A Reference Guide for Owners and Operators of Petroleum Storage Tank Systems

The purpose of this reference guide is to provide information on the regulatory requirements for the safe storage and handling of petroleum products and allied products in Manitoba.

Certain storage tank systems are regulated in Manitoba under the Storage and Handling of Petroleum Products and Allied Products Regulation (the Regulation), made pursuant to The Dangerous Goods Handling and Transportation Act (the Act). The Regulation establishes requirements for storage tank systems to help reduce the risk of spills or leaks, which can contaminate soil and water and cause public health and safety concerns.

The following storage tank systems are subject to the Regulation:

- all underground storage tank systems
- aboveground storage tank systems with a nominal capacity of 5,000 litres (L) or greater
- aboveground storage tank systems of any capacity with underground piping
- aboveground storage tanks with a capacity greater than 230 L and less than 5,000 L are partially subject to the Regulation. For more information, refer to section 3 of this guide.

Requirements under the Regulation include:

- permits for operation
- permits for construction, alteration, and removal of storage tank systems
- licensing of petroleum technicians
- requirements during the sale and transfer of property
- inspection and testing of storage tank systems

The Regulation is administered by the Environmental Compliance and Enforcement Branch of the department of Environment and Climate Change (the department). Petroleum Storage Program staff review and process applications, issue permits and licences, provide technical information and maintain records related to storage tanks in the province. Regional environment officers conduct site inspections, review inventory and inspection records, address general inquiries and manage enforcement issues.

Contact information for the Environment Compliance and Enforcement Branch can be found in Appendix 2.

The Regulation adopts most of the technical requirements published by the Canadian Council of Minister of the Environment (CCME) *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products* (Code of Practice). To view a copy of the Code of Practice redacted

with permission from CCME, go to: https://www.gov.mb.ca/sd/pubs/environmental-approvals/petroleum/redacted_ccme_code_of_practice.pdf

It is important to note that storage tanks may have to meet specific requirements under other legislation such as the *Manitoba Fire Code*, which this reference guide does not cover. Interpretation, inspection, and compliance associated with the Manitoba Fire Code shall be provided at the discretion of the Office of the Fire Commissioner or their duly authorized municipal representatives.

Disclaimer: The guide is intended as a practical guide only. It does not replace the text of any act or regulation, nor does it replace any legislation and has no legal force. The appropriate legislation should be consulted for all purposes of interpretation and application of the law. In all cases The Dangerous Goods Handling and Transportation Act, its regulations, and other legislation take precedence. The responsibility falls on the users of this guide to ensure that they comply with all applicable legislation.

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1. Regulated Petroleum Products and Allied Products

The Storage and Handling of Petroleum Products and Allied Products Regulation applies to petroleum products and to allied products.

Petroleum products are liquid products that are refined from crude oil. This includes, but is not limited to:

- gasoline
- diesel fuel
- aviation fuel
- kerosene
- naphtha
- lubricating oil
- fuel oil
- engine oil
- used oil

This does not, however, include propane, paint, and solvents. Propane and similar flammable gases are not included because they are only liquids when under pressure. Paints and solvents in general are not included in the petroleum products definition but some of these fall into the category of allied products.

Allied products can be a mixture of liquid chemicals that are not necessarily refined from crude oil, while some are derived from crude oil. Some of these mixtures may mix with water and may even be heavier than water. Some examples include:

- thinners, solvents, and linseed oil
- benzene, toluene and other chemicals such as technical grade acetone and methyl ethyl ketone
- inks used by the printing industry
- isopropanol, technical grade methanol and uninhibited ethylene glycol (ethylene glycol without additives).

For the exact definitions and technical specifications for which products are covered by this Regulation please see Appendix 1.

2. Storage Containers with a Capacity of Less Than 230L

The Regulation does not apply to storage in drums or other containers of 230L or less. The Manitoba Fire Code however, has requirements for flammable and combustible liquid storage in containers less than 230 L.

Contact your local Municipal Fire Department for more information about the requirements of the Manitoba Fire Code.

3. Aboveground Storage Tank Systems Between 230 L and 5,000 L

This section will identify tank owner responsibilities regarding portions of the Regulation that apply to storage tank systems in this range of capacity.

Discharging of petroleum or allied products from a storage tank onto the ground or into surface or ground water either by accident or intentionally is prohibited.

Product transfers must be monitored in such a way that if an accident or overflow occurs, the flow can be immediately shut off and contained.

If an aboveground storage tank system could create a risk to surface or groundwater quality, or to public health and safety, the director or environment officer may order the installation of secondary containment or other means of protection to reduce the risks.

If a tank is leaking, you are required to:

- notify the director or an environment officer the moment the problem is discovered
- immediately remove all petroleum products from the storage tank system
- have a petroleum technician isolate the part of the system that is leaking
- have a petroleum technician have the source of the leak repaired or removed within 30 days of detection of the leak or within a lesser period if ordered by an environment officer
- follow any additional instructions given to you by an environment officer

Anyone detecting a leak, regardless of whether they are inspecting, testing, or passing by, is required to report leaks to an environment officer immediately.

Storage tank systems must also comply with the *National Fire Code of Canada (NFCC)*. Interpretation, inspection, and compliance associated with the NFCC shall be provided at the discretion of the Office of the Fire Commissioner or their duly authorized municipal representatives.

Contact your local municipal fire department for more information about Fire Code requirements.

These storage tank systems are exempt from some portions of the Regulation. The following are the most notable exemptions from the Regulation for tanks less than 5000L:

- a Licensed Petroleum Technician (LPT) is not required to install, alter, or remove these tanks, and
- an operating permit is not required.

4. Regulated Storage Tank Systems (Underground, ≥5,000 L Aboveground, or With Underground Piping)

(4.1) Constructing or Altering a Storage Tank System

Permits are required to install or alter these types of storage tank systems. Any required permits must be obtained by an LPT before work is undertaken. Only storage tanks that meet the applicable design and construction standards of the Code of Practice are permitted for installation.

The Regulation requires that only LPTs or people under their direct supervision may construct or alter storage tank systems. The storage tank system owner must retain a contractor that has a valid petroleum technician licence to construct or alter that is specific to the type of storage tank system. Lists of LPTs are available on the Petroleum Storage Program webpage.

The LPT must apply, on behalf of the tank owner, for a Construct/Alter Permit on an application provided by the department. Only permit applications submitted by LPT's will be considered for approval.

Note: no work on a storage tank system can be undertaken without a Construct/Alter Permit.

(4.2) Obtaining a Permit to Operate a Storage Tank System

To operate a regulated storage tank system the system owner is required to obtain a permit to operate. The Permit to Operate will be required to receive fuel into the storage tank system.

To obtain a Permit to Operate, the tank system owner must submit a completed Application for a Permit to Operate a Fixed Petroleum or Allied Product Storage Tank System

The permit application may be refused by the director if:

- the owner is or will be in contravention of the Regulation if the permit to operate is issued
- the owner has misrepresented or failed to disclose relevant information
- the director is of the opinion that the operation of the storage tank system may cause an adverse effect on the environment
- an order has been issued for the storage tank system to be upgraded, and the order has not been complied with
- an order has been issued to have the storage tank system removed

Once issued, a Permit to Operate will remain valid until such time the system is removed from service, or the permit is cancelled or suspended by the director.

In the event an operating permit is refused, suspended, or cancelled, the tank owner will be notified in writing.

(4.3) Obtaining a Permit to Operate a Storage Tank System

The owner or operator of a storage facility is responsible for ensuring that no petroleum products spill or leak into the environment. The Code of Practice outlines inspection and maintenance requirements, summarized in Technical Bulletin PSF-005.

The tank owner must comply with the conditions set out in the operating permit and ensure appropriate individuals perform inventory control, inventory reconciliation, record keeping, testing, and inspections, at the required intervals.

Product transfers must be continuously supervised so the flow can be immediately shut off if a problem occurs. Storage tank product transfer areas must be designed and constructed to contain any spills or overflows.

(4.4) Inspection and Performance Testing Requirements

The Code of Practice specifies the inspection and performance testing requirements for storage tank systems. Testing must be conducted and documented by an authorized individual in accordance with the manufacturer's instructions.

Requirements include:

Weekly visual inspections of:

- foundations, tank walls, roof, and tank attachments
- dike condition and capacity
- pumps and product handling equipment
- tank gauging equipment
- electronic leak detection equipment
- dispenser sumps and spill containment devices
- overfill protection devices

Monthly inspection of tank monitoring wells for liquid product or vapours

Annual inspection and performance testing for:

- automatic tank gauges and monitoring systems
- high-technology sensors
- electronic or mechanical leak detection equipment
- corrosion protection equipment
- pressurized piping emergency valves
- emergency shut-down devices
- containment sumps and spill containment devices
- overfill protection devices

It is important to note that the annual inspection and performance tests must be performed by a LPT for the appropriate category of work.

All annual inspection reports, test results, monitoring and repair details are to be compiled by the owner and maintained indefinitely. A legible copy of these must be available for inspection by an environment officer.

For more information regarding the monitoring and inspection requirements of storage tank systems, consult the Regulation and the Code of Practice or a regional environment officer.

(4.5) Leak Detection and Monitoring Requirements

Preventing leaks and spills requires diligence from both the owner and operator. Product releases can occur for a variety of reasons including overfilling, improper installation or operation, corrosion, and improper tank location. Petroleum products in soil can migrate long distances from an original source and enter sewers, basements and drinking water supplies.

Storage tank systems must be tested for leaks before the system is put into service and whenever a leak is suspected in the primary or secondary containment of a storage tank, piping, containment sump or related components.

Part 6 of the Code of Practice sets out the methods and frequencies for leak detection tests and monitoring required for storage tank systems. Technical Bulletin PSF-002 clarifies the information provided in the Code of Practice. Using the tables, an owner can determine the type of in-service monitoring required for a storage tank system, and which leak detection tests are required. It is important to note that tests must be performed by an authorized individual and in accordance with the manufacturer's instructions.

Common leak detection methods that may be required for underground and aboveground storage tank systems include:

- documented daily visual inspections of the facility for potential leaks
- inventory reconciliation
- statistical inventory reconciliation
- automatic tank gauging and system monitoring
- electronic line leak detection
- high-technology secondary containment monitoring
- vapour and groundwater well monitoring

For all aboveground storage tank systems 5,000L and greater that are vertical and have any portion of the tank resting directly on the ground or have underground piping, the owner or operator must:

- keep weekly product inventory records in a form acceptable to an environment officer
- use monthly summary sheets for inventory in a form that is approved by the director
- maintain records and report losses as required by the Code of Practice
- as an owner, ensure that the operator complies with these requirements

For all underground storage tanks regardless of volume, the owner or operator must:

- as may be required by the Code of Practice, keep daily product inventory records in a form acceptable to an environment officer
- use monthly summary sheets for inventory in a form that is approved by the director
- maintain the records and report losses as required by the Code of Practice
- as an owner, ensure that the operator complies with these requirements

Note: these responsibilities do not apply to underground storage tank systems that are connected to a heating appliance or are used oil collection tanks.

If a leak or potential leak is detected on an aboveground or underground storage tank system through any

- monitoring
- inspections
- checks
- test failures, other than a precision leak test,

the owner of the system must immediately report the facts to an environment officer.

Following such a report the owner must, within 30 days or earlier if required by an environment officer:

a) cause the system or associated monitoring equipment to be repaired,
b) after the repair, cause a subsequent test to be performed on it of the same type that had revealed the failure in the first place, and
c) provide a copy of the satisfactory test results to the director or environment officer

If an underground storage tank system fails a precision leak test performed by a LPT, the LPT or the tank owner must immediately notify an environment officer and follow any instructions given regarding the situation.

If the leak was caused by corrosion (rusting of a steel tank or steel piping), all other storage tank systems of similar age on the property will need to be replaced or upgraded within 180 days of the discovery of the leak or within a lesser period, if so directed by the director or an environment officer.

In the event of a spill or leak that has escaped into the environment, the owner or operator must take immediate corrective action, including but not limited to, reporting and recovering the escaped product, and if necessary and where authorized, remediating or managing the environmental impact caused by the release. Spills of reportable quantities of dangerous goods must be immediately reported to the 24-hour Environmental Emergency Response Line at 204-944-4888 or toll free at 1-855-944-4888.

(4.6) Alterations to Existing Storage Tank Systems

In relation to a storage tank system, an alteration means the enlargement, refurbishing, upgrading or removal of part or all of the storage tank system.

Only a LPT or people under their direct supervision may perform alterations on a storage tank system. The LPT must apply for a Construct/Alter Permit on behalf of the tank owner. Refer to section 4.1 for information on how to obtain a Construct/Alter Permit.

Note: no work on a storage tank system can be undertaken without a Construct/Alter Permit.

In addition to standard upgrades and repairs, alterations to a storage tank system may be required:

- any time part of the storage system fails a test or inspection
- if the director feels that a storage tank system does not meet the applicable design or construction standards of the Code of Practice

If either occurs, the director may order:

- alteration of the storage tank system within a specified period time to bring it into conformity with applicable design and construction standards, or
- removal of the system within a period of time and in such a manner as the director may require

If an aboveground storage tank system is located where there is a risk to surface or ground water quality, or a risk to public health or safety, the director or an environment officer may order the installation of secondary containment or any other means of protection referred to in the Code of Practice.

The only time it is possible to alter an existing storage tank system without a permit is in the case of an emergency. An environment officer must be notified prior to the work being done. During business hours, contact an environment officer at a regional office (see Appendix 2). After business hours call the 24-hour Environmental Emergency Response line at 204-944-4888 or toll free at 1-855-944-4888. **This number should only be called in a genuine environmental emergency**.

A LPT must still complete the work required on the storage tank system. In this instance, the LPT does any work necessary to avert the environmental emergency or minimize its effects.

(4.7) Transferring Ownership or Selling Property With a Storage Tank System

A transfer of real property does not entitle the transferee to operate any storage tank system that may be located at that property, unless the operating permit relating to the storage tank system has been validly transferred. No person may operate a storage tank system except under the authority of a valid operating permit.

To validly transfer an operating permit, the new owner must submit a completed Application to Transfer Ownership of a Permit to Operate

At the time of transfer, the transferor must provide the new owner:

- the inventory records from the previous two years,
- records of tests, inspections and corrections performed on the system, and
- copies of any outstanding orders issued under the act or the Regulation in respect of the storage tank system

Purchasers of a property that contains or has formerly contained a storage tank system may wish to conduct an Environmental File Search with the department to get any history of spills, leaks, infractions, or outstanding actions that may relate to the premises. For information regarding file searches, go to: https://www.gov.mb.ca/sd/permits_licenses_approvals/efs/index.html

(4.8) Out-of-Service Storage Tank Systems:

If a storage tank is not operating on a seasonal or standby basis and:

- is out-of-service for 30 days, you must notify the department in writing that the tanks are out of service
- is out-of-service for 60 days, you must have all petroleum products removed from the system, including residues and vapours
- is out-of-service for one year, the storage tank system must be dismantled and removed

If a storage tank system is operated on a seasonal basis but the storage tank system has not been used for one year, the system must be dismantled and removed. An extension may be requested in writing so the tank can be empty for a period of longer than one year.

The dismantling and removal of a storage tank system must be done by a LPT, in a manner approved by the director. Refer to section 4.9 for more information on tank removal requirements.

If a property is being sold that contains an out-of-service storage tank system, the tank owner is responsible for the system unless the purchaser undertakes in writing, in a manner acceptable to the director, full responsibility and liability for the storage tank system.

(4.9) Dismantling and Removing Storage Tank Systems:

Only a contractor with a valid petroleum technician's licence may remove a regulated storage tank system. The tank system owner must ensure the LPT they retain is qualified to perform work on the specific type of storage tank system. For example, only a LPT with a licence to construct or alter underground storage tank systems may remove underground storage tanks.

The LPT will apply to the Petroleum Storage Program, on behalf of the tank owner, for a Permit to Alter a Petroleum or Allied Product Storage Tank System by Removal (Removal Permit). Only permit applications submitted by LPT's will be considered for approval.

Once the application and supporting documents have been reviewed and found to be satisfactory, a Removal Permit may be issued to the LPT.

Note: no work on a storage tank system can be undertaken without a Removal Permit.

A Removal Permit expires either when the work is completed or one year after the date it was issued, whichever comes first. If the work is delayed for any reason, the LPT may get an extension to the permit of one year. The LPT must apply to the director for an extension in writing before the permit expires.

During the storage tank system removal process, the LPT must comply with the guideline *Dismantling and Removal of Petroleum Product and Allied Product Storage Tank Systems* (the Guideline).

Soil samples and on-site potable groundwater well samples must be collected at the time of tank removal in accordance with the Guideline. Additional sampling may be required. Sampling must be conducted by the LPT or a qualified environmental professional, in accordance with industry standards. Any impacted soil that is encountered during removal must be tested to determine suitable management or disposal options. A Remediation Plan must be submitted to and approved by the Contaminated Sites Program before any excavation activities or off-site disposal of soil are undertaken.

Once the work is completed, the petroleum technician must submit:

- a Work Completion Certificate, within 10 days of completion, to the Petroleum Storage Program
- a Tank Removal Report and sampling results, within 90 days of project completion to the Contaminated Sites Program

Appendix 1 - List of Regulated Petroleum and Allied Products

This Regulation applies to Petroleum Products and to Allied Products.

Petroleum Product means a single product or mixture of at least 70 per cent hydrocarbons, by volume, refined from crude oil, with or without additives, that is used, or could be used, as a fuel, lubricant, or power transmitter and without restricting the foregoing, such products include gasoline, diesel fuel, aviation fuel, kerosene, naphtha, lubricating oil, fuel oil, engine oil and used oil, and exclude propane, paint and solvents.

Allied Petroleum Product means a mixture of hydrocarbons other than a petroleum product that may be water miscible and may have a density greater than water, and includes the following:

a) Thinners and solvents used by the paint and varnish industry specified under the Canadian General Standards Board (CGSB):

CAN/CGSB-1.124-99	Thinner for vinyl coatings
CAN/CGSB-1.136-92	Thinner, antiblush, for cellulose nitrate Lacquer
CAN/CGSB-1.2-89	Boiled linseed oil
CAN/CGSB-1.4-2000	Petroleum spirits thinner
CAN/CGSB-1.70-99	High solvency thinner
CAN/CGSB-1.94-M89	Xylene thinner (Xylol)
CAN/CGSB-1.110-M91	General purpose thinners for lacquers
CAN/CGSB-1.164-92	Solvent for vinyl pretreatment coating
CAN/CGSB-1.197-92	Thinner for epoxy coating

b) Solvents and chemicals used by the chemical and manufacturing industry specified under CGSB (15), and benzene and toluene:

CAN/CGSB-15.50-92	Technical grade acetone
CAN/CGSB-15.52-92	Methyl ethyl ketone, technical grade

c) Inks used by printing industry specified under CGSB (21):

CAN/CGSB-21.1-93	Offset lithographic printing ink

d) Products specified under CGSB (3):

3-GP-525Ma	Isopropanol
3-GP-531M	Methanol, technical grade
3-GP-855M	Ethylene glycol, uninhibited

Appendix 2 - Environmental Compliance and Enforcement Branch Contact Information

Petroleum Storage Program Contact Information:

Environmental Compliance and Enforcement Branch
Petroleum Storage Program
14 Fultz Blvd, Box 36
Winnipeg, MB R3Y 0L6
Ph: 204-470-8315
Email: petstor@gov.mb.ca
Webpage:
https://www.gov.mb.ca/sd/environment_and_biodiversity/petroleum_storage/index.html

Environmental Compliance and Enforcement Branch Regional Contact Information:

https://www.gov.mb.ca/sd/about/environmental-stewardship/environmental-compliance-and-enforcement/contacts.html

Environmental Emergency Response line at 204-944-4888 or 1-855-944-4888 (toll-free).