



Maryland Department
of the Environment

FACTS ABOUT: RELEASE DETECTION FOR UNDERGROUND STORAGE TANK SYSTEMS

UST SYSTEMS REQUIRING RELEASE DETECTION

Release detection is considered by MDE and the US EPA as a significant operational compliance item for the proper operation of an underground storage tank (UST) system. When proper release detection is performed, a release can be detected timely and a major spill incident can be avoided at your facility.

Release detection is required in Maryland for all regulated UST systems. A regulated UST system is any commercial system regardless of size. Release detection is also required for residential tanks and farm tanks over 1,100 gallons. Release detection equipment must be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications, including routine maintenance and service checks for operability.

The Oil Control Program uses the National Work Group on Leak Detection Evaluations (NWGLDE) website (www.nwglde.org) for evaluating UST system release detection equipment and tightness test equipment and vendors, including equipment limitations.

Release detection requirements are broken down into two categories: 1) Heating Oil and 2) Motor Fuel, Used Oil, Bulk Storage.

1. Heating Oil (consumptive use on premises)

- Code of Maryland Regulations (COMAR) 26.10.04.01J, requires that all regulated heating oil UST systems must be precision tested at 15 years of age and every 5 years thereafter.

2. Motor Fuel, Used Oil, Bulk Storage

- UST systems storing motor fuel, used oil, or used for bulk storage must use a release detection method on the tank **and** piping. These requirements can be found in COMAR 26.10.05.
- If product dispensed from the storage system is metered, daily inventory control must **also** be performed in conjunction with a monthly release detection method that is outlined in COMAR 26.10.04.01E. and F.
- Tank systems installed after January 12, 2009, must be doubled walled and use interstitial monitoring.



METHODS OF RELEASE DETECTION

Monthly release detection methods listed in COMAR 26.10.05.04 are:

- **Statistical Inventory Reconciliation (SIR).** SIR can be used on UST systems (tank and pipe) that have metered storage. In Maryland an approved third-party vendor must analyze the records produced for SIR. The Oil Control Program maintains a list of approved vendors for Maryland. Performing SIR will also assist with achieving a portion of compliance with Maryland's daily inventory requirement. Correct Inventory Control must also occur.
- **Manual Tank Gauging (MTG).** MTG can only be used as a sole method of release detection for USTs with a capacity of 550 gallons or less. USTs with a capacity of 551 to 2,000 gallons must also be precision tested every 5 years. USTs over 2,000 gallons in capacity cannot use MTG. MTG is a good option for used oil storage. The UST system must be out of service for a period of 36 hours to properly perform MTG. **Note:** MTG does not satisfy release detection for piping. The US EPA publication 510-B-93-005 for Manual Tank Gauging can be found at: <http://www2.epa.gov/ust/manual-tank-gauging-small-underground-storage-tanks>.
- **Precision Tightness Test (PTT).** In Maryland, PTT can no longer be used as a stand-alone release detection option after December 22, 1998. PTT is still required after a new installation, upgrade, or repair, and in conjunction with other release detection options. The Oil Control Program maintains a list of approved precision testing equipment and vendors.
- **Automatic Tank Gauging (ATG).** ATG equipment must have a third-party approval and be able to detect a leak of 0.2 gallons per hour. A leak test using ATG must be performed at least once a month. ATG systems can also monitor the piping systems using electronic line leak detectors.
- **Vapor Monitoring (VM).** Unless the Department provides specific written approval, VM is no longer allowed in Maryland.
- **Ground Water Monitoring (GWM).** GWM is the placement of wells around the UST system and monitoring of the water found in those wells. This method should not be confused with the groundwater monitoring required at High Risk Groundwater Use Area or Well Head Protection Area sites. A site assessment must be performed and submitted to the Department for approval to ensure that groundwater monitoring is an appropriate release detection method for the site. A key to GWM is that the groundwater on the site can never be more than 15 feet from the ground surface and the soils must be permeable. Well construction and record keeping is very important. While currently allowed by COMAR, GWM is not recommended.
- **Interstitial Monitoring (IM).** IM can only be used on UST systems that have secondary containment. IM can only be utilized for piping if the double wall piping terminates in containment sumps. The secondary or interstitial space may be monitored for fluids or vapors. Monitoring must be performed at least once every 30 days. Most electronic systems monitor continuously and provide alarms to the tank operator. All hazardous substance UST systems and regulated UST systems installed on or after January 12, 2009, must use the IM method.

- **Other Methods (OM).** The Department may approve OM for your UST system. This is usually for sites that cannot use one of the above methods or for new technologies not yet recognized in the regulation. You must have the Department's approval before using OM.

PIPING REQUIRING RELEASE DETECTION

There are two types of piping systems for Motor Fuel, Used Oil, Bulk Storage USTs recognized by the Department that require release detection:

- **Pressurized.** Pressurized piping supplies product under pressure to the dispensing unit or point of use. This type of system usually uses a submersible turbine pump (STP) at the tank. Pressurized piping must be equipped with an automatic line leak detector (ALLD). Pressurized piping must be precision tested yearly or monitored monthly with one of the piping release detection methods listed on NWGLDE. A field operability test of the ALLDs (electronic and mechanical) must be performed yearly.
- **Suction Piping.** Suction piping pulls product from the tank to the pump or point of use. There are two types of suction piping:
 - **Safe Suction.** If there is a single check valve that is located directly below the pump, no release detection is required for the piping.
 - **Unsafe Suction.** If there is not a check valve or it is located in another point in the piping, the piping must be tested every two years by a precision test or monitored monthly with one of the piping release detection methods listed on NWGLDE.

CONTACTS

For further information on UST system release detection, please contact the Oil Control Program at (410) 537-3442 or (800) 633-6101 x3442.

To report oil spills call 1-866-633-4686. Available 24 hours a day.