Maine Department of Environmental Protection

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Leak Detection Systems and How They Work

The method of leak detection for your facility will depend on the type of facility and how old your system is, and whether the tank and piping are single or double-walled. Be aware of what method(s) you are required to use and what constitutes evidence of a possible leak.

Daily Inventory: *(Used primarily for single-walled motor fuel USTs and piping)*

UST inventories are determined daily by using a gauge stick and the data is recorded on a form. The level on the gauge stick is converted to a volume of product in the tank using a calibration chart, which is often furnished by the UST manufacturer. The amounts of product delivered to and withdrawn from the UST each day are also recorded. Every day that product is added or removed "over and shorts" must be calculated. Over and shorts is the measured volume of product that exceeds (over) inventory minus sales, or is less than (shorts) the inventory minus sales. At least once each month, the gauge stick data and the sales and delivery data are reconciled and the month's cumulative overage or shortage is determined. If the overage or shortage is greater than or equal to 1.0 percent of the tank's flow-through volume this constitutes evidence of a possible leak which you are required to report to the Department within 24 hours of discovery. For more information please visit the Department's website at www.maine.gov/dep/rwm/ust/ustleakdetect.htm.

Statistical Inventory Analysis (SIA): *(Used primarily for single-walled motor fuel USTs and piping)*

Owners and operators that are required to conduct and reconcile daily inventory as the method of leak detection for their tanks and/or piping must also submit a SIA annually. SIA uses sophisticated computer software to determine whether a tank system is leaking. The computer conducts a statistical analysis of inventory, delivery, and dispensing data collected over a period of time and provided by the operator to a vendor. For more information please visit the Department's website at http://www.maine.gov/dep/rwm/ust/ustleakdetect.htm.

Automatic Tank Gauge (ATG) system: *(Can be used for single-walled motor fuel USTs if properly installed, programmed, and registered with the DEP)*

ATGs use probes with floats installed inside the tank. These probes are linked electronically to a nearby control device to provide information on product and water levels and temperature. The gauging system can automatically calculate the changes in product volume that can indicate a leaking tank. This method does not provide leak detection for piping. Facilities must meet certain requirements in order to use an ATG as their form of leak detection. For more information please visit the Department's website at www.maine.gov/dep/rwm/ust/atgrequirements.doc.

Secondary Containment with Continuous Electronic Monitoring: *(Used for double-walled USTs and piping)*

Secondary Containment prevents any material that is discharged or has leaked from the primary containment from reaching the soil or ground water. Continuous monitoring of the secondary containment means using a monitoring device capable of automatic, continuous unattended operation, which will provide a clearly audible or visual indication of the presence of liquid outside the primary containment. If a monitoring system alarms for the presence of water, oil, or vapors in the secondary containment it constitutes evidence of a possible leak and is required to be reported to the Department within 24 hours.

Reporting Requirements:

Evidence of a Possible Leak: Evidence of a possible leak must be reported to the Department within 24 hours of discovery. This includes monitoring system alarms for water, oil, or vapors in a piping sump or interstitial space, monthly reconciled daily inventory where "over and shorts" are greater than 1% of throughput, pump hesitation/slow flow, or an actual discharge of oil.

Spill Reporting:

Calls from in-state, 24 hours	(800) 482-0777
Calls from out-of-state. 8 a.m.- 5 p.m.	(207) 822-6300
Out-of-state, nights, weekends, holidays	(207) 657-3030

Where to get more Information:

MeDEP UST Tank Program: www.maine.gov/dep/rwm/ust/index.htm
Underground Tanks Staff Contact: (207) 287-2651

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