

Release Detection

All commercial underground storage tanks (USTs), regardless of size, and residential or farm tanks of over 1,100 gallon capacity must be equipped to detect releases. Proper release detection is very important since it will ensure that a major spill does not occur at your facility. This fact sheet should only be used as a guide. You must read the regulations and all operational instructions for the release detection method selected.

Emergency Generators and Heating Oil (for consumptive use on premises) USTs:

- COMAR 26.10.04.01J requires all regulated heating oil and emergency generator UST systems be under a precision-testing schedule; meaning that testing is required at 15 years and every 5 years thereafter
- COMAR 26.10.07 sets out the requirements for hydrostatic testing which is permitted for tanks under 1,000 gallons in capacity storing combustible products, such as #2 fuel oil, instead of precision testing.

Motor Fuel, Used Oil, or Bulk Heating Oil Storage USTs:

- COMAR 26.10.05.01-.06 requires release detection on the tank and piping of UST systems storing these products. If product from storage systems is metered, daily inventory control is required in conjunction with release detection. There are several permitted release detection methods:
 1. **Statistical Inventory Reconciliation (SIR)**. SIR can be used on any UST that is metered, but it does not achieve detection on pressurized piping. An approved third-party vendor (listed with the Oil Control Program, MDE) must analyze records produced for SIR. Using SIR for release detection also ensures compliance with Maryland's daily inventory requirement.
 2. **Manual Tank Gauging (MTG)**. MTG is a good option for used oil storage systems. UST system must be out-of-service for a period of 36 hours to properly perform MTG. MTG does not satisfy release detection for piping.
 - a. USTs of 600 gallons or less – MTG fulfills the release detection requirement
 - b. USTs of 601 gallons to 2,000 gallons – MTG and precision testing every 5 years fulfills the release detection requirement
 - c. USTs over 2,000 gallons – MTG cannot be used to fulfill requirement
 3. **Precision Tightness Test (PTT)**. PTT can no longer be used as a stand-alone option in Maryland (although federal regulations permit it). PTT is still required after a new installation or repair, and is required as an accompaniment to other release detection methods and upgrade requirements. The Oil Control Program maintains a list of approved precision testing equipment and vendors.
 4. **Automatic Tank Gauging (ATG)**. ATG equipment must have third-party approval and be able to detect leaks of 0.2 gallons per hour. Leak tests must be conducted at least once a month on ATG equipment. Many ATG systems also monitor UST system piping.
 5. **Vapor Monitoring (VP)**. VP is effective as a release detection method only if the product being stored is volatile enough to be detected and groundwater will not interfere with monitoring. The number of points and their location must be designated for each individual system.
 6. **Ground Water Monitoring (GWM)**. GWM is monitoring of water found in wells placed around an UST system. The groundwater on the site can never be more than 15 feet from the ground surface. Well construction and record keeping are very important with GWM.
 7. **Interstitial Monitoring (IM)**. IM can only be used on UST systems that have secondary containment. Monitoring of the secondary space can be for fluids, vapors, etc. Monitoring must take place at least every 30 days. Most electronic systems monitor continuously and provide alarms to the tank operator. Systems for hazardous systems must use IM as their release detection method.

8. **Other Methods (OM)**. MDE may approve an OM for your UST system. Such approval is usually reserved for sites that cannot use one of the other listed methods or for new technology that is not yet recognized in the regulation. Before using an OM, obtain MDE approval.

Piping

- MDE recognizes two types of piping systems:
 1. **Pressurized Piping**. Pressurized piping supplies product to the dispensing unit or point of use usually by a pressure pump submerged at the tank. Pressurized piping must be equipped with an automatic line leak detector and is tested annually by precision testing or by one of the monthly monitoring methods numbers 3-8 listed in the above.
 2. **Suction Piping**. Suction piping pulls product from the tank to the pump or point of use. If the piping system has only one check valve that is located directly below the pump, then no other release detection is required. Other types of suction piping systems must be precision tested every two years or monitored monthly with one of the release detection methods.