Maryland
Department of
the Environment

Underground Storage Tank Systems with Field-Constructed Tanks and Airport Hydrant Fuel Distribution Systems

What You Need to Know

Underground storage tank (UST) systems with field-constructed tanks and airport hydrant fuel distribution systems are regulated oil storage systems. This guidance document provides a summary of requirements for these distinct systems based on Code of Maryland Regulations (COMAR) 26.10.12 which became effective June 13, 2022.

General Requirements

- Register the field constructed UST system and airport fuel distribution system with MDE.
- Demonstrate financial responsibility at time of registration.
- May use single-walled piping when installing or replacing piping associated with a UST system with a field-constructed tank greater than 50,000 gallons or an airport hydrant system.
- A field constructed UST system that is less than or equal to 50,000 gallons that is not part of an airport hydrant system shall meet the current piping performance standards and secondary containment requirements when installing or replacing piping.

Periodic Operation and Maintenance Walkthrough Inspections

- Complete monthly and annual periodic operation and maintenance walkthrough inspection forms using a MDE approved form. Acceptable forms include:
  - MDE monthly and annual forms (available on the MDE-OCP Fact Sheets and Publications webpage: https://mde.maryland.gov/programs/land/OilControl/Pages/factsheetspublications.aspx);
  - PEI RP 900-17 Recommended Practices for the Inspection and Maintenance of UST Systems monthly and annual forms; or
  - An approved alternative form.
- Approval of an alternative periodic operation and maintenance walkthrough inspection form can be requested by submitting a Maryland Self-Verification for Alternative Walkthrough Inspection Form. (Available on the MDE-OCP Fact Sheets and Publications webpage: https://mde.maryland.gov/programs/land/OilControl/Pages/factsheetspublications.aspx).
- On a monthly basis, check spill prevention equipment, release detection equipment, and release detection records.
- Check spill prevention equipment prior to each delivery if the UST system receives deliveries at intervals greater than 30 days.
- On an annual basis, check containment sumps and handheld release detection equipment.

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- Inspect additional areas of airport hydrant systems during periodic operation and maintenance walkthrough inspections monthly if confined space entry is not required and annually if confined space entry is required.
- Inspect hydrant pits for damage and evidence of a spill, release, or discharge. Remove liquid and debris.
- Inspect hydrant piping vaults and sumps for evidence of a spill, release, or discharge.

Release Detection

- Not later than October 13, 2022, the owner and an operator of a UST system with field constructed tank or airport hydrant system shall provide a method of release detection.
- For a field-constructed tank with a capacity less than or equal to 50,000 gallons, implement an approved method of tank and piping release detection consistent with motor fuel, used oil, bulk heating oil storage, and emergency generator UST systems.
- For a field-constructed tank with a capacity greater than 50,000 gallons, if metered, perform monthly inventory control or an equivalent procedure that can detect a leak less than or equal to 0.5 percent of the monthly flow-through and perform release detection as for a field-constructed tank with a capacity less than or equal to 50,000 gallons or at least one of the following alternative methods of release detection:
    - Conduct an annual tank tightness test that can detect a 0.5 gph leak rate.
    - Use an automatic tank gauge (ATG) to perform monthly release detection that can detect a leak rate of less than or equal to 1.0 gph and conduct a tank tightness test that can detect a 0.2 gph leak rate at least every 3 years.
    - Use an ATG to perform monthly release detection that can detect a leak rate of less than or equal to 2.0 gph and conduct a tank tightness test that can detect a 0.2 gph leak rate at least every 2 years.
    - Perform vapor monitoring capable of detecting a 0.1 gph leak rate at least every 2 years. Test for the tracer compound within the soil gas of the excavation zone. Backfill must be sufficiently porous to readily allow diffusion of tracer compound vapors released from the UST system into the excavation zone. The tracer compound must be sufficiently volatile to result in a vapor level that is detectable by the monitoring devices located in the excavation zone. The method to detect the tracer compound vapors must not be rendered inoperative by groundwater, rainfall, soil moisture, level of background contamination, or other known interferences. The tracer detection method must be designed and operated to detect any significant increase in the concentration of the tracer compound vapor above background. The site must be assessed to ensure compliance with criterion and to establish the number and positioning of testing

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locations that will detect tracer compound vapors released within the excavation zone from any portion of the UST system. Clearly mark and secure the testing locations to avoid unauthorized access and tampering.

- Perform monthly inventory control that can detect a leak less than or equal to 0.5 percent of the monthly flow-through, and in conjunction perform either a tank tightness test that can detect a 0.5 gph leak rate at least every 2 years or monthly groundwater monitoring.
- Perform another method of release detection approved by MDE.

- For underground piping associated with a field-constructed tank greater than 50,000 gallons or an airport hydrant system, if metered, perform monthly inventory control or an equivalent procedure that can detect a leak less than or equal to 0.5 percent of the monthly flow-through and provide a method of piping release detection as for a field-constructed tank with a capacity less than or equal to 50,000 gallons or at least one of the following alternative methods of release detection.
  - Perform a semiannual or annual line tightness test at or above the piping operating pressure in accordance with Table 1.

Table 1 — Maximum Leak Detection Rate per Test Section Volume

Test Section Volume	Semiannual Test Maximum Leak Detection Rate	Annual Test Maximum Leak Detection Rate
< 50,000 gallons	1.0 gph	0.5 gph
= 50,000 to < 75,000 gallons	1.5 gph	0.75 gph
= 75,000 to < 100,000 gallons	2.0 gph	1.0 gph
= 100,000 gal	3.0 gph	1.5 gph

- If a piping segment with a volume of greater than or equal to 100,000 gallons is not capable of meeting the maximum 3.0 gph leak rate for a semiannual test, perform a line tightness test using a leak rate up to 6.0 gph in accordance with the schedule established in Table 2.

Table 2 — Phase In for Piping Segments ≥ 100,000 Gallons in Volume

First Test	Not later than October 13, 2022 (may use up to 6.0 gph leak rate).
Second Test	Between October 13, 2022 and October 13, 2025 (may use up to 6.0 gph leak rate).
Third Test	Between October 13, 2025 and October 13, 2026 (use 3.0 gph leak rate).
Subsequent Tests	After October 13, 2026 (use the maximum leak detection rate for semiannual or annual line tightness testing, as specified in Table 1).

  - Perform vapor monitoring as listed above for a field-constructed tank with a capacity greater than 50,000 gallons.

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- Perform monthly inventory control or an equivalent procedure that can detect a leak less than or equal to 0.5 percent of the flow-through and either perform a line tightness test at least every 2 years in accordance with Table 1 above using the leak rates for the semiannual test or perform groundwater monitoring.
- Perform another method of release detection approved by MDE.

Installed on or before June 13, 2022

- Meet the current requirements for reporting, investigating, and confirming a spill, release, or discharge; spill, release, and discharge response and corrective actions; and closure and change-in-service.
- Meet current cathodic protection standards or upgrade to meet current cathodic protection standards; install spill and overfill prevention equipment; and meet all operational, maintenance, and testing requirements for all and motor fuel UST systems in the Underground Storage Tank System Compliance Guide fact sheet; or immediately place the system in temporarily out-of-service status and permanently close by April 13, 2023. If the tank is greater than 10 years old and was not protected from corrosion, assess the tank to determine if an upgrade can be performed.

Installed after June 13, 2022

- Except for specific requirements listed in this fact sheet, comply with the requirements for all and motor fuel UST systems in the Underground Storage Tank System Compliance Guide fact sheet. (Available on the MDE-OCP Fact Sheets and Publications webpage: https://mde.maryland.gov/programs/land/OilControl/Pages/factsheetspublications.aspx)

Limitations

This fact sheet has been provided for informational purposes. This document is not intended, nor should it be interpreted, to be a regulation, as defined in Section 10-101, State Government Article. The MDE encourages you to read and understand the regulations that govern the operation of UST systems found in COMAR 26.10 “Oil Pollution Control and Storage Tank Management.”