

In-Service Monitoring and Leak Detection Method Terms

This Glossary will further define and clarify the leak detection and monitoring terms which are briefly described in the table of abbreviations at the beginning of Technical Bulletin PSF-002, *Monitoring and Leak Detection of Storage Tank Systems for Petroleum Products and Allied Petroleum Products for Aboveground Storage Tank Systems 5000 Litres or Larger and Underground Storage Tank Systems* (Technical Bulletin PSF-002). The terms below should not be considered definitive explanations of each monitoring and leak detection method. This information is a brief explanation of what the method is; the mechanics of it; and/or the usage and frequency of the test method.

For detailed information, refer to the CCME *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products* 2003 (The Code of Practice) and consult the manufacturer's manual specific to the make and model of equipment installed on your storage tank system.

ATG – Automatic Tank Gauge

Automatic tank gauges are used to automate the process of monitoring product level and inventory control. These are electronic devices, manufactured by companies like Veeder-Root and INCON. As per Technical Bulletin PSF-002, ATG's must be programmed to conduct monthly leak detection tests.

CITLD – Continuous In-Tank Leak Detection

Continuous in-tank leak detection (also referred to as continuous automatic tank gauges) is volumetric leak-detection. Like the ATG, CITLD's automate the process of monitoring product level and inventory control and performs a leak-test. These results are limited to the evaluation of the storage tank only.

CITLDS – Continuous In-Tank Leak Detection System

Continuous in-tank leak detection system functions in the same manner as CITLD, but monitors the entire tank system. The results provide an evaluation of both the storage tank and piping systems.

ELLD – Electronic Line Leak Detection

Electronic line leak detection devices are electronic devices which continuously monitor the integrity of the system piping; setting off an alarm if a leak is detected.

HPVLDT – High-Pressure Inert Gas or Vacuum Leak Detection Test

High-pressure inert gas or vacuum leak detection test is a pressure test of piping typically done as a final installation leak detection test. Depending on the system, this test may be conducted annually as part of a periodic leak detection test, or conducted when a leak is suspected within the system. This test determines the integrity of piping system by measuring the ability of the system to maintain constant pressure (ie: no leaks).

HTSCM – High-Technology Secondary Containment Monitoring

High-technology secondary containment monitoring continuously monitors the interstitial space of a double-walled tank or other secondary containment such as sumps and piping.

IR – Inventory Reconciliation

Inventory reconciliation can be achieved by using manual dip readings or electronic dip readings. These readings can then be reconciled electronically or manually in conformance with Section 8.3 of the *CCME Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products, 2003* (the Code of Practice).

LPVLDT – Low-Pressure Inert Gas or Vacuum Leak Detection Test

Low-pressure inert gas or vacuum leak detection tests are similar in scope to a HPVLDT, however, the pressure requirement is lower, and is used to measure the integrity of the interstitial space of the tank system. This type of test is typically completed as a final installation leak detection test for double walled systems.

MLLD – Mechanical Line Leak Detection Device

Mechanical line leak detection devices are pressure-operated valves, and are typically installed at the pump head of a submersible pump. Every time the pump is activated, the MLLD tests the pump pressure. If there is a failed leak test, the MLLD reduces the product flow to the dispenser. The MLLD is unable to reliably detect small leaks.

OWM – Observation Well Vapour or Groundwater Monitoring

Observation wells are typically installed in the tank nest to allow the monitoring of vapour or groundwater for petroleum product. Section 6.4, 6.5 and 6.6 of the Code of Practice describe in detail the installation and monitoring specifications. OWM's are to be monitored monthly.

PLDT – Pressure Leak Detection Test

Pressure leak detection tests evaluate a storage tank system for leaks in the storage tank; associated connections and risers; connected equipment and vent system. Appendix B 6.2.13(1) of the Code of Practice describes in detail the requirements of PLDT's, including the tank components and leak detection test requirements. PLDT's may also be referred to as a *precision leak test*.

PLMLDT – Pressure Liquid Media Leak Detection Test

Pressure liquid media leak detection tests the presence of leaks in piping using a device to pressurize piping with a suitable liquid.

SIR – Statistical Inventory Reconciliation

Statistical inventory reconciliation is a method of leak detection by a trained professional using statistical analysis of inventory, delivery and dispensing data in conformance with U.S. Environmental Protection Agency Standards (listed in Section 6.2.4(1) of the Code of Practice).

SLMLDT – Static Liquid Media Leak Detection Test

Static liquid media leak detection tests are leak detection tests where a suitable test liquid is placed in a containment device and is monitored for a change in the liquid level. This test is used on sumps as a final installation leak detection method, or where a leak is suspected.

SVCV – Single, Vertical Check Valve

Single, vertical check valves are installed on suction systems directly below the inlet to the pump in the dispenser to maintain prime. These valves allow the flow of product in the piping system in one direction only.

VLD – Visual Leak Detection

Visual leak detection is a visual assessment of the tank and/or piping to determine if any product leakage has occurred.