



# STORAGE TANK REGULATIONS CHECKLIST

Environment and Climate Change Canada's *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* came into effect on June 12, 2008. This fact sheet provides a checklist of the requirements for storage tank systems regulated under federal jurisdiction (See Tank Tip 2 - Do the Regulations Apply to You?). It covers systems that were installed before June 12, 2008, as well as systems installed after that date.

## Tank Tip 3

### on Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations

Environment and Climate Change Canada classifies storage tank systems according to when they were installed. If your system was already in place when the regulations came into force (June 12, 2008), it is an **existing** system. If your system was installed after that date, it is a new system. In other words a **new** system can be one that you installed in 2009, or one that you are planning to install this year.

Some aspects of the regulations apply to all systems, and some apply specifically to new or existing systems. If you are planning to put in a new system, it is important that you read the regulations before purchasing and installing equipment.

There are three checklists:

1. Checklist 1 gives the requirements for **all** systems (existing and new).
2. Checklist 2 gives the requirements for **new** systems (installed after June 12, 2008, or planned for the future). There is a list of requirements that applies to all new systems and then there are four sections that apply to each type of new storage tank system.
3. Checklist 3 gives the requirements for **existing** systems (installed before June 12, 2008). It is divided into six sections according to the type of storage tank system.



## Note:

Each checklist entry gives the relevant section of the regulations. In some places, the regulations refer to the code of practice established by the Canadian Council of Ministers of the Environment (abbreviated as CCME). The regulations “adopt by reference” certain parts of the CCME code, and these parts become enforceable. (The full title of the CCME document is Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products, Canadian Council of Ministers of the Environment, PN 1326.)

## Storage Tank Requirements Checklist

### CHECKLIST 1:



#### Requirements for All Systems (Existing and New)

##### Identification: (Tank Tip 6 - Identifying Your System)

All tank systems must be identified with Environment and Climate Change Canada (section 28 and schedule 2). This can be done through our online storage registry at [www.ec.gc.ca/rs-st](http://www.ec.gc.ca/rs-st), or you can fill out an [identification form](#) and return it to us. The identification number must be displayed on or near the system [subsection 28(4)].

To identify a tank system, you must provide certain information about yourself and your system. If any of this information changes, you must notify Environment and Climate Change Canada within 60 days [subsection 28(5) and schedule 2].

##### Delivery: (Tank Tip 11 - If You Deliver Products)

Product delivery personnel are not permitted to fill tanks unless they see an Environment and Climate Change Canada identification number on or near the system [section 29].

Product delivery personnel must notify operators if a spill occurs, or if they see any sign of a leak or spill [section 29].

##### Emergency plan: (Tank Tip 7 - Preparing Your Emergency Plan)

An up-to-date emergency plan must exist for each storage tank system [sections 30–32].

##### Product transfer area: (Tank Tip 13 - Spill Containment at Product Transfer Areas)

All product transfer areas must be designed to contain spills [section 15].

##### Leak detection: (Tank Tip 5 - What Do You Do If You Suspect or Find a Leak?)

If you suspect a tank system is leaking and it does not have continuous leak monitoring, you must immediately perform the specified leak tests [section 26].

Leaking systems or components must be immediately withdrawn from service until the leak is repaired [subsection 3(1)].

##### Release report: (Tank Tip 5 - What Do You Do If You Suspect or Find a Leak? and Tank Tip 11 - If You Deliver Products)

Tank operators must notify their regional spill call-centre of any leak or spill. For leaks or spills over 100 litres, tank operators must also send a written report to Environment and Climate Change Canada [section 41].

##### Record keeping: (Tank Tip 10 - Record Keeping for Your Storage Tank System)

You must keep regular records [section 46], specifically of the following:

- inspection [section 27];
- installation [subsection 33(2) and section 34]; and
- operation and maintenance [subsection 40(2)].

##### Oil-water separators: (Tank Tip 10 - Record Keeping for Your Storage Tank System)

Oil-water separators must be maintained according to the regulations [sections 35–40]. You must take monthly measurements of layers, or have a continuous monitoring system. You must also have proper procedures for the disposal of free oil, separated solids and discharged water. Records must be kept of any operation and maintenance.

##### Temporary withdrawal from service: (Tank Tip 9 - Withdrawal and Removal of Storage Tank Systems)

Temporary withdrawal from service of a system or component must follow procedures specified in the regulations. A withdrawal that extends over two years is considered a permanent withdrawal from service [sections 42–43].

### Permanent withdrawal from service: (Tank Tip 9 - Withdrawal and Removal of Storage Tank Systems)

If you wish to permanently withdraw or remove a system/component, you must follow procedures specified in the regulations. Only a person designated under the regulations is permitted to permanently withdraw a system from service, or remove a system or component. He or she must follow the procedures specified in the regulations [sections 44– 45].

### General Requirements:

Tank owners/operators must ensure that all tank system materials are compatible with the products being stored in the system [section 11].

Systems must have a fill pipe and vent line installed. All other openings must be sealed or connected to piping [section 12].

The secondary containment area must not be used for storage [section 13].

## CHECKLIST 2:



### Requirements for All New Systems (Installed after June 12, 2008)

All new systems must meet the following requirements.

Corrosion protection [subsection 14(1); CCME sections 3 and 4]

Overfill protection [subsection 14(1); CCME sections 3 and 4]

Containment sumps, as applicable [subsection 14(1); CCME sections 3 and 4]

A design approved according to CCME, following an approved Underwriters' Laboratories of Canada (ULC) design number [subsection 14(1); CCME Sections 3 and 4]

A design stamped by a professional engineer [subsection 34(1)]

As-built drawings stamped by a professional engineer [subsection 34(2)]

An identification number in place before the first fill [section 28]

Installation of system done only by a person qualified under the regulations [subsection 33(1)]

An oil-water separator (if one is installed) that meets the requirements [subsection 14(1); CCME sections 3.10.2 to 3.10.3 and 8.7.2]

Maintenance checks on the cathodic protection system, done according to the regulations (if one is required). The cathodic protection system must be tested within one year after installation, and once a year after that [subsection 14(1); CCME section 8.6].



### Checklist 2.1:

#### Requirements for New Shop-fabricated Aboveground Storage Tanks

A spill containment device [subsection 14(2); see regulations for exceptions]

Secondary containment as specified [subsection 14(1); CCME section 3]

Horizontal tanks must be supported above grade [subsection 14(1); CCME section 3.4.2]



### Checklist 2.2:

#### Requirements for New Field-erected Aboveground Storage Tanks

Secondary containment as specified [subsection 14(1); CCME section 3]



### Checklist 2.3:

#### Requirements for New Underground Storage Tanks

A location and maintenance schedule that allows the system to be withdrawn from service if necessary [subsection 14(1); CCME section 4]

Double-walled tanks with interstitial space that can be easily maintained [subsection 14(1); CCME section 4] (Tank Tip 4 - New Storage Tank System Installations)

Spill containment device on the fill pipe [subsection 14(1); CCME section 4] (Tank Tip 4 - New Storage Tank System Installations)

	Liquid/vapour-tight connections [subsection 14(1); CCME Section 4] (Tank Tip 4 - New Storage Tank System Installations)
	Overfill protection device [subsection 14(1); CCME section 4] (Tank Tip 4 - New Storage Tank System Installations)
	Corrosion protection, as applicable [subsection 14(1); CCME Section 4] If the tank is steel, a corrosion-resistant coating and cathodic protection are required [subsection 14(4)]. (Tank Tip 4 - New Storage Tank System Installations)
	<b>For new underground storage tanks that store used oil, there are additional requirements.</b> A 50 mm suction pipe for product removal that can be taken off to clear a blockage Product-removal or transfer connections located inside a spill containment device An overfill device (if tank is filled by pump or remote manual fill) Where the fill port is outside, there must be a spill containment device of at least 25 litres. This device must have a rain cover and screen, to prevent objects from entering a tank. It must also have an in-take vent with an open area of at least twice the open area of the suction pipe, to avoid vacuum collapse [subsection 14(1); CCME section 4.2.4].
✓	<b>Checklist 2.4: Requirements for New Piping</b>
	All new piping must meet the following requirements.
	Made of one of the following approved materials [subsection 14(5)]: <ul style="list-style-type: none"> <li>• copper</li> <li>• ASTM A 53, “pipe, steel, black and hot-dipped, zinc-coated, welded and seamless”</li> <li>• CAN/CSA Z245.1-98, “steel line pipe”</li> <li>• CAN/ULC-S633-1999, “flexible underground hose connectors”</li> <li>• ORD-C536-1998, “flexible metallic hose”</li> <li>• ULC/ORD – C971, “non-metallic underground piping”</li> </ul>
	Compliant with National Fire Code of Canada [subsection 14(1); CCME Section 5.2.2]
	A secondary containment system (aboveground) or leak detection [section 23] Secondary containment systems for piping must be designed and installed so that leaks either (a) accumulate in a containment sump that can be easily inspected, or (b) are detected by a monitoring system [subsection 14(1); CCME section 5.4.5(1)].
	Underground piping up to and including 75 mm in diameter must have secondary containment as specified [subsection 14(1); CCME section 5.4.1]
	Underground piping larger than 75 mm in diameter must have secondary containment or cathodic protection as specified [subsection 14(1); CCME section 5.4.2]
	A thermal relief valve [subsection 14(1); CCME section 5.2.7]
	An anti-siphon device if piping is located below the maximum product level in the tank [subsection 14(1); CCME section 5.2.8]
	A lockable manual shut-off valve (unless attached to heating appliance) [subsection 14(1); CCME section 5.2.8]
	A liquid/vapour-tight connection at fill point if over 5000 litres storage tank capacity [subsection 14(1); CCME section 5.3.1]
	Mechanical joints that are not buried or concealed [subsection 14(5)]



## CHECKLIST 3:

### Requirements for Existing Systems (Installed before June 12, 2008)



#### Checklist 3.1: Existing Shop-fabricated Aboveground Storage Tanks

Walls of horizontal aboveground tanks without secondary containment must be visually inspected for leaks, or there must be an ongoing leak monitoring/detection program in place [sections 19–21]. (Tank Tip 8 - Leak Detection and Monitoring)

Horizontal tanks must be supported above grade. Tanks in contact with the ground, along with partially buried tanks, must be removed [section 7]. (Tank Tip 1 - Overview of the Storage Tank Regulations)

Aboveground tanks installed below grade or encased within filled secondary containment must be removed [section 5]. (Tank Tip 1 - Overview of the Storage Tank Regulations)



#### Checklist 3.2: Requirements for Existing Field-erected Aboveground Storage Tanks

Vertical aboveground tanks without secondary containment must be inspected in accordance with API Standard 653. An ongoing leak monitoring or leak detection program must also be in place [section 22].



#### Checklist 3.3: Requirements for Existing Underground Storage Tanks

An initial precision leak test of the tank as described in the regulations must be completed for all single-walled underground tanks. An ongoing leak monitoring or detection program must also be in place [section 16].

Underground tanks installed aboveground or in unfilled secondary containment (e.g., an empty concrete vault) must be removed [section 6].

Single-walled underground tanks without cathodic protection and/or leak detection must be removed [section 9; see paragraphs 9(1)(a) and 9(1)(b) for exceptions].

Leaking single-walled underground tanks must be immediately and permanently withdrawn from service and removed within two years of the owner/operator becoming aware of the leak [subsection 3(2)].



#### Checklist 3.4: Requirements for Partially Buried Tanks

All partially buried tanks must be removed [section 7]. (Tank Tip 1 - Overview of the Storage Tank Regulations)



#### Checklist 3.5: Requirements for Existing Piping

##### **Aboveground piping without secondary containment**

Owners/operators must visually inspect this kind of piping and put into place an ongoing leak monitoring or detection program [sections 23–24].

##### **Single-walled underground piping without cathodic protection and/or leak detection**

Owners/operators must remove this kind of piping [subsection 10(1); see subsection 10(2) for exceptions].

##### **Single-walled underground piping**

Owners/operators must do an initial precision leak test of the piping and put into place an ongoing leak monitoring or detection program, as prescribed in the regulations [section 17].

##### **Leaking single-walled underground piping**

Owners/operators must immediately and permanently withdraw this kind of piping from service. It must be replaced with approved piping, or removed within two years of the owner/operator becoming aware of the leak [subsection 3(3)].



#### Checklist 3.6: Requirements for Existing Sumps

Owners/operators must do an initial visual inspection of sumps and put into place an ongoing leak monitoring program [section 25].





For more information, please visit our website at [www.ec.gc.ca/rs-st](http://www.ec.gc.ca/rs-st). If the information you need is not available on our website, please contact your regional office or the Storage Tank Program:

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*This material has been prepared for convenience of reference and accessibility and does not have an official character. It is of a general nature only. For all purposes of interpreting and applying the regulations, users must consult the official version of the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations and seek their own legal advice as appropriate.*

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