



TANK

NEWS

Compliance and Technology Unit

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MISSOURI
DEPARTMENT OF
NATURAL RESOURCES
Environmental Remediation Program

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New Equipment Testing Requirements

The new underground storage tank (UST) regulations require testing of spill buckets, overfill prevention equipment, release detection equipment, and required containment sumps, as well as a Walkthrough Inspection. Testing requirements and Walkthrough Inspections for all UST sites must be completed prior to Jan. 1, 2020.

Testing must be done in accordance with the regulations and the manufacturer's testing or inspection procedures by certified or trained technicians. Testing for much of the equipment may also follow the Petroleum Equipment Institute's Recommended Practice (PEI RP) RP1200, Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities, 2012 Edition.

Spill Bucket Testing – First test completed by Jan. 1, 2020

Spill buckets or basins must be tested at least every three years, unless you are conducting monthly interstitial monitoring on your double-walled spill bucket. The first test must be completed prior to Jan. 1, 2020. The test can be done by a tester sealing the bucket, putting pressure or vacuum on the bucket and then testing to see if the spill bucket is tight. The more common method of spill bucket testing is a 'hydrostatic test' in which there are two versions of the test. There also is the Dri-Sump Containment Tightness Test Method, which uses no water to test the sump.

Hydrostatic Tests

- Filling containment sump full with water and monitoring the water level for any changes.
- Low Liquid Level UST Containment Sump Testing. Is an alternative method that only requires filling the sump with test water to at least four inches above the sensor height to activate the sensor.

Dri-Sump Containment Tightness Test Method

- The method uses a heavy vapor aerosol instead of water to completely fill the sump. The heavy vapor aerosol is introduced into the sump and then the air pressure generator "pulls" the soil gases from a small Vapor Stimulator Tube (VST) that is installed in the backfill adjacent to the sump directly into the viewing chamber. A laser is introduced into the viewing chamber to determine if a leak is detected by the tester.

For additional information on the Hydrostatic Tests refer to the department's webpage at dnr.mo.gov/env/hwp/ustchanges.htm.

For additional information on the Dri-Sump Containment Tightness Test Method refer to the National Work Group on Leak Detection Evaluations at nwglde.org.

Overfill Prevention Equipment Testing – First test completed by Jan. 1, 2020

Overfill prevention devices, like automatic shutoff valves (flappers) or overfill alarms, are designed to prevent releases of product during delivery into the tank due to overfills. Ball float valves may not be used when overfill prevention is replaced. If the ball float valve must be replaced, owners and operators must use either an automatic shutoff device or overfill alarm.

To test or inspect the overfill device, most equipment must be removed from the tank. Check for damage, ensure all parts are moving freely and functioning properly and verify that the shutoff is at the appropriate level in the tank.

Three overfill devices are approved to be tested in-place without removal from the tank: Franklin Fueling's Defender Series Overfill Prevention Valve, Emco Wheaton's A1100 T Testable Overfill Prevention Valve, and OPW's 7150-T Testable Overfill Prevention Valve.

The tester must follow the test method, including verification that the device is installed at the correct height. Document those measurements and provide them to the department to make self-testing easier in the future.



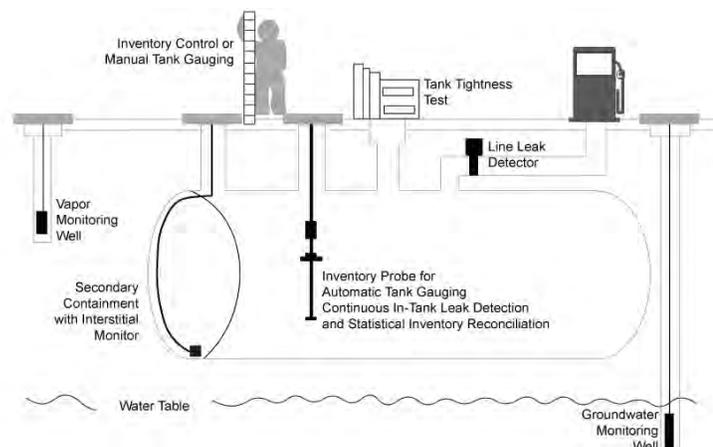
Release Detection Equipment Testing – First test completed by Jan. 1, 2020

While testing your line leak detector is nothing new in Missouri, EPA's new rule requires tank monitoring equipment to be checked at installation and annually thereafter. Tests must be conducted in accordance with the regulations and the manufacturer's procedures by a trained or certified technician. Please note, any test equipment or procedures must be specifically approved for use by the leak detection equipment manufacturer.

Technicians should check for manifolded piping, multiple submersible turbine pumps (STPs), valves and any other equipment that might affect whether the entire piping system is being monitored adequately by the leak detection equipment. If a site has line leak detectors (LLDs) from more than one manufacturer, the tester must be certified for each detector to test it. Leak detector tests must simulate a leak to test the LLD as it is installed in the system. The test equipment should be at the highest or furthest dispenser or piping termination.

New UST systems (tank and piping) must use interstitial monitoring as the primary, precision monitoring method. As such, the sensors must be checked to ensure they are functioning properly and installed at the lowest point in the system. Follow the manufacturer's testing procedures. For example, the sensor may be removed and submerged in water to ensure it alarms.

All operability tests should include a check of the complete tank and piping system to ensure that nothing impedes the equipment from detecting leaks from any portion of the tank or piping system. Reports must document test method, technician, date and test data.



Walkthrough Inspections – First test completed by Jan. 1, 2020

Walkthrough Inspections Must Cover

Every 30 Days

Spill Prevention Equipment

- ✓ Visually check for damage.
- ✓ Remove liquid or debris.
- ✓ Check for and remove obstructions in the fill pipe.
- ✓ Check the fill cap to make sure it is securely on the fill pipe.
- ✓ For double-walled spill prevention equipment with interstitial monitoring, check for a leak in the interstitial area.
- ✓ For tanks that receive deliveries less frequently than every 30 days, the spill prevention equipment inspection may be conducted before each delivery.



Release Detection Equipment

- ✓ Check to make sure the release detection equipment is operating with no alarms or other unusual operating conditions present.
- ✓ Ensure release detection records are reviewed and current.
- ✓ Owners and operators who monitor their release detection systems remotely may check the release detection equipment and records remotely, as long as the release detection systems at the locations are determined to be in communication with remote monitoring equipment.

Annually

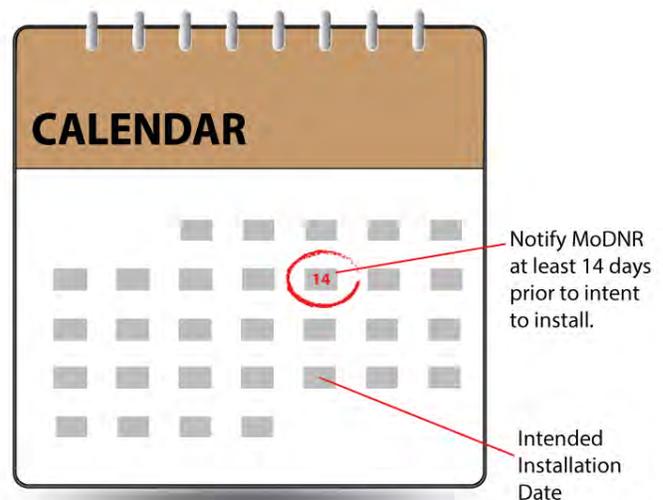
Required Containment Sumps (such as tank top, at the submersible turbine pump, under dispenser and transition/intermediate sumps. Generally this covers sumps installed after July 1, 2017.)

- ✓ Visually check for damage, leaks to the containment area and releases to the environment.
- ✓ Remove liquid from containment sumps.
- ✓ Remove debris.

For double-walled sumps with interstitial monitoring, check for leaks in the interstitial area. For hand-held release detection equipment, check devices such as tank gauge sticks or groundwater bailers for operability and serviceability. For additional information about a Walkthrough Inspection, visit the the department's webpage at dnr.mo.gov/env/hwp/docs/tanks-news-feb19.pdf.

Notification of Installation of New UST

Any installer who intends to install an underground storage tank (UST) system for storage of a regulated substance must, at least 14 days before installing the tank, notify the department the intent to install. The installer shall complete the PDF fillable form available online at dnr.mo.gov/forms/780-1949-f.pdf and submit the completed form to tanks-compliance@dnr.mo.gov.



Program Name Change

This past spring, the Hazardous Waste Program was changed to the Environmental Remediation Program. The Tanks Section is within the Environmental Remediation Program, which includes the following units:

- Compliance and Technology Unit
- Closure, Release and Investigations Unit
- Risk Based Corrective Action Unit
- Advance Cleanup Unit.

Ballasting Underground Fuel Tanks

The following are a few important points when ballasting underground fuel tanks during installation. If fuel is used as ballast, spill and overflow prevention must be installed prior to fuel being added to a tank. An automatic shutoff device, also known as a flapper valve, is the most common way to ensure a tank is not overfilled. Once fuel is in the tank, release detection as described in 10 CSR 26-2.019(11) must be performed daily and recorded to ensure no product is released. The release detection records must be available on site for review, or a copy of the records will need to be submitted following the final inspection. All appropriate fire and safety practices must be observed when ballasting with product. If water is used as ballast, using potable water will help ensure the interior of the tank stays clean of any potential contaminants. Contractors and installers need to follow all manufacturers' directions when installing underground fuel tank systems.



Groundwater and Vapor Monitoring

If you use groundwater monitoring as a release detection method, you must change release detection methods no later than July 1, 2020. Groundwater monitoring will no longer be accepted for release detection after July 1, 2020. In the event of a confirmed release at an UST site, groundwater monitoring is no longer acceptable to meet the release detection requirement unless the site is remediated and a new site assessment is conducted.

If you use vapor monitoring as a release detection method, you must change release detection methods no later than July 1, 2020. Vapor monitoring will no longer be a valid release detection method, unless it is used in conjunction with an added chemical marker and is NWGLDE-listed as a tank tightness test. In the event of a confirmed release at an UST site, vapor monitoring is no longer acceptable to meet the release detection requirement unless the site is remediated and a new site assessment is conducted.

Tanks Interior Linings

Interior lining inspections, repairs and installations must be conducted by a certified technician. Linings installed or repaired after Jan. 1, 2020, must meet the design specifications of Underwriters Laboratories 1856 Outline of Investigation for Underground Fuel Tank Internal Retrofit Systems requirements. Systems with an interstice may retain the most recent 12 months of passing interstitial monitoring records and opt out of the five-year manned inspection.

Better documentation of lining inspections is now required, including integrity readings, technician certification and photo or video documentation of the inspection.



Secondary Containment Requirements

Since July 1, 2017, if a new tank or piping is installed, containment sumps may be required. The Department has created a guidance document titled "New Secondary Containment Requirements – I am Installing New Tanks or Piping, What Is Required?" that provides a more detailed explanation if a containment sump may be required. The guidance document is available online at dnr.mo.gov/env/hwp/docs/SecondaryContainmentRequirements.pdf.



Since July 1, 2017, if a dispenser is replaced, a containment sump may be required. The department has created a guidance document titled "My Dispenser is Being Replaced, Is a Containment Sump Required?" that provides a more detailed explanation if a containment sump may be required. The guidance document is available online at dnr.mo.gov/env/hwp/docs/ReplacingYourDispenser.pdf.

Flooding and Underground Storage Tanks

UST owners and operators are reminded to take special precautions if their sites are prone to flooding. Heavy rainfall this year have led to dangerously high water in rivers and creeks across the Midwest including Missouri. A flood creates an elevated level of risk for environmental damage from UST systems. For example, UST systems may become displaced and release their contents into the environment, causing soil, surface water and groundwater contamination. UST owners can take actions to minimize the damage USTs have on human health and the environment during a flood event. Owners and operators are reminded to follow established state program environmental compliance guidelines for emergency response, cleanup, tank removal, waste disposal and reinstallation.

EPA's Underground Storage Tank Flood Guide provides guidelines and useful information. The guide is available online at epa.gov/sites/production/files/2014-03/documents/ustfloodguide.pdf.

Reporting Spills and Overfills

Owners and operators of underground storage tank systems must contain and immediately clean up a spill or overfill. The spill or overfill must be reported to the department within 24 hours in the following cases:

- Spill or overfill of petroleum that results in a release to the environment that exceeds 25 gallons or that causes a sheen on nearby surface water.
- Spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under (CERCLA) (40 CFR 302).

To report a spill or overfill, call the department's 24-Hour Emergency Spill Line at 573-634-2436.

Underground Storage Tank Inspections

Missouri has a composite inspection program for underground storage tank inspections. The inspection program consists of contract inspectors, department inspectors and compliance review staff. The Petroleum Storage Tank Insurance Fund and the Missouri Department of Natural Resources have a joint contract inspection program.

All regulated facilities will be inspected at least once every three years, in accordance with the requirements outlined in the 2005 Federal Energy Policy Act. Prior to a contract inspection, the facility will receive a notification letter.

Automatic Tank Gauges for Underground Storage Tank Leak Detection

What are the regulatory requirements for automatic tank gauges (ATG)? The ATG system must be able to detect a leak no larger than 0.2 gallon per hour with certain probabilities of detection and false alarm. Some ATG systems also can detect a leak of 0.1 gallon per hour with the required probabilities. Leak detection equipment must be listed on the National Work Group on Leak Detection Evaluations (nwglde.org) and leak monitoring must be performed in accordance with the manufacturer's instructions and NWGLDE listing at installation.

Operability tests are required at installation. For existing systems, the operability test must be performed by Jan. 1, 2020. Release detection equipment must be checked annually to ensure it is working properly:

- Verify the system configuration.
- Test alarm operability and battery backup, unless you have remote connection or storage.
- Inspect probes and sensors for residual build-up.
- Ensure floats move freely, the shaft is not damaged and cables are free of kinks and breaks.
- Keep records of these tests.

Testing must be performed in accordance with regulations and the manufacturer's instructions, including any technician or certification requirements.

What records do I need to keep to demonstrate that I am in compliance?

Records must include:

- Facility information and identification.
- Tank and sensor identification (product, location, size, etc.).
- Test dates (you must retain documentation of testing at least every 30 days).
- Product and water levels and tank size.
- Test data, including test duration, leak threshold, leak rate, pass/fail.
- Monitoring type - continuous ATG (e.g. CSLD or SCALD) or static testing.
- The previous 12 months of monthly monitoring.
- The current operability test of the ATG system.
- The previous 12 months of walkthrough inspections.

Stay Informed

The department offers a free email service that will provide information on the new UST rules, current issues relevant to the UST regulations, announcements of training events and more. If you would like to receive email updates about these regulation changes, visit public.govdelivery.com/accounts/MODNR/subscriber/new?topic_id=MODNR_128.

For more information, please contact:

Missouri Department of Natural Resources

Environmental Remediation Program

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