What tank contractors need to know about the underground storage tank rules

In 2019, the Minnesota Pollution Control Agency (MPCA) amended Minn. R. ch. 7150, Underground Storage Tanks. Here are highlights of existing and new underground storage tank (UST) rules that may affect you as a contractor working with regulated UST's.

Previously deferred underground storage tank systems

Emergency generator tank systems are now fully regulated. Emergency generator tanks associated pressurized piping or non-safe suction piping must have an approved method of monthly leak detection by October 13, 2020.

Tank systems storing "other potentially harmful substances" such as diesel exhaust fluid and salt brine road treatments must be compatible with the substance stored. That is the only requirement for "other potentially harmful substances".

Do you complete tank registration and advance notifications that are sent to the MPCA?

The MPCA now has two different 30-day notification forms:

- One is called a "UST notification" form. It is used for installation, replacement, or removal of tank system components, which involve a certified tank contractor. Both the tank owner/operator and certified contractor/supervisor sign this form
- The other is called a "UST change in status" form. This form is used for notifying the MPCA of ownership information, product and tank status changes. This form requires only the signature of the tank owner/operator
- Both forms can be found on the UST program website. Electronic signature and online submittal is required

10-day advance notification requirements are clarified:

- 10-day advance notification are required for installation, replacement, repair of tanks, piping, linings, containment sumps, and corrosion protection systems. It is also required for tank system permanent closure, change in status to storage of a nonregulated substance, and inspection of any linings on a tank
- A 10-day advance notification is no longer required for dispenser installations or work on exposed components below grade, that can be visually inspected at a later date (i.e. spill buckets, probes, sensors, overfill protection devices or similarly situated equipment).
- The 10-day advance notice form is available on our UST program webpage and must be submitted online

What about biofuels?

All tank components must be compatible with the product stored regardless of biofuel content.

- Notification to store biofuels is required to be submitted at least 30 days prior to storing a regulated substance greater than 10% ethanol or 20 % biodiesel, by using a "UST change in status form" which is found on the agency website.
- Demonstration of compatibility for components of tank systems storing regulated substances greater than 10% ethanol or 20% biodiesel must be submitted to the MPCA prior to storing the substance using the "UST alternative fuel compatibility form" found on the agency website. Your clients may be contacting you requesting assistance in documenting compatibility and filling out the form.

What about Retrofit tanks?

Retrofit tanks installed for compatibility, general upgrade, or to fix a leaking tank must be of double wall construction, and provide interstitial monitoring for release detection. Depending on the type of retrofit tank installed, the tank may have to meet corrosion protection requirements. A retrofit tank is considered a new tank and all associated piping must also be double wall and implement interstitial monitoring for release detection.

Shear Valves

Newly installed or repaired shear valves must be of double poppet design that will prevent the release of fuel from both sides of the shear valve, should the shear valve break.

What is new with overfill protection requirements?

Ballfloats can still be used as overfill protection on existing tanks if they are still functioning properly and:

- The ball float is not used in conjunction with automatic shut off overfill devices,
- The ball float is not used on suction systems with air eliminators
- The ball float is not used with co-axial stage one vapor recovery, and
- All tank openings and risers are liquid tight

If any of the above conditions exist or if the ball float is not functioning properly, an overfill alarm or an automatic shut off overfill device must be installed. If an automatic shut off overfill device is installed, the ball float device must be entirely removed. Ballfloats cannot be installed on any tanks after the effective date of the rule.

Ballfloats or automatic shut off overfill devices cannot be used on remote fills or pressure fills. An alarm that signals when the tank is 90% full must be used.

Required testing of UST system components during installation, replacement and repairs:

All system components must be installed, replaced, or repaired according to manufactures instructions and industry standards.

Integrity/functionality testing must be done on components installed, replaced, or repaired according to manufacture requirements or PEI 1200. Testing must be done by an agency-approved tester or an MPCA certified underground storage tank supervisor. Documentation of integrity testing and functionality testing must be furnished to the owner/operator. Integrity or functionality testing is required:

- At the time of installation or replacement of tanks, piping, secondary containment sumps, spill buckets, and overfill protection
- Within 30 days after a repair of tanks, piping, secondary containment areas, spill prevention, overfill prevention, or leak detection equipment

Cathodic Protection systems must be tested within 6 months of installation and repairs by a cathodic protection tester.

When is repair, replacement, or permanent closure required?

Any tank system component that does not meet performance standards must be repaired or replaced.

A tank or pipe must be permanently closed if:

- A tank has shifted upward from its original burial position, unless it can be repaired to ensure system integrity
- A single wall tank releases a regulated substance to the environment, unless it is retrofitted with a new tank
- The inner or outer wall of a double wall tank or pipe is not liquid tight, unless it is repaired per manufacture requirements

- The tank system has been temporarily closed for 12 months or more, unless an extension has been granted
- The tank system has been temporarily closed for five years or more

A pipe run must be replaced with secondary containment piping if:

- Metal segments are found to have pitting type corrosion
- Piping segments are found to have degraded due to age, incompatibility or poor installation practices, or
- If 50% or more of the piping run is replaced.
- Any piping has released a regulated substance, unless it meets the conditions listed below.

The pipe run may be repaired and entire run does not have to be replaced if:

- The existing piping is already secondarily contained, and can be repaired according to manufacture requirements.
- A release is due to an external one time cause, such as damage during an excavation
- A release occurring on a piping appurtenance, such as a flex connector, shear valve or check valve, did not occur as a result of corrosion

When are containment sumps required to be installed?

In some instances, containment sumps may be required to be installed at the dispensers and/or submersible turbine pumps (STP) regardless if the pipe is singe wall or double wall. On new or replacement piping systems, containment sumps are required at the STP, dispensers, and transition areas associated with the pipe system.

On existing piping systems, containment sumps are required at:

- The STP, when removal of the STP from the riser is required during installation or replacement of the STP
- The dispenser, when new or replacement piping is connected to a dispenser, a dispenser is replaced and work is performed below the shear valve or check valve, or the base material (concrete) under the dispenser is replaced

Emergency disconnect switch

Emergency disconnect switches are required at all facilities (existing and new) that offer dispensing to the public and must comply with the Minnesota State Fire Code. The emergency disconnect switch must:

- Be readily available to persons in control of dispensing equipment and properly labeled
- Disconnect all electrical power to pumps and dispensers in case of an emergency
- Be located within 100-feet but not closer than 20-feet from a dispenser

What is new for piping leak detection?

All pressure piping (existing and new) must:

- Have an automatic line leak detector (mechanical or electronic) that can detect a leak at 3 gph at 10 psi within an hour, and alerts the operator by alarm or restricting flow of product. Sump sensors with alarms and/or positive shut off used with double walled piping will not meet this requirement.
- Unattended card-lock facilities must have an automatic line leak detector that alerts the owner/operator of a leak by shutting off the flow of product. This is most commonly accomplished by installing an electronic line leak detector.

Anti-siphon devices are required to be installed on all pressure or suction piping that is positioned lower than the top of the tank. This is most often occurs at marinas and with mounded tank systems.

Annual tank system operational testing and inspections

Annual testing/inspection of release detection equipment must be conducted to assure the systems are functioning properly. Annual testing must be done by an agency-approved tester by October 13, 2020 and annually thereafter. Examples of testing/inspection include:

- Automatic tank gauge system configuration, testing of alarms, controllers, probes, sensors, and leak detectors.
- Visual inspections of spill buckets, containment sumps used for interstitial monitoring, and hand held leak detection devices (gauging sticks) to assure proper operation and that they are in good condition.

Three-year tank system operational testing

The following equipment must be have operational testing conducted by an agency-approved tester. The testing must be completed by October 13, 2020 and every three years thereafter.

- Spill buckets, and containment sumps used for interstitial monitoring must be tested to assure liquid tightness (Note: double wall spill bucket and containment sumps are exempt from this requirement provided the interstice is monitored monthly and documented)
- Overfill protection devices must be inspected to assure it is set at the correct level and functioning properly

What is an agency approved tester?

An agency-approved tester must perform all annual and three-year operation and maintenance testing on UST systems. An agency-approved tester can be an employee of an agency-certified tank contractor or an employee of an independent testing firm specializing in tank system testing. Agency-approved testers must have appropriate insurance to test tank systems.

To become an agency-approved tester you must:

- Apply to the MPCA for approval using the "Agency approved tester application" found on the agency UST program webpage. Re-application is required every 4 years.
- Be certified by the manufacturer of components of a UST system being tested, and the manufactures of the equipment used to test UST systems, if manufactures office a certification

Note: Cathodic protection testers are required to be STI or NACE certified, but are not required to be agency-approved testers.

What methods can be used to conduct operation/maintenance inspections and testing?

Annual and three year operating/maintenance testing must be performed according to:

- Manufactures testing requirements, or;
- PEI 900 and PEI 1200, or;
- Other methods approved by the agency

The MPCA has testing and inspections forms available and can be found on the UST program website.

Need more information?

- Visit the UST Program at https://www.pca.state.mn.us/waste/underground-storage-tank-systems. The site has forms, fact sheets, and other information about USTs and UST requirements.
- You can also call the MPCA at 651-296-6300 or 1-800-657-3864.