible hosing.

8.181. A contractor or owner-builder may not install tanks to store aviation fuel included in petroleum products of various classes, unless the dispensers have grade selective nozzle spouts that meet the requirements of SAE AS Standard 1852 Nozzles and Ports-Gravity Fueling Interface Standard for Civil Aircraft, published by the Society of Automotive Engineers.

8.182. An aboveground tank must be sited so that the distance between the dike centre line and the airport complex is not less than 45 m.

In the case of double-walled tanks or contained tank assemblies, that distance must be measured between the outer tank shell or secondary containment and airport complex.

8.183. A fill pipe installed on a tank that is to store aviation fuel must have a line strainer fitted with No. 40 or the equivalent of a No. 40 mesh basket; a line strainer with a No. 60 mesh basket must also be installed on the upstream side of each meter, pump and piece of equipment requiring a line strainer.

8.184. A petroleum equipment installation dispensing aviation fuel in an airport outlet must have a filtering system comprising at least one of the following:

- (1) a 5 µm filter;
- (2) a 15 P.P.M. water separator filter; or
- (3) a filter monitor.

8.185. An installation dispensing aviation fuel that is at a height exceeding 1.6 m must have an obstacle light.

8.186. An installation dispensing aviation fuel in an airport outlet must have a ground conforming to the requirements of Chapter V.

8.187. A sign that indicates, for fuelling personnel, the operating procedure for petroleum equipment dispensing aviation fuel and the testing procedures that must be conducted for that purpose must be posted in the airport outlet.

8.188. Piping containing petroleum products installed in an airport outlet must be marked in compliance with API Standard 1542 Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fuelling Equipment, published by the American Petroleum Institute.

8.189. An aviation fuel dispenser installed in an airport outlet must be marked in compliance with the standard referred to in section 8.188. The lettering must be at least 80 mm in height.

8.190. The requirements of sections 8.169 to 8.172 and those of sections 8.174, 8.175 and 8.177 also apply to an airport outlet from which an aircraft is fuelled on a body of water.

§7. *User outlets*

8.191. The flow of a motor fuel dispenser in a user outlet must be not more than 70 L/min for motor fuel that is a Class 1 petroleum product and not more than 180 L/min for motor fuel that is a Class 2 petroleum product.

DIVISION X PROVISIONS APPLICABLE TO BULK PLANTS

§1. *General*

8.192. A bulk plant on an area subject to a 20-year flood event as determined in the land use planning and development plans or in an interim control by-law, adopted under the Act respecting land use planning and development (R.S.Q., c. A-19.1), must meet the following requirements:

- (1) each aboveground tank in the bulk plant must be installed in such a manner that the bottom is above the high-water mark; and
- (2) a source of water must be available for tank ballast.

8.193. A gate and a loading and unloading ramp installed in a bulk plant and any place where petroleum equipment may cause the presence of flammable vapours must have a sign reading “DÉFENSE DE FUMER” or a pictogram similar to that appearing in Schedule I.

8.194. A valve of an aboveground line connected to a tank, the end of a petroleum product line and a fill pipe must be identified in compliance with the document entitled “Colour-Symbol System to Mark Equipment and Vehicles for Product Identification”, published by the Canadian Petroleum Products Institute.

§2. Loading and unloading facilities

8.195. A facility for loading and unloading petroleum products in a bulk plant must be sited

(1) in the case of a Class 1 petroleum product, at a distance of more than 8 m from any aboveground tank, building or property line where the facility is located; or

(2) in the case of a Class 2 or Class 3 petroleum product, at a distance of more than 5 m from any aboveground tank, building or property line where the facility is located.

The distance must be calculated from the down tube of a loading arm extending into the tank truck or from the connection of the tank truck when it is filled by bottom loading and the shelter for personnel and pumps must be considered integral parts of the facility.

8.196. At a loading or unloading facility for tank cars, the minimum distance from any railway line must be in conformance with General Order No. 0-32, Flammable Liquids Bulk Storage Regulations, published by Transport Canada.

8.197. Combustible material must be at a distance of not less than 5 m from the loading and unloading facilities and from the fill and gauge pipes erected or installed in a bulk plant.

8.198. The vent of a tank storing a Class 1 petroleum product in a bulk plant must be installed at a distance of not less than 8 m from the loading and unloading facility and from a parking area.

8.199. The loading or unloading ramp and every tank in a bulk plant must be situated at a distance of not less than 40 m from the fire station of the bulk plant.

The ramp must be of metal or concrete.

8.200. The loading arm on a facility for unloading a tank truck or a tank car through the manhole must be long enough to extend down not less than 200 mm from the bottom of the cargo tank and have a valve that must be held open manually.

8.201. Piping on a facility for unloading a tank truck or a tank car by means of a pump must have a soft-seat check valve.

8.202. The fill pipe on the tank of a facility used to store petroleum products must have a tight-fill connection using a hose.

8.203. The hose on a facility dispensing petroleum products in a container of not more than 225 L designed to be moved must have a delivery nozzle of non-magnetic material provided with a manual trigger and an automatic shut-off device.

8.204. A loading and unloading facility in a bulk plant must have barriers that protect it from vehicle impact.

8.205. A loading and unloading facility must have a ground that meets the requirements of Chapter V, an electrical conductor and a clip making it possible to ground the cargo tank.

In the case of a key-operated bulk plant, the petroleum product can flow only if the grounding is effected.

8.206. A facility for filling a tank truck or tank car by bottom loading must

(1) have been designed to limit the loading rate to not more than 3,000 L/min; and

(2) have a preset meter.

8.207. A key-operated facility for loading a tank truck or tank car that is supplied by an aboveground tank in a bulk plant must have a remote control shut-off valve that opens only when the motor of the loading pump is operating.

The valve must be located at the outlet of the tank if the bulk plant is to be left unattended.

8.208. The portion of the loading and unloading area of a bulk plant used to park a cargo tank during loading or unloading must,

(1) in the case of Class 1 or Class 2 petroleum products, have a collection system for the products; the system must consist of a concrete apron having a minimum 1%

slope away from the pump island in a direction opposite the loading or unloading ramp, an oil separator and a drain connecting the apron and the separator; or

(2) in the case of Class 3 petroleum products or Class 1, Class 2 and Class 3 petroleum products in bulk plants located north of the 53rd parallel of north latitude and bulk plants in a designated location, be liquid-tight and designed in such manner that a spilled product remains confined.

§3. Pumping

8.209. A positive displacement pump in a bulk plant must have a safety valve and a return bypass to the pump supply.

8.210. A centrifugal pump in a bulk plant must have a check valve on the pump outlet, if it is without a built-in safety valve.

8.211. A pump in a bulk plant that is subject to vehicle impact must be protected by a barrier or by a concrete or metal curb.

8.212. A pump or motor may not be installed below a tank or in a building in which a petroleum product is handled.

8.213. A pump in a bulk plant must,

(1) if it is above ground level and outside buildings,

(a) be located not less than 3 m from the property lines where the pump is situated; and

(b) be located not less than 1.5 m from any opening in the main building of the bulk plant; and

(2) be located not less than 8 m from any ignition source.

8.214. A pump in a bulk plant must be installed so that vibration is not transmitted to the petroleum product installations connected to it.

8.215. An electric motor for a pump in a bulk plant must have at least two controls, one of which must be in the control box at a distance of not less than 15 m from each loading or unloading ramp and from each tank.

8.216. In a bulk plant, the pit housing an underground pump and the multiple connection pipes of a submerged pump must be enclosed within a casing made of metal or concrete and be installed in such manner that it does not transmit external loads to the pump, tank or piping.

§4. Fencing

8.217. A fence must be erected around a bulk plant and

(1) be not less than 1.8 m high;

(2) be of firmly meshed metal wire of a gauge not smaller than USSMSG No. 9, if it is made of steel with mesh openings not greater than 150 mm on the side;

(3) be not less than 150 mm from the ground, including its gates;

(4) be fixed to metal poles driven solidly into the ground; and

(5) have at least two gates to enable traffic of road vehicles that meet the requirements of paragraphs 1, 2 and 4, as remote from each other as practicable and that have locking devices.

DIVISION XI OFFENCES

8.218. Every contravention of any of the provisions of this Chapter constitutes an offence.”

2. This Regulation comes into force on the fifteenth day following the date of its publication in the *Gazette officielle du Québec*.

SCHEDULE I

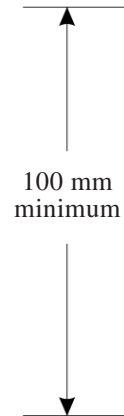
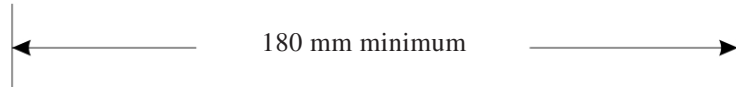
(ss. 8.134 and 8.193)

1°

To

designate:

«NO SMOKING»

PICTOGRAPHS100 mm
minimum

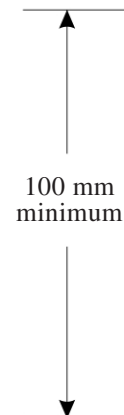
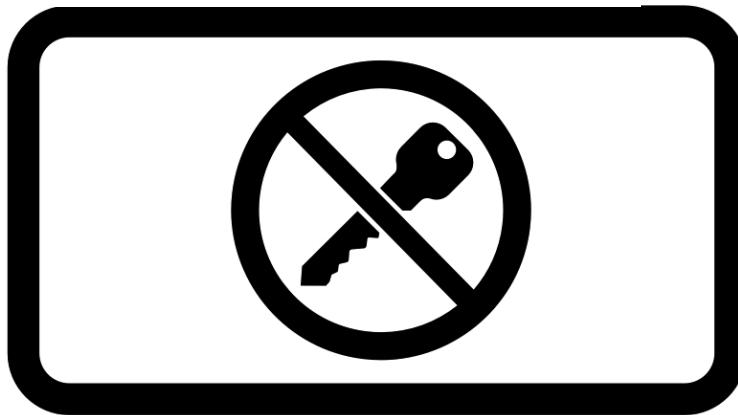
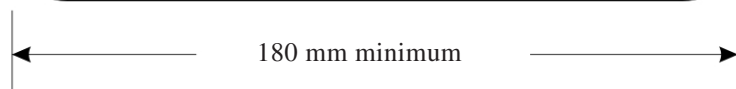
180 mm minimum

2°

To

designate:

«Turn off engine before filling»

100 mm
minimum

180 mm minimum

SCHEDULE II

(s. 8.157)

HAZARDOUS AREAS IN WHICH A HEATING APPLIANCE MAY NOT BE INSTALLED

1. The area around the end of the fill pipe of an underground tank, up to 0.5 m from ground level and within a horizontal radius of 3 m;
2. The area around the vent outlet of an underground tank, up to a radius of 5 m in all directions;
3. A dispensing area, up to 0.5 m from ground level;
4. The area around a motor fuel dispenser, up to 1.5 m in all directions;
5. A service area, up to 0.5 m above ground or floor level over the entire surface area;
6. A zone for transferring Class 1 petroleum products, up to 1.5 m in all directions;
7. A salesroom, storeroom or washroom, if an opening connects to any area described above; and
8. Any space, pit or box below ground level and located wholly or partly in any area described above.

7880

Draft Regulation

Building Act
(R.S.Q., c. B-1.1; 2005, c.10)

Regulation**— Amendments**

Notice is hereby given, in accordance with sections 10 and 11 of the Regulations Act (R.S.Q., c. R-18.1), that the Regulation to amend the Regulation respecting the application of the Building Act, appearing below, may be made by the Government, with or without amendment, on the expiry of 45 days following this publication.

The purpose of the draft Regulation is to determine, in relation with the draft Regulation to amend the Construction Code that introduces Chapter VIII - Petroleum Equipment Installation, and the draft Regulation to amend the Safety Code that introduces Chapter VI - Petroleum Equipment Installation, the exemptions related to their application.

As well, it proposes to subject the petroleum equipment installations owned by the Government and its departments and the bodies that are its mandataries to Chapter II and III of the Building Act (R.S.Q., c. B-1.1) and to the regulations applying those chapters, in particular Chapter VIII of the Construction Code and Chapter VI of the Safety Code. Construction work carried out on those installations, as well as their use and maintenance will be governed by the same requirements as those applicable to appliances in the private sector.

To date, study of the matter has shown no financial impact on the public or enterprises, including small and medium-sized enterprises.

Further information may be obtained by contacting Pierre Gauthier, Régie du bâtiment du Québec, 800, place D'Youville, 15^e étage, Québec (Québec) G1R 5S3; telephone: 418 643-9896; fax: 418 646-9280.

Any interested person having comments to make on the matter is asked to send them in writing, before the expiry of the 45-day period, to Daniel Gilbert, President and Chief Executive Officer, Régie du bâtiment du Québec, 545, boulevard Crémazie Est, 3^e étage, Montréal (Québec) H2M 2V2.

LAURENT LESSARD,
Minister of Labour

Regulation to amend the Regulation respecting the application of the Building Act*

Building Act
(R.S.Q., c. B-1.1, ss. 4.1, 182, 1st par., subpars. 1 and 3, and s. 192; 2005, c. 10, ss. 27, 61 and 80)

1. The Regulation respecting the application of the Building Act is amended by replacing “or on an installation designed to use or to distribute gas” in the second paragraph of section 1 by “, an installation designed to use or distribute gas or a petroleum equipment installation”.

* The Regulation respecting the application of the Building Act, made by Order in Council 375-95 dated 22 March 1995 (1995, G.O. 2, 1100), was last amended by the regulation made by Order in Council 676-2006 dated 28 June 2006 (2006, G.O. 2, 1919A). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2006, updated to 1 September 2006.