COMMONWEALTH OF VIRGINIA
Department of Environmental Quality

Subject: Division of Land Protection and Revitalization Guidance Memo No. 05-2011
UNDERGROUND STORAGE TANK (UST) SECONDARY CONTAINMENT GUIDANCE

To: Regional Ground Water Managers

From: Jeffery Steers
Director, Division of Land Protection and Revitalization

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Copies: Regional Directors, Deputy Regional Directors

Summary:

This guidance is provided to assist owners, operators, and vendors in implementing the new UST secondary containment requirements effective in Virginia on September 15, 2010 under 9VAC25-580. It consists of both an UST Secondary Containment Fact Sheet and an UST Secondary Containment Frequently Asked Questions (FAQs) sheet.

Electronic Copy:


Contact Information:

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Disclaimer:

This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, it does not mandate any particular method nor does it prohibit any alternative method. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.
Virginia regulations effective September 15, 2010 require secondary containment (e.g., double-walled tank and/or pipe and/or under-dispenser containment pan) for any new or replaced UST system(s) installed within 1,000 feet of a public water supply or potable well. In effect, virtually all new or replaced USTs must have secondary containment (see “distance” exemption below). It is important to note that release detection for secondarily contained equipment requires interstitial monitoring every 30 days.

The Virginia UST secondary containment requirements under 9VAC25-580 became effective September 15, 2010. §9VAC-25-580-50.7.A states:

Each new or replaced petroleum underground storage tank, or piping connected to any petroleum underground storage tank, installed within 1,000 feet of any existing community water system or existing potable drinking water well must be secondarily contained in accordance with 9VAC25-580-140 A. In the case of a replacement of a petroleum underground storage tank or the piping connected to the petroleum underground storage tank, the secondary containment requirements shall apply only to the specific petroleum underground storage tank or piping run being replaced, not to other petroleum underground storage tanks and connected pipes comprising such system. The entire piping run must be secondarily contained if more than 50% of the length of a piping run connected to a petroleum underground storage tank is to be replaced.

IMPORTANT POINTS:

- In general, after September 15, 2010, no newly installed or newly replaced single-walled USTs or single-walled UST piping within 1,000 feet of a water supply will meet the new UST regulation requirements.
- Only the specific tank and/or piping run being installed or replaced is affected. This also applies to “transition sumps” in piping runs.
- Interstitial monitoring as a method of release detection requires that the interstitial space between the outer and inner wall of the tank/piping be monitored for the presence of product. This may be conducted manually (via visual inspection of the interstitial space using brines, vacuums, etc.) or electronically (via electronic sensors).
- If more than 50% of the UST product piping is being replaced, the entire pipe run must be replaced with secondarily contained (double-walled) piping.
- If 50% or less of product piping is removed and put back, secondary containment is not required. It will be the tank owner’s responsibility to demonstrate that less than 50% of the piping was replaced. For complex piping systems, it is recommended that the tank owner contact DEQ to discuss secondary containment requirements prior to replacement and/or installation.
- New emergency generator USTs must have secondary containment and perform interstitial monitoring for release detection.
- Secondary containment systems will commonly be designed to meet a national standard such as UL971 (for piping). Secondary containment designs that do not meet national standards are acceptable if a professional engineer certifies the design.

UNDER-DISPENSER CONTAINMENT

- Each new motor fuel dispenser system (motor fuel dispenser and the equipment necessary to connect the dispenser to the UST system) shall have under dispenser containment (containment underneath a dispenser that will prevent leaks from the
dispenser from reaching soil or groundwater). This applies when the dispenser system is installed within 1,000 feet of a public water supply or potable drinking water well.

- A motor fuel dispenser system is considered **new** when (1) it is installed at a location where there previously was none or (2) an **existing** dispenser is removed and replaced with another dispenser and the pipe component equipment used to connect the dispenser to the UST system is **replaced**.
- Motor fuel under-dispenser containment must meet the following requirements: be liquid-tight on its sides, bottom, and at any penetrations; be compatible with the substance conveyed by the piping; and allow for visual inspection and access to the components in the containment system or be electronically monitored (i.e., sensors).
- When new dispenser pans are installed in conjunction with required secondarily contained piping, the interstitial monitoring requirements for piping must be considered in the design of the system.
- When new dispenser pans are installed in conjunction with existing single-walled UST systems, they should be designed to allow the owner/operator to visually inspect or monitor by a sump sensor or other device.
- Dispenser “pans” are the common term for under-dispenser containment but any methods that achieve the same protections meet the regulatory requirement.
- For common system designs, replacing the piping connector as part of a dispenser replacement will trigger the requirement for under-dispenser containment at the UST system. A dispenser replacement **alone** (without pipe or pipe connector change-out) **does not** trigger the requirement for under-dispenser containment.

### 1,000 FOOT DISTANCE EXEMPTION

None of these requirements apply to UST systems or dispensers that are more than 1,000 feet from a community water system or potable water supply. For the purposes of this exemption, all underground water supply piping is considered part of the community water system. Since the majority of UST locations/stations will have a water distribution line or well onsite, very few tank locations in Virginia will qualify for this exemption. If a water distribution line or onsite well is planned as part of a new UST facility installation, it is enough to trigger the new secondary containment requirements.

Documentation required: If the distance between the new/replaced tank/pipe/dispenser and the water supply is between 1,000 and 2,000 feet, the tank owner must submit a distance map to the DEQ Regional Office certified by a licensed professional surveyor. If the distance is over 2,000 feet, the owner/operator must provide a map - no surveyor certification is required.

### THE REQUIREMENT FOR UST SECONDARY CONTAINMENT DOES NOT APPLY TO:

- Petroleum UST tanks that are not new or not replaced in a manifolded UST system
- Piping runs that are not new or not replaced on petroleum USTs with multiple piping runs
- Safe suction piping (European suction) that meets the requirements at 9VAC 25-580.140.2(b)1-5
- Piping that manifolds two or more petroleum USTs together
- Repairs meant to restore a petroleum UST, pipe, or dispenser to operating condition. For this purpose, a repair is any activity that does not meet the definition of "replace"
- Other instances approved by the board where equivalent protection is provided

### IF YOU HAVE ADDITIONAL QUESTIONS, DEQ STAFF MAY BE REACHED AT THE NUMBERS LISTED BELOW.

Central Office (Richmond) (804) 698-4269
Regional Offices:
- Tidewater Region (Virginia Beach) (757) 518-2000
- Northern Region (Woodbridge) (703) 583-3800
- Piedmont Region (Richmond) (804) 527-5020
- Valley Region (Harrisonburg) (540) 574-7800
- Blue Ridge Region (Roanoke) (540) 562-6700
- Blue Ridge Region (Lynchburg) (434) 582-5120
- Southwest Region (Abingdon) (276) 676-4800
### Virginia Department of Environmental Quality

#### Underground Storage Tank (UST) Secondary Containment FAQs

**Q. What is the UST Secondary Containment Requirement?**

A. Virginia DEQ requires that all regulated UST tanks and/or pipes installed or replaced after September 15, 2010 to be secondarily contained (double-walled) and monitored for leaks between the double walls (interstitial space) at least every 30 days.

**Q. After September 15, 2010 in Virginia, must I always install a new UST tank and/or pipe with secondary containment and monitor it?**

A. In general, yes (except for rare cases where the UST is going in more than 1,000 feet from any water supply / water system).

**Q. How is the 1,000 Foot Distance Exemption from any Water Supply / System Calculated?**

A. For the purposes of this exemption, all underground water supply piping is considered part of any community water system. Since the majority of UST locations/stations will have a water distribution line or well onsite, very few tank locations in Virginia will qualify for this exemption. If an owner or operator intends to install a new petroleum UST that is located within 1,000 feet of any existing community water system or existing or planned potable drinking water well, then the secondary containment requirements apply. In those rare cases in which the exemption might apply, the tank owner must submit a map prepared by a licensed professional surveyor to DEQ showing the distance (>1,000’ up to 2,000’) to the nearest water supply at least 30 days prior to the installation. If it is over 2,000’ distance from UST to water supply then only a map is required (not required to be prepared by a licensed professional surveyor).

**Q. My property is currently located more than 1,000 feet from a water line or well. Can I install a single-walled UST and then later install a potable well?**

A. No. A new facility installation that will include a potable drinking water well within 1,000 feet is required to be secondarily contained, regardless of when the well is installed.

**Q. What are the common forms of secondary containment release detection?**

A. Interstitial monitoring via the use of sump, pipe, and tank sensors will likely be the most common forms used in addition to vacuum and brine systems for tanks.

**Q. Can I just replace the tank and use the old compliant single-walled pipe?**

A. Yes. But secondary containment and associated release detection requirements apply to the tank.

**Q. Can I just replace the entire pipe but leave the old compliant single-walled tank?**

A. Yes. But secondary containment and associated release detection requirements apply to the pipe.

**Q. What is the Under-Dispenser Containment Requirement?**

A. Each new motor fuel dispenser system installed within 1,000 feet of any existing community water system or existing potable drinking water well shall have containment underneath the dispenser that will prevent leaks from the dispenser from reaching soil or groundwater.

**Q. Can I replace the dispenser alone without triggering under dispenser containment?**

A. Yes, if you can connect it to existing piping connectors. If you must change the piping connectors, then the under-dispenser containment requirement applies.
Q. IF I REPLACE A DISPENSER AND MODIFY THE PIPING CONNECTORS, DO I NEED TO REPLACE MY COMPLIANT SINGLE-WALLED PIPING WITH SECONDARILY CONTAINED (DOUBLE-WALLED) PIPING?

A. No. Replacement of a dispenser does not trigger secondary containment for the existing piping run.

Q. FOR REPLACEMENT PIPING, DO NEW TRANSITION SUMPS REQUIRE MONITORING?

A. Yes. They are considered a part of the secondary containment system.

Q. CAN I USE MY AUTOMATIC TANK GAUGE OR STATISTICAL INVENTORY RECONCILIATION (SIR) AS MY PRIMARY RELEASE DETECTION METHOD ON NEW SECONDARILY CONTAINED TANKS AND PIPE?

A. No. You must change to a secondary containment form of release detection (e.g., monitoring of the interstitial space using sensors, vacuum, brine, etc.).

Q. CAN I USE TANK TIGHTNESS TESTING AND LINE TIGHTNESS TESTING AS MY PRIMARY RELEASE DETECTION METHOD ON NEW SECONDARILY CONTAINED TANKS AND PIPE?

A. No. You must change to a secondary containment form of release detection, (e.g., monitoring of the interstitial space using sensors, vacuum, brine, etc.).

Q. WHAT IF I REPLACE BOTH A TANK AND 10 FEET OF THE 100 FEET OF PIPE?

A. Only the tank must be secondarily contained. The pipe change is a 10 foot “repair” since you did not replace more than 50% of piping run.

Q. WHAT ABOUT MANIFOLDED TANKS? CAN I REPLACE JUST ONE OF TWO, FOR EXAMPLE?

A. Yes. Only the tank replaced must be secondarily contained. Siphon bars between manifolded tanks can remain single-walled since they are similar to safe suction pipe (exempt).

Q. WHAT ABOUT NEW EMERGENCY GENERATOR TANKS?

A. Unlike the past, they must be secondarily contained and interstitially monitored. But the pipe on a replaced emergency generator tank system can remain single walled if the existing pipe is reused.

Q. DOES PIPING FOR OTHER USTS AT A COMPLEX PIPE SITE COUNT IN THE PIPING RUN LENGTH BEING REPLACED?

A. Generally no. When feasible, each tank and pipe run is judged separately.

Q. DOES SECONDARY CONTAINMENT APPLY TO SAFE SUCTION PIPING?

A. No. Safe suction piping (European suction) that meets the requirements is exempt.

Q. DOES SECONDARY CONTAINMENT APPLY TO UNSAFE SUCTION PIPING?

A. Yes.

Q. DOES THIS APPLY IF SOMEONE WANTS TO REOPEN THEIR TEMPORARILY-CLOSED UST?

A. No. Reopening an existing UST does not trigger the secondary containment requirement.

Q. WHAT HAPPENS WITH NEW OR REPLACED HOME HEATING OIL TANKS?

A. They are not regulated USTs so the secondary containment requirement does not apply.