New Underground Storage Tank Regulation Training

Alicia Meadows
UST Compliance Coordinator
Virginia Department of Environmental Quality
October 10, 2019
New UST Requirements

- January 1, 2018
- January 1, 2021
Background

- Federal Regulation
  Effective October 13, 2015

- Virginia’s Regulation
  Effective January 1, 2018
Effective January 1, 2018

- New Notification Form
- Equipment Testing
- Release Detection
- Corrosion Protection
Effective January 1, 2018

- Compatibility
- Repairs
- Financial Responsibility
- No new ball floats
# Notification For Underground Storage Tanks (USTs)
## Change of Ownership For UST Facility

### Virginia DEQ Water Form 7530-SC

(See reverse for mailing instructions)

**STATE USE ONLY**

**D Number**

**Date Received**

**Date Entered**

**Entered By**

**Comments**

New owners of USTs may use this form to request that DEQ change its registration records to reflect the new owner for all currently in use and temporarily out of use USTs at a facility. UST owners are required to notify DEQ within 30 days of any change in UST ownership.

**NOTE:** This form may be used only for ownership notification and only when the entire UST facility is transferred. Form 7530-3 must be used for other UST notifications.

### PART I: CURRENT OWNERSHIP OF TANKS

<table>
<thead>
<tr>
<th>A. Current Owner Name</th>
<th>A. Facility Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Current Owner Address</td>
<td>B. Facility Street Address (P.O. Box not acceptable)</td>
</tr>
<tr>
<td>C. City, State, Zip</td>
<td>C. City, Zip</td>
</tr>
<tr>
<td>D. Name of Contact</td>
<td>D. County or Municipality</td>
</tr>
<tr>
<td>E. Title of Contact</td>
<td>E. Facility Contact Name</td>
</tr>
<tr>
<td>F. Phone Number</td>
<td>F. Facility Contact Title</td>
</tr>
<tr>
<td>G. Fax Number</td>
<td></td>
</tr>
<tr>
<td>H. E-mail Address</td>
<td>I. Contact E-mail Address</td>
</tr>
</tbody>
</table>

### PART II: LOCATION OF TANKS

<table>
<thead>
<tr>
<th>A. Facility Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Facility Street Address</td>
</tr>
<tr>
<td>C. City, State, Zip</td>
</tr>
<tr>
<td>D. County or Municipality</td>
</tr>
<tr>
<td>E. Facility Contact Name</td>
</tr>
<tr>
<td>F. Facility Contact Title</td>
</tr>
<tr>
<td>G. Contact Phone Number</td>
</tr>
<tr>
<td>H. Contact Fax Number</td>
</tr>
<tr>
<td>I. Contact E-mail Address</td>
</tr>
</tbody>
</table>

### PART III: FORMER OWNERSHIP OF TANKS

<table>
<thead>
<tr>
<th>A. Former Owner Name</th>
<th>A. New Facility Name If Changing</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Former Owner Address</td>
<td>B. Date of Ownership Transfer</td>
</tr>
<tr>
<td>C. City, State, Zip</td>
<td>C. Number of Tanks at Facility</td>
</tr>
<tr>
<td>D. Former Owner Contact</td>
<td>D. Comments:</td>
</tr>
<tr>
<td>E. Former Contact Title</td>
<td></td>
</tr>
<tr>
<td>F. Phone Number</td>
<td>G. Fax Number</td>
</tr>
<tr>
<td>H. E-mail Address</td>
<td></td>
</tr>
</tbody>
</table>

### PART IV: TRANSFER INFORMATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that to the best of my knowledge these statements are true, complete, and accurate. I understand that the owner of the underground storage tank hereby identified is responsible for compliance with the requirements of Virginia Regulation 22 VAC 5-04-10 at sea, and federal regulations 40 CFR Part 280, among other requirements. I warrant and represent that I am the owner of the tank or that I have the authority to sign this certification on behalf of the owner. I understand that this notification form is sufficient evidence to establish ownership of tanks subject to 22 VAC 5-04-10 at sea.

<table>
<thead>
<tr>
<th>Name and Title</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
</table>

### PART VI: OWNER CERTIFICATION

[Printed Logo]
Testing for Newly Installed Equipment

- Spill Prevention
- Overfill Prevention
- Containment Sumps
Release Detection

- Site Assessments for Vapor or Groundwater Monitoring
- SIR must have quantitative result
- SIR Results must be obtained every 30 days
Corrosion Protection

- Tanks and/or piping that is not protected against corrosion must be permanently closed
Corrosion Protection
Alternatives to Closure

- No alternatives for bare or galvanized steel tank and/or piping
- Alternatives for CP systems and buried piping connectors
- Corrosion Expert
Internal Lining

If it cannot be repaired, then close the tank!
Compatibility

- Demonstrate within 30 days
- Secondary Containment systems
Compatibility - Determination

- Petroleum Equipment Institute (PEI)
- Underwriter’s Laboratories (UL)
- Manufacturers
- Industry Professionals
- Contractors
# Compatibility Demonstration

## Checklist For Determining And Documenting UST System Compatibility

This sample checklist can help owners and operators determine and document the compatibility of their UST systems and notify DEA 30 days prior to storing biofuels in an UST system.

**Instructions:** Complete all sections. This will ensure you have the required information to demonstrate compatibility of an UST system with biofuels containing more than 10 percent ethanol or more than 20 percent biodiesel.

### Facility Owner:
- **Facility Name:**
- **Facility’s Street Address, City, State, Zip Code:**

### Facility Id Number:
- **Type And Blend Of Regulated Substance:**
- **UST Capacity In Gallons:**

### Estimated Date of Installation, Repair, or Retrofit:
- [ ] Retrofit (existing tank)
- [ ] New Installation
- [ ] Repair

**Checklist:**

<table>
<thead>
<tr>
<th>UST System Components</th>
<th>Documentation Demonstrating Compatibility With The Substance Listed Above?</th>
<th>Method A, B, Or C</th>
<th>Description Of Component Type, Model Number, And National Laboratory Certification, Listing, Or Manufacturer Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank</td>
<td>[ ]</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Piping</td>
<td>[ ]</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Operator Training

No Changes!!
Temporarily Closed Tanks

- Must demonstrate Financial Responsibility
## Financial Responsibility

### Table 2: UST Financial Responsibility Requirement Sliding Scale

<table>
<thead>
<tr>
<th>Annual Throughput (Gallons)</th>
<th>Corrective Action (Per Occurrence)</th>
<th>Third Party Liability (Per Occurrence)</th>
<th>Annual Aggregate (Per Occurrence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>600,000 or less</td>
<td>$5,000</td>
<td>$15,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>600,001-1.2 M</td>
<td>$10,000</td>
<td>$30,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>1,200,001-1.8 M</td>
<td>$20,000</td>
<td>$60,000</td>
<td>$80,000</td>
</tr>
<tr>
<td>1,800,001-2.4 M</td>
<td>$30,000</td>
<td>$120,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Above 2.4 M</td>
<td>$50,000</td>
<td>$150,000</td>
<td>$200,000</td>
</tr>
</tbody>
</table>
Financial Responsibility - Mechanisms

- Letter from Chief Financial Officer
- Corporate Guarantee
- Insurance Endorsement
- Surety Bond
- Letter of Credit
- Trust Fund
- Self Insurance
- Certificate of Deposit
Questions?
January 1, 2021 Requirements

- Release detection equipment testing
- Spill, Overfill, and Secondary Containment equipment testing
- Walkthrough Inspections
- Repairs
- Release detection for emergency generator tanks
Release Detection Equipment Testing Frequency

- By January 1, 2021
- Annually
- Prior to bringing tank back into use
Testing Criteria

- Manufacturer’s instructions
- Industry standard
- DEQ approved method
Testing Criteria – Automatic Tank Gauges

- Test all alarms
- Verify set up
- Test Battery Backup
Testing Criteria – Probes and Sensors

- Inspect for residual buildup
- Ensure floats move freely
- Ensure shaft is not damaged
- Ensure cables are free of kinks and breaks
- Ensure alarms operate properly and communicate with the console
Testing Criteria – Automatic Line Leak Detectors

- MUST Simulate a leak
- 3 gph at 10 psi detectable within 1 hour
- Alarm system (if applicable)
- Positive shutdown system (if applicable)
Testing Criteria - Other

Pressure Gauge

- Ensure proper communication with sensors and controller

Groundwater and Vapor Monitoring Equipment

- Ensure proper operation
Multiple Methods of Release Detection

- Test equipment for one method
- DEQ staff will only review records for equipment that has been properly tested
- Increase likelihood of compliance by testing all equipment
Release Detection Equipment Testing - Recordkeeping

- Site assessments – keep as long as groundwater or vapor monitoring is used

- Annual operation tests – 3 years

- Test records must indicate what was tested
Electronic Line Leak Detectors

- Must alert the operator to the presence of a release
- Must trigger positive STP shutdown at unmanned facilities
- Exception: Operator may be notified via mobile phone or other devices
Questions?
Equipment Testing – Every 3 Years

- Spill Buckets
- Overfill devices
- Containment Sumps
- Under-dispenser Containment (UDC)
Equipment Testing – Empty Temporarily Out of Use Tanks
Testing Criteria

- Manufacturer’s instructions
- Industry standard – PEI RP 1200
- DEQ approved method
Spill Prevention Testing

- Test at installation & every 3 years
- Includes remote fills
- Test spill buckets around fill pipe risers
- Test using vacuum, pressure, vapor or liquid testing
Spill Prevention Testing – Double-Walled Spill Buckets

- IM every 30 days
- Both walls
- No dry interstice
Overfill Prevention Testing

- Installation and every 3 years
- Includes remote fills
- Test must verify device meets requirements
- All devices must be tested
Overfill Prevention Testing – Ball Floats

Ball Float valves can not be used with:

- Suction piping
- Pumped delivery
- Coaxial Stage 1 vapor recovery
- Remote fill pipes
- Shut off valves
Containment Sump Testing

- Liquid tight container
- STP sumps
- Under-dispenser containment (UDC)
- Transition sumps
Containment Sump Testing

- Test sumps used for interstitial monitoring
- Test at installation & ever 3 years thereafter
- Do not need to test sumps associated with temporarily out of use tanks
- Double-walled sumps may be interstitially monitored every 30 days in lieu of testing
Containment Sump Testing

Manufacturer’s Instructions

Industry Standard (PEI RP-1200)

DEQ Approved Method
Containment Sump Testing – DEQ Approved Method
Required Conditions

- Sensor is mounted vertically and at lowest point in the sump
- Positive pump or dispenser shutdown
- Facility is always staffed when pumps are operational
Containment Sump Testing

What if I’m using multiple methods of piping release detection including interstitial monitoring?
Containment Sump Testing – Multiple Methods of Release Detection

- Piping installed on or after 9/15/2010 – Interstitial monitoring required
- Piping installed before 9/15/2010 – Test if Interstitial Monitoring is used

<table>
<thead>
<tr>
<th>SEPTEMBER 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUN</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>19</td>
</tr>
<tr>
<td>26</td>
</tr>
</tbody>
</table>
Test Report Requirements

### General Information
- Facility name and address
- Date of Test
- Testing company name, address, and phone number
- Tester Name

### Test Details
- Item Tested
- Test Method
- Tanks and capacity

### Test Results
- Pass/Fail
- Start and Stop times
- Liquid or pressure level
Repairs

- **Repair or Close**
- **Repair immediately**
- **Do NOT use faulty equipment**
- **Not a suspected release**
- **Closure Assessment not required**
- **Test Immediately after Repair**
Disposal Options for Test Water

- VPDES General Permit allowing discharge to water
- Drum or tote storage prior to recycling
- Follow solid and hazardous waste regulation
Test Records - Recordkeeping

- Testing records - keep for 3 years

- Interstitial monitoring records – keep for as long as interstitial monitoring is used
Walkthrough Inspections

- By January 1, 2021
- Identify equipment problems before a release occurs
- Not required for empty TOU tanks
Walkthrough Inspections - Frequency

Every 30 days
- Spill buckets (Exception: May be checked prior to each delivery if deliveries occur greater than every 30 days)
- Release detection equipment

Annually
- Containment sumps
- Handheld release detection equipment
Walkthrough Inspections – Every 30 days

Spill Prevention Device

- Check for damage
- Remove liquid and debris
- Check for fill pipe obstructions
- Check fill pipe cap
- Check interstitial space if double-walled
Walkthrough Inspections – Every 30 days

Release Detection Conditions

• Alarms
• Unusual operating conditions
• Water in tank
• Inconclusive or failed results
• Records
• May be remotely monitored
Walkthrough Inspections – Annually

Containment Sumps and UDCs

- Check for damage
- Check that sump sensors are positioned correctly
- Check for leaks
- Check retaining wall condition
- Remove liquid and debris
- Check the interstice of double-walled containment
Walkthrough Inspections – Annually

Handheld Release Detection Equipment

- Test for proper operability and serviceability
- Manufacturer’s instructions
- PEI RP 900
Walkthrough Inspection - Protocols

- PEI RP 900
- DEQ Protocol
Walkthrough Inspection Documentation

- PEI RP 900 checklists
- DEQ checklist
- Design your own
Walkthrough Inspections - Qualifications

- Certified Class A or B operators are qualified
- Third-party contractors must demonstrate qualifications
- Otherwise, owner must demonstrate qualifications
**Appendix C  Sample Walkthrough Inspection Checklist**

| Date Of Inspection | 
|--------------------|---|
| Required Every 30 Days: If your UST system receives deliveries at intervals greater than 30 days, you may check your spill prevention equipment prior to each delivery. |
| Usually check spill prevention equipment for damage. Remove liquid or stores. |
| Check for and remove obstructions in fill pipe. |
| Check fill cap to ensure it is securely on fill pipe. |
| For double-walled spill prevention equipment with interstitial monitoring, check for a leak in the interstitial area. |
| Check release detection equipment to ensure it is operating with no alarms or unusual operating conditions present. |
| Review and keep current release detection records. |

| Required Annually | 
|------------------|---|
| Usually check containment sumps for damage and leaks in the containment area or releases to the environment. |
| Remove liquid in contained sumps or drains. |
| For double-walled containment sumps with interstitial monitoring, check for leaks in the interstitial area. |
| Check hand-held release detection equipment, such as groundwaher bores and leak probes sticks, for operability and serviceability. |

| Recommended Activities | 
|------------------------|---|
| Fill and monitoring ports: Inspect all fill or monitoring ports and other access points to make sure that the covers and caps are tightly sealed and locked. |
| Spill and overfill response supplies: Inventory and inspect the emergency spill response supplies. If the supplies are low, restock the supplies. Inspect supplies for degradation and improper functioning. |
| Containment sump areas: Look for significant corrosion on the UST equipment. |
| Dispenser hoses, nozzles, and skidways: Inspect for loose fittings, deterioration, obvious signs of leaks, and improper functioning. |

Your initials in each box below the date of the inspection indicate the device or system was inspected and satisfactory on that date.

In the following table, explain actions taken to fix issues:

<table>
<thead>
<tr>
<th>Date</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Keep this record for at least one year after last inspection date on the form.
Walkthrough Inspections - Exercise

• Divide into groups of 5

• Pull a walkthrough inspection checklist out of your packet

• Conduct a walkthrough inspection based upon the pictures shown
Questions
Emergency Generator Tanks

Must perform release detection on tanks and piping

Problematic
Emergency Generator Tanks
Emergency Generator Tanks – RD Requirements for Piping from the UST to the Day Tank

- Release detection not required on suction system
- Pressurized piping system must have ALLD and one other method of release detection
Emergency Generator Tanks – Automatic Line Leak Detector Options

- Mechanical
- Electronic
- Sump Sensors
Emergency Generator Tanks – Mechanical Line Leak Detectors

- Do not function well with typical designs
- Restricts product flow to generator
- Not good in an emergency!
Emergency Generator Tanks – Electronic Line Leak Detectors

Stay in alarm mode

Piping Modifications may be needed

Ensure that positive shutdown is not installed
Emergency Generator Tanks – Line Tightness Testing

- Locking ball valve
- Remains in open position
Emergency Generator Tanks – Interstitial Monitoring

- Secondarily contained piping
- Containment sumps
- Sump sensors
Emergency Generator Tanks – RD Requirements for Piping from the Day Tank to the UST (Return Line)

- Pressurized piping
- ALLD is not required on the return line piping
- One method of release detection is required
Emergency Generator Tanks – Return Piping
Emergency Generator Tanks – Return Piping Options

- Double-walled lines with sump sensors
- Annual line tightness test
- Automatic line leak detectors not required
# Emergency Generator Piping Release Detection Options

<table>
<thead>
<tr>
<th>Piping Type</th>
<th>Allowable Test Method</th>
</tr>
</thead>
</table>
| Pressurized piping from UST to Day Tank | 1. ALLD required  
2. Double-walled piping - Interstitial monitoring with sump sensor  
3. Single walled piping - locking ball/isolation valve is needed to perform annual line tightness test unless another method of release detection is used |
| Piping from Day Tank to UST (Return line) | 1. ALLD not required  
2. Double-walled piping – interstitial monitoring with sump sensor  
3. Single walled piping – locking ball/isolation valve is needed to perform annual line tightness test unless another method of release detection is used |
Questions
Summary – Effective January 1, 2018

- Ball Floats may no longer be installed
- Spill Bucket, Containment Sump, and UDC testing at installation
- Site assessments must be signed by professional
- Tanks and piping without corrosion protection must be closed
- If tank liner cannot be repaired, the tank must be closed
Summary – Effective January 1, 2018

- Repaired equipment must be tested
- Compatibility Notification
- Compatibility Demonstration
- Financial Responsibility for temporarily closed tanks
Summary – Requirements Effective January 1, 2021

- Release Detection Equipment Testing
- Electronic Line Leak Detector Testing
- Spill Bucket, Overfill Prevention, and Containment Sump Testing
Summary – Requirements Effective January 1, 2021

Walkthrough Inspections

Release Detection for Emergency Generator Tanks
Resources

➢ DEQ Central Office Phone: (804) 698-4010
➢ Regional Office
➢ DEQ’s Website: www.deq.virginia.gov
➢ DEQ’s Email List: Sign up on DEQ’s Website
➢ DEQ’s Tanks Email: tank@deq.virginia.gov
➢ EPA’s Website: www.epa.gov/ust