



## TANK TIP 4

# LEAK DETECTION AND MONITORING

The **Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations**, require that owners and operators of storage tank systems be able to detect leaks from their systems.

Leak detection and monitoring can alert owners and operators of leaks and, with a well-implemented emergency plan, give them a chance to prevent or limit environmental damage, minimize the danger to people, and reduce the clean-up costs and liability of a leak. If a system has tanks, piping or sumps listed below, leak detection and/or monitoring requirements apply.

### SINGLE-WALLED UNDERGROUND TANKS

All single-walled underground tanks should **now be removed**, with the exception of steel tanks that have cathodic protection and tanks made of a material other than steel. Both of which must also have one of the following:

- leak detection
- groundwater monitoring wells
- vapour monitoring

For exempted systems, you should by now have completed an **initial tank precision leak test**, and you must have in place an **ongoing leak detection program** using one of the following methods:

- an annual precision leak detection test
- automatic tank gauging
- continuous in-tank leak detection

If your **single-walled underground tank leaks**, you must withdraw it from service immediately and permanently. You have two years from the date the leak is detected to remove it.

### SINGLE-WALLED UNDERGROUND PIPING

Single-walled underground piping should **now be removed**, with the exception of steel piping that has cathodic protection and non-metallic or copper piping. All of which must also have one of the following:

- leak detection
- groundwater monitoring wells
- vapour monitoring wells
- single vertical check valves
- mechanical line-leak detection devices

For exempted piping, you should by now have completed an **initial piping precision leak test**, and you must have in place an **ongoing leak detection program** using one of the following methods:

- an annual precision leak detection test
- continuous external leak monitoring
- automatic tank gauging
- continuous in-tank leak detection



If your **single-walled underground piping leaks**, you must immediately withdraw it from service. You must either replace the piping with approved piping, or permanently withdraw the system from service. In the latter case, you have two years from the date the leak is detected to remove it.

### HORIZONTAL ABOVEGROUND TANKS WITHOUT SECONDARY CONTAINMENT

By now, you should have completed an **initial visual inspection** of your tanks' walls for leaks and you must have in place an **ongoing leak detection program** using one of the following methods:

- an annual precision leak detection test
- a monthly visual inspection of the walls of the tanks along with inventory reconciliation
- continuous in-tank leak detection
- continuous external leak monitoring

### VERTICAL ABOVEGROUND TANKS WITHOUT SECONDARY CONTAINMENT

By now, you should have completed an **initial visual inspection** of the tanks or of the tank floors and have in place an **ongoing leak detection program** using one of the following methods:

- an inspection of the tanks or the tank floors every 10 years from the date of the initial inspection
- continuous in-tank leak monitoring
- continuous external leak monitoring

### ABOVEGROUND PIPING WITHOUT SECONDARY CONTAINMENT

By now, you should have done an **initial visual inspection** of the piping for leaks and have in place an **ongoing leak monitoring program** using one of the following methods:

- an annual precision leak detection test
- a monthly visual inspection
- continuous external leak monitoring
- a corrosion analysis program that is developed and conducted by a corrosion expert and includes at least an annual inspection

### SUMPS

By now, you should have completed an **initial visual inspection** of your system if it has turbine, transition, dispenser, or pump sumps, and have in place an **ongoing leak monitoring program** using one of the following methods:

- annual visual inspection of the sumps
- continuous leak monitoring of the sumps

For more information, visit our website

[www.canada.ca/petroleum-products-storage-tanks](http://www.canada.ca/petroleum-products-storage-tanks)

If the information you need is not available on our website, contact your regional office or the Storage Tank Program:

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