

UST OWNER/OPERATOR Guidance Document July 2011



Scipio

**Developed by the Department of Environmental Quality
Underground Storage Tank Section**

**195 North 1950 West
Salt Lake City, Utah 84116**

**801-536-4100
www.undergroundtanks.utah.gov**

Table of Contents

- Chapter 1 UST Program and Regulations**
Terms, Rules, Energy Act 2005, Secondary containment,
Notification, Financial Responsibility, Certificates of
Compliance/tags
- Chapter 2 ABC Operator Requirements**
- Chapter 3 Installations, Upgrades and Closures**
- Chapter 4 Spill and Overfill**
- Chapter 5 Leak Detection for Tanks**
- Chapter 6 Leak Detection for Lines**
- Chapter 7 Corrosion Protection**
- Chapter 8 Inspections and Checks**
- Chapter 9 Emergency Response**
- Chapter 10 Alternative Fuels**
- Chapter 11 Stage One Vapor Recovery**

Chapter 1

UST Rules and Regulations

- **Terms**
- **Rules**
- **Energy Act of 2005**
- **Notification**
- **Regulated USTs**
- **Non-regulated USTs**
- **UST Program Overview**
- **Financial Responsibility**
- **Certificate of Compliance and Tags**
- **Registration Fees**

Terms

- O/O owner and operator.
- DERR Department of Environmental Response and Remediation.
- UST Underground Storage Tank
- LUST Leaking Underground Storage Tank
- PST Petroleum Storage Tank

Rules

- 40 CFR 280
 - This is the Code of Federal Regulation (CFR) that regulates the UST program.
 - Utah has adopted this regulation by reference. ([link](#))
- R 311
 - These are the Utah rules that outlines the UST program ([link](#))

The Energy Act of 2005

- **Secondary Containment Requirements (R311-203-6)**
 - New and replacement tanks and piping installed after October 1, 2008 shall have secondary containment including, double-walled components and containment sumps. R 311-203-6.

- If any portion of piping from tank to dispenser is replaced, double walled piping is required and must have interstitial monitoring
- Existing dispensers that are replaced must have sumps installed under the replaced dispenser if any of the piping connecting the dispenser to the product piping is replaced. This includes: flex connectors, risers, check valves, shear valves, etc.
- All tanks and product piping that are installed as part of an underground storage tank system shall have secondary containment if the installation is located 1000 feet or less from an existing community water system or an existing potable drinking water well. R311-203-6
- Secondary containment sumps shall meet the requirements of 40 CFR 280.42(b) and R311-203-6 require:
 - Monitored monthly for release from the tank and piping.
 - At the submersible pump or other location where the piping connects to the tank
 - Where the piping connects to a dispenser
 - Where double-walled piping that is required connects with existing piping.
- Under-dispenser containment (R311-203-6(b))
 - Be liquid-tight on its sides, bottom, and at all penetrations.
 - Be compatible with the substance conveyed by the piping
 - Allow for visual inspection or have continuous monitoring for the presence of liquids.
 - Prevent leaks from the dispenser to reach the soil.

- **Delivery Prohibition**

- An O/O found to be out of compliance with the UST rules and regulations or does not pay the required fees may have their Certificate of Compliance revoked and be prohibited from receiving product.
- Tags and Certificates of Compliance are issued to those facilities found to be in compliance with UST regulations. Tags are placed on the fill of each regulated tank indicating that the facility can legally receive product.
- A list of facilities that no longer have a valid Certificate of Compliance and should not receive product is sent to Petroleum Distributors. ([link](#))
- Bottom Line, no tag, no delivery.

Notification R311-203-2

- EPA Form 7530-1, “Notification for Underground Storage Tanks” must be completed and revised, when necessary then submitted to the DERR, by the O/O.
- The O/O of an UST must notify the DERR whenever:
 - New USTs are installed.
 - O/O changes, (within 30 days).
 - Changes made to the tank or piping system.
 - Release detection, corrosion protection, or spill or overfill prevention systems are installed, changed or upgraded.
 - Whenever the type of fuel stored in the tank changes.
 - Alternate fuel-must notify 10 days in advance.
(R311-203-2(b)(2))

Regulated USTs

- UST means any one or combination of tanks that is used to contain an accumulation of regulated substances, for which the volume, including the piping, is 10 percent or more beneath the surface of the ground. 40CFR 280.12.
 - Most underground tanks containing diesel and gasoline are regulated.
 - Underground emergency generator tanks are regulated.
 - Underground used oil tanks are regulated.
- UST system or Tank system means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any, 40CFR 280.12.

Non-regulated tanks

- Farm or residential tanks of 1,100 gallons or less used for non-commercial purposes.
- Heating oil tanks for consumptive use on the premises where stored (regardless of size).
- Septic tanks.
- Aboveground tanks
- Tanks less than 110 gallons.

UST Program Overview

The Utah State Underground Storage Tank program is a regulatory branch of the Department of Environmental Quality. Its primary goal is to protect human health and the environment from leaking underground storage tanks (USTs). The UST staff oversees: UST notification, installation, inspection, removal, and compliance with State and Federal UST regulations concerning release prevention and remediation. ([link](#))

- The UST section is mainly responsible for UST system compliance.
- The Petroleum Storage Tank (PST) section is responsible for sites requiring clean-up that participate in the PST Trust Fund.
- The LUST-Trust section is responsible for clean-up for sites where financial responsibility for releases is a source other than the PST Trust Fund.

Financial Responsibility

- State and Federal UST regulations require that owners and operators of regulated petroleum USTs demonstrate financial responsibility to show they can pay the costs of cleanups and third-party claims for leaks from USTs.
- Marketing facilities (service stations, truck stops, etc.) must have \$1 million of "per occurrence" coverage. This is the amount that must be available to pay the costs of each petroleum release. Non-marketing facilities must also have the \$1 million coverage per occurrence unless they have a monthly throughput of 10,000 gallons or less. In this case, the required coverage amount is \$500,000 per occurrence.
- UST owner/operators must also have an annual aggregate coverage amount. This means that you must be able to fund costs associated with multiple releases at a minimum of 1\$ million per year if you

have 100 or fewer tanks, or \$2 million per year if you have more than 100 tanks.

- Owner/operators of regulated petroleum USTs in Utah may show financial responsibility by participating in the Utah Petroleum Storage Tank Trust Fund (PST Fund) or by using one of the other mechanisms allowed by the Federal UST regulations (40 CFR 280, subpart H). The PST fund will cover environmental remediation costs up to required limits above following payment of a \$10,000 deductible, to all participating facilities that remain in compliance.
- PST Fee Schedule
 - The PST fees are due before July 1st every year.
 - For facilities with a through put of less than 400,000 gallons per year, the fee amount is \$50 per tank.
 - For facilities with a through put greater than 400,000 gallons per year, the fee amount is \$150 per tank.
 - In addition, you will pay a half a cent per gallon surcharge on fuel you purchase.
- Demonstrating financial responsibility is one requirement for receiving a Certificate of Compliance. If you use a mechanism other than the PST Fund, you must meet all requirements for the mechanism before you receive a certificate. [\(link\)](#)
 - Self-insurance
 - Insurance coverage
 - Letter of Credit
 - Trust fund
 - Surety Bonds
 - Corporate Guarantee

Certificate of Compliance and Tags

The Utah UST Act requires that owners and operators of regulated petroleum USTs qualify their tanks for and receive a Certificate of Compliance and Tags, and keep the tanks in substantial compliance with all UST rules and regulations. It is a violation of the UST Act to operate a regulated UST, without a Certificate of Compliance. Newly installed tanks must have a certificate before being put into operation. Fines may be assessed if product or other regulated substance is delivered to or placed into an UST that does not have a Certificate of Compliance. ([link to Certificate of Compliance packet](#))

How to Get a Certificate of Compliance

- Submit a completed Application for Certificate of Compliance. ([link](#))
- Pay registration fees.
- Conduct a tank and line tightness test as well as line leak detectors and sump tests. Submit complete documentation indicating passing results.
- All tests must be conducted by Utah certified UST tester.
- Submit a Previous Pollution Incidents form. ([link](#))
- Submit a facility site plat or as-built drawing that shows the tank excavation, buildings, tanks, product lines, vent lines, cathodic protection systems, tank leak detection systems and product line leak detection systems.

To receive fuel for the tests, you must contact the DERR for authorization of a “One Time Drop Letter”. The DERR will need to know the date of delivery and the name of the company that will deliver the product.

Registration Fees

- All facilities are required to pay registration fees by July 1 of each year.
- Existing facilities: \$100 per tank on the PST Fund and \$200 per tank not on the Fund.
- New Installation: \$100 per tank

Chapter 2

ABC Operator Requirements

- **Class A Operator Requirements**
- **Class B Operator Requirements**
- **Class C Operator Requirements**
- **Training and Testing**
- **Registration**
- **Renewal of registration**
- **Retraining requirements**
- **Reciprocity**

ABC Operator Requirements

To meet the Operator Training requirement (42 USC Section 699Ii) of the Solid Waste Disposal Act as amended by the Energy Policy Act of 2005, each UST facility will:

- Have UST facility operators that are registered according to the requirements of this section by January 1, 2012.
- Have three classes of operators: A, B, and C.

Class A Operator Requirements

The Class A operator shall be an owner or employee who has primary responsibility for the broader aspects of the statutory and regulatory requirements and standards necessary to operate and maintain the UST system. Class A operators will:

- Have a general knowledge of UST systems;
- Ensure that UST records are properly maintained according to 40 CFR 280;
- Ensure that yearly UST fees are paid;
- Ensure proper response to and reporting of emergencies caused by releases or spills from USTs;
- Make financial responsibility documents available to the Executive Secretary as required; and
- Ensure that Class B and Class C operators are trained and registered.

Class B Operator Requirements

The Class B operator will implement routine daily aspects of operation, maintenance, and recordkeeping for UST systems. The Class B operator shall be an owner, employee, or contractor working for the UST owner or operator. Class B operators will:

- ensure that on-site UST operator inspections are conducted every 30 days; IAW R311-201-12(h)(1&2)

(h) UST Operator Inspections.

(1) Each UST facility shall have an on-site operator inspection conducted every 30 days, or as approved under Subsection R311-201-12(h)(4) or (5). The inspection shall be performed by or under the direction of the designated Class B operator. The Class B operator shall ensure that documentation of each inspection is kept and made available for review by the Executive Secretary.

(2) The UST operator inspection shall document that:

(A) release detection systems are properly operating and maintained;

(B) spill, overfill, vapor recovery, and corrosion protection systems are in place and operational;

(C) tank top manways, tank and dispenser sumps, secondary containment sumps, and under-dispenser containment are intact, and are properly maintained to be free of water, product, and debris;

(D) the tag or other identifying method issued under Subsection 19-6-411(7) is properly in place on each tank;

(E) alarm conditions that could indicate a release are properly investigated and corrected, and are reported as suspected releases according to 40 CFR 280.50 or documented to show that no release has occurred; and

(F) unusual operating conditions and other indications of a release or suspected release indicated in 40 CFR 280.50 are properly reported.

- ensure that the status of the UST system is monitored every seven days for alarms and unusual operating conditions that may indicate a release; document the reason for an alarm or unusual operating condition identified in R311-201-12(e) (3), if it is not reported as a suspected release according to 40 CFR 280.50.
- ensure that appropriate monthly release detection and other records are kept according to regulations and are available for inspection;

- ensure that spill prevention, overflow prevention and corrosion protection requirements are met;
- be on site for facility compliance inspections (conducted by the DERR) or designate a qualified individual to be on site for those inspections;
- ensure that suspected releases are reported according to 40 CFR 280.50.
- ensure that each UST has a tag at the fill port.
- ensure that Class C operators are trained and registered, and are on-site during operating hours.

Contractors

An individual who contracts to act as a Class B operator for an UST owner or operator, or performs UST operator inspections, and is not the owner or operator, or an employee of the owner or operator, shall be certified as an UST inspector and will meet all requirements of an UST inspector. UST Inspectors are not required to be on site all day.

Class C Operator Requirements

The Class C operator is an employee and is generally the first line of response to events indicating emergency conditions. Class C operators will:

- be present at the facility at all times during normal operating hours;
- monitor product transfer operations to ensure that spills and overflow do not occur;
- properly respond to alarms, spills, and overflow;
- notify Class A and/or Class B operators and appropriate emergency responders when necessary;
- act in response to emergencies and other situations caused by spill or releases from an UST system that pose an immediate danger or threat to the public or to the environment, and that require immediate action.

Training and Testing

- Class A and B operators must successfully complete an approved operator training course within the six-month period prior to application.
- All training courses must be approved by the DERR.
- Only Class A and B operator must pass an exam approved by the DERR
- Alternate training and testing for A and B operators.
 - Must successfully pass a nationally recognized UST operator exam approved by the DERR
 - Successfully pass a Utah specific exam.
- Class C operators are not required to take an exam.

Registration

- Class A and B
 - Must submit a registration application to the DERR, documenting proper training, and pay any applicable fees.
 - Class A and B registration will be effective for a period of 3 years, and will not expire if the registered operator leaves the company they were working for.
 - Class A and B operators may act as a Class C operator.

- Class C
 - Will be designated by a Class B operator.
 - The Class B operator will maintain a list identifying the Class C operators, date of training and the trainer.
 - This Class C operators list will serve as the registration for the Class C operator (there are no fees required).
 - This Class C operators list is an inspectable item

Renewal of Registration

- Class A and B operators must apply for renewal of registration every three years.

- If an applicant's registration has lapsed for more than two years, the applicant must go through the registration process as if it were their initial registration.

Retraining Requirements

(Retraining is required for the following situations.) (R311-201-12(k))

- **Class A**
 - Lapsing of a certificate of compliance
 - Failure to provide acceptable financial responsibility
 - Failure to ensure that Class B and C operators are trained and registered

- **Class B**
 - Failure to document significant operational compliance , as determined by the EPA Release Prevention Compliance Measures Matrix and Release Detection Compliance Measures Matrix, both dated September 30, 2003, and incorporated by reference in Subsection R311-206-10(b)(1). (link1)(link2)
 - Tank and piping leak detection records not available, or tightness test not performed within the last year.
 - Simulated leak test for all automatic line leak detectors conducted in the last 12 months.
 - Cathodic protection tests, not performed within the last three years.
 - Failure to perform UST operator inspections monthly (R311-201-12(h))
 - Failure to have a tag properly placed on each tank.
 - Failure to ensure Class C operators are trained and registered and on site during operating hours.

All tightness tests must be performed by a UST Utah - certified tester.

- **General Re-training Requirements**
 - To be retrained, Class A and B operators must successfully complete the appropriate operator training course and examination.
 - Operators must be retrained within 90 days of the date they were determined to require retraining.

- Submit documentation within 30 days of completion of retraining
- If the documentation of training is not received, the Executive Secretary may revoke the certificate of compliance for the facility for failure to demonstrate substantial compliance with all state and federal statutes, rules and regulations. (R311-201-12(k)(4))

Reciprocity

- If the DERR determines that another state's operator training program is equivalent to Utah's program, it may be accepted in lieu of the Utah program with the following provision:
 - Must take state approved exam
 - Must submit registration application and fee

Chapter 3

Installations, Upgrades and Closures

- **Installation Requirements and Upgrades**
- **Permits**
- **Closure Requirements**
- **Temporary Closure Requirements**

Installation (R311-201-3)

“Installation” means the installation of an underground storage tank, including construction, placing into operation, building or assembling an underground storage tank in the field. It includes any operation that is critical to the integrity of the system and to the protection of the environment. The DERR must be notified before commencing any of the following activities:

- Installation of a full UST system or tank only
- Installation of underground product piping for one or more tanks at a facility, separate from the installation of one or more tanks at a facility
- Internal lining of a previously existing tank
- Installation or repair of a cathodic protection system on one or more previously existing tanks at a facility where the structural integrity of the UST was required to be assessed, or where there is no documentation of a properly working cathodic protection system on the UST within 10 years of the proposed upgrade.
- Installation of a bladder in a tank
- Any retrofit, replacement, or installation that requires the cutting of a man way into the tank
- Installation of a spill prevention or overflow prevention device
- Installation of a leak detection monitoring system
- Installation of a containment sump or under-dispenser containment

Must submit an as built drawing (R311-203-3(g) IAW (R311-200-1(b)(3) (3)

"As-built drawing" for purpose of notification means a drawing to scale of newly constructed USTs. The USTs shall be referenced to buildings, streets and limits of the excavation. The drawing shall show the locations of tanks, product lines, dispensers, vent lines, cathodic protection systems, and monitoring wells. Drawing size shall be limited to 8-1/2" x 11" if possible, but shall in no case be larger than 11" x 17".

One Time Drop Letter

To receive fuel for the tests, you must contact the DERR for authorization of a “One Time Drop”. The DERR will need to know the date of delivery and the name of the company that will deliver the product and will issue a letter authorizing the fuel delivery.

Permits (R311-203-3)

- Certified installers must notify the DERR at least 10 days before installation.
- The installation company must have completed a “UST Installation/Upgrade Notification/Permit/Fee Required” form prior to installation ([link](#)) and received a permit number.
- The installation company must pay Permit Fees in the amount of \$200 per tank system.

Closure Requirements (R311-204)

- The O/O must submit to the DERR a completed “Closure Plan” which must be approved before commencing closure of the UST. A contractor may assist the O/O or even complete the Closure Plan on behalf of the O/O, however the O/O is responsible for compliance with the UST rules and regulations. ([link to closure plan](#))
- For closure in-place or change in service, the Closure Plan must be submitted and approved prior to completing the site assessment.
- The approved Closure Plan is valid for one year from the approval date. If closure does not take place within one year the O/O must submit a new Closure Plan for approval.
- The O/O must notify the Local Health and Fire Departments and the DERR at least 72 hours prior to starting closure activities.

- The certified UST remover and sampler performing the closure must have a current Utah certification and follow the approved Closure Plan. Changes to an approved plan must be submitted in writing to the Executive Secretary and approved before closure.
- The O/O must have a copy of the approved Closure Plan on-site during closure activities.
- The O/O must ensure the completion of a site assessment in accordance with 40 CFR 280.72 and R311-205, U.A.C.. Indicate the proposed sample location on the Facility Site Plat of the Closure Plan and complete the Sample Information Table. If contamination is encountered or suspected at locations other than the approved sample locations, additional samples must be collected at the location(s) where contamination is most likely to be present. If groundwater is encountered a soil sample must be collected, in the unsaturated zone, in addition to each groundwater sample.
- The O/O must report suspected or confirmed contamination in any amount to the DERR within 24 hours of discovery.
- The O/O must submit to the DERR a Closure Notice ([link](#)) within 90 days after the tank closure. The Closure Notice should include:
 - A properly completed Closure Notice form signed by the owner and certified groundwater and soil sampler.
 - An updated Site Plat and a Sample Information Table with actual depths and locations of all samples, including depth to groundwater and the location of utilities, buildings and property lines.
 - Analytical results of samples.
 - A Chain of Custody Form.
- The O/O must pay registration and PST Fund fees for the assessment period in which the tank is closed and all other unpaid fees.
- Closure records must be maintained for three years after closure of the UST for the O/O to demonstrate compliance with closure requirements. (40 CFR 280.74)

If contamination is suspected or confirmed during UST closure activities, or is based on analytical results, the O/O may receive a reporting and remediation schedule from the Leaking Underground Storage Tank (LUST) section, which outlines the owner's responsibility to characterize and possibly remediate the release. Any person providing remedial assistance, including over-excavation **of more than 50 cubic yards of soil and** aeration, must be a Utah Certified UST Consultant.

When an UST system is temporarily closed, the O/O must:

- Continue operation and maintenance of corrosion protection on tanks, lines, flex connectors, and other metallic system components.
- Continue operation and maintenance of release detection OR empty the UST system to less than 1 inch of product.

When an UST system is temporarily closed for 3 months or more, the O/O must also:

- Leave vent lines open and functioning
- Cap and secure all other lines, pumps, man ways, and ancillary equipment.
- Send a properly completed Temporary Closure Notice form to the DERR.

Chapter 4

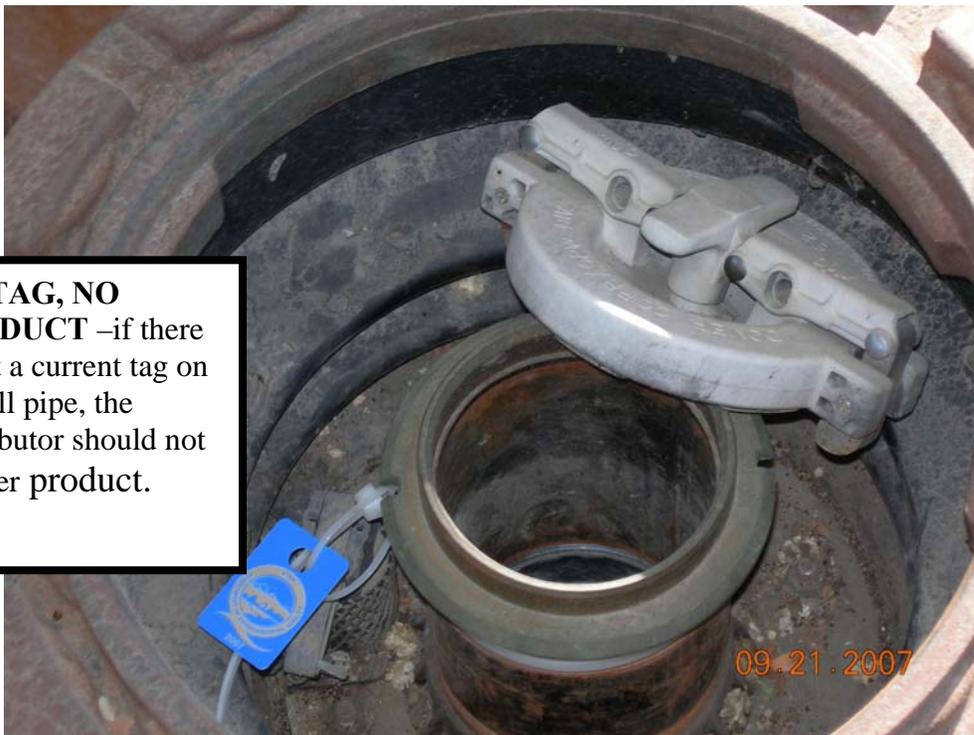
Spill and Overfill Prevention

- **Spill Buckets**
- **Automatic Shutoff Devices**
- **Ball Float Valves**
- **Overfill Alarms**

Note: Spill and overfill devices are not required with transfers of fuel, 25 gallons or less

Spill Buckets

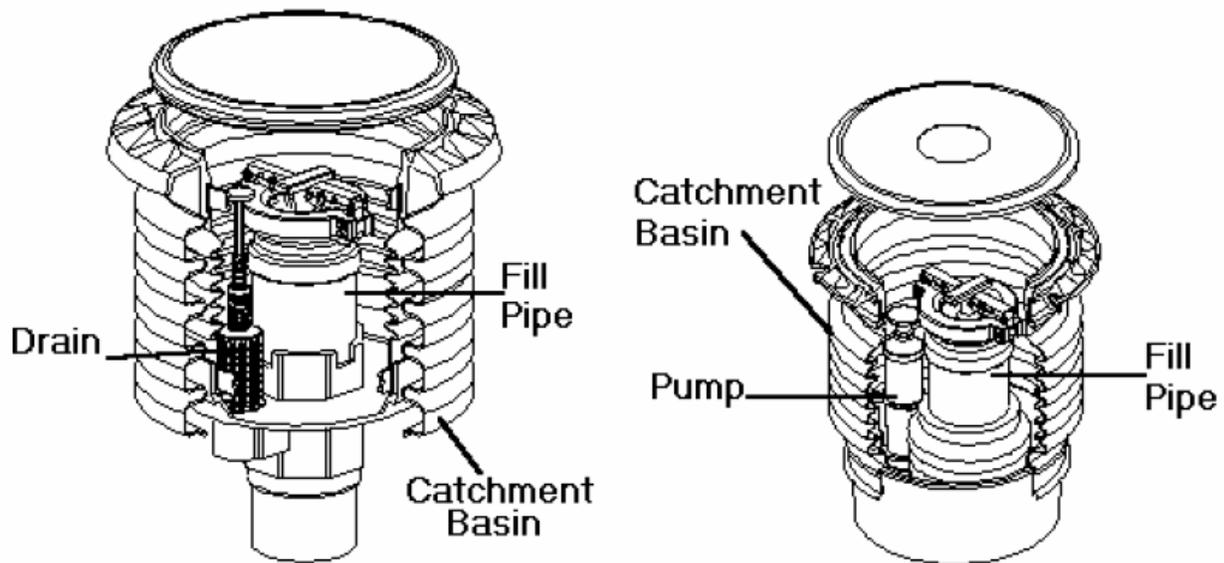
- Spill buckets are contained sumps installed at the fill and/or vapor recovery connection points to contain drips and spills of fuel that can occur during delivery.
- Spill buckets may be found directly above your UST, at a location that is away from your UST (remote), or both.
- Spill buckets, typically range in size from 5 to 25 gallons, and lids range from 1 to 2 feet in diameter
- There is no capacity requirement for spill buckets.
- Spill and overfill devices are not required with transfers of fuel, 25 gallons or less



NO TAG, NO PRODUCT –if there is not a current tag on the fill pipe, the distributor should not deliver product.

The EPA requires that all fill pipes have a spill bucket installed around them. Exemption to this rule, applies to transfers of 25 gallons or less, example would be a waste oil tank.

Spill Buckets



Spill Bucket Inspection

- Should not have any visible holes or cracks or damaged areas.
- The lid should be in good condition.
- Should not be deformed or warped.
- Should be clean and dry and free from debris.

If the Spill Bucket is full of water it no longer can contain a spill and must be cleaned out.

Testing

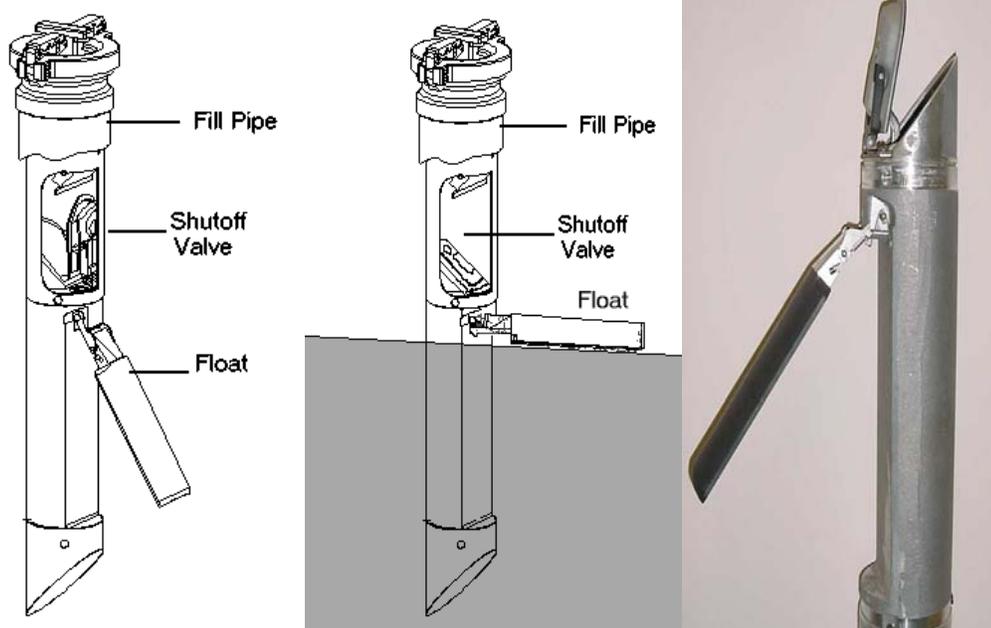
- Spill Buckets must be tested at installation if required by the manufacturer's specifications.
- If a Spill Bucket's integrity is questionable the DERR may require testing.

Overfill Prevention:

Overfill prevention equipment is installed on the UST and is designed to stop product flow, reduce product flow or alert the delivery person during delivery before the tank becomes full and begins releasing petroleum into the environment.

- Overfill prevention equipment must automatically shut off the flow into the tank when the tank is no more than 95% full.
- Alerts the tanker driver when the tank is no more than 90% full by sounding a high level alarm or restricting the flow into the tank.
- Spill and overfill devices are not required with transfers of fuel, 25 gallons or less

Automatic Shutoff Devices An automatic shutoff device installed in an underground storage tank (UST) fill pipe can slow down and then stop the delivery when the product has reached a certain level in the tank. This device has one or two valves that are operated by a float mechanism. The illustrations below show one type of automatic shutoff device. Note that the illustration on the left shows that the float is down and the fill valve is open. The illustration in the middle shows the float up and the fill valve closed.

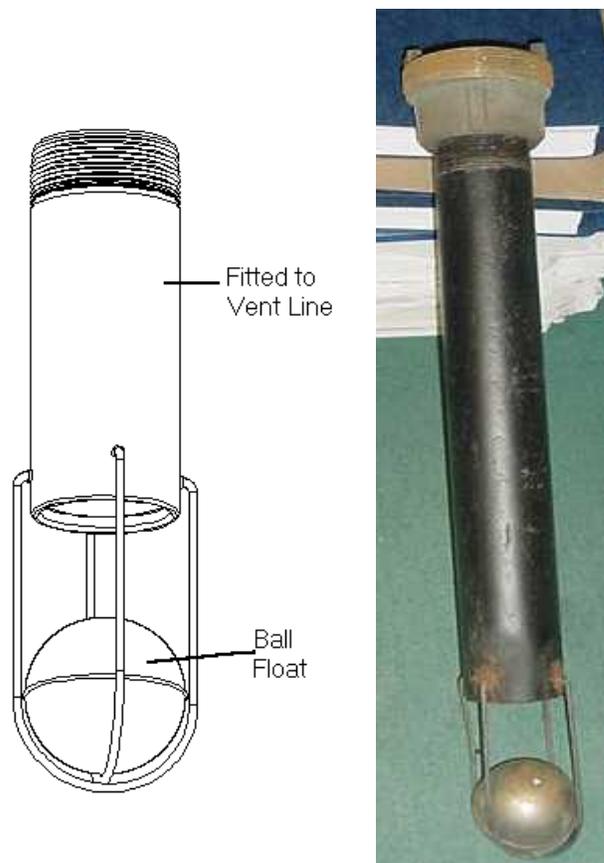


There should be no obstructions, such as broken gauge sticks inside the drop tube. This disables the overfill valve and can cause the UST to be overfilled.

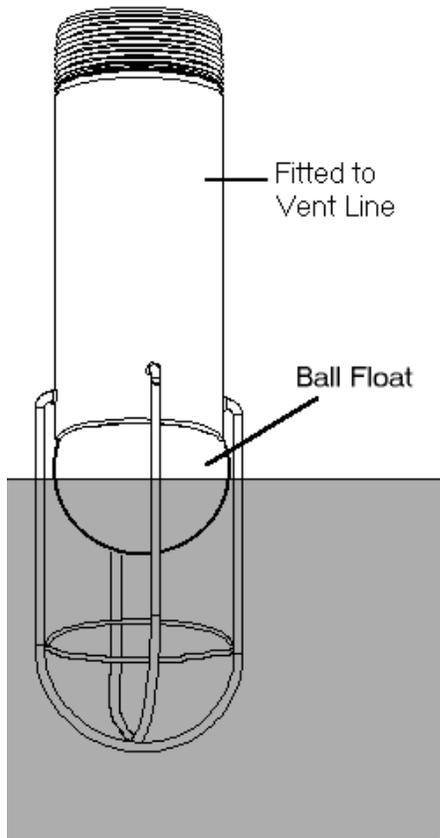
Ball Float Valves

Ball float valves (also known as float-vent valves) are fitted on the bottom of the vent line and hang down several inches below the top of the UST. When the product level is below the cage, the ball rests at the bottom of the cage and the vent line is open (see illustration below). As the level of the product rises above the bottom of the cage, the ball floats on the product and rises in the cage. As the delivery continues, the ball eventually seats in the vent line, and restricts vapor flowing out the vent line **BEFORE** the tank is full. If all tank fittings are tight, the ball float valve can create enough back pressure to restrict product flow into the tank--which can notify the driver to close the truck's shutoff valve. However, if the UST has loose fittings, sufficient back pressure may not develop and will result in an overfill.

NOTE: Manufacturers do not recommend using ball float valves with suction piping, pressurized delivery, or coaxial Stage I vapor recovery.



Ball Float Valve with the ball at the bottom of the cage and the vent line open. This indicates the product is below the cage and the vent line is open.



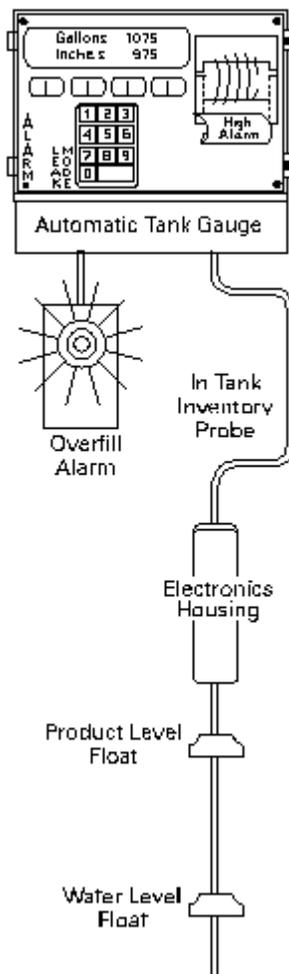
Ball Float Valve rises as the product rises. The ball eventually seats in the vent line and restricts vapor flowing out of the vent before the tank is full.

If your facility has 2 point vapor recovery with ball float ensure that a rock or other obstruction is not jammed in the vapor recovery poppet. This disables the ball float device and can be an Air Quality violation.

Overfill Alarms

Overfill alarms use probes installed in the tank (see illustration below) to activate an alarm when the tank is either 90 percent full or within 1 minute of being overfilled. Either way, the alarm should provide enough time for the driver to close the truck's shutoff valve before an overfill happens. Alarms must be located where the driver can see or hear them easily. (Overfill alarms are often a part of automatic tank gauging systems.)

Overfill alarms work only if they alert the driver at the right time and the driver responds quickly. Remember to put the alarm on an electrical circuit that is active all the time so that the alarm will always work. Many deliveries are made at night when the facility is closed. You don't want to turn off your alarm when you turn off the office lights.



Chapter 5

Release Detection for Tanks

- **General Requirements**
- **Automatic Tank Gauging Systems**
- **Interstitial Monitoring**
- **Statistical Inventory Reconciliation (SIR)**
- **Inventory Control and Tank Tightness Testing**
- **Manual Tank Gauging**

General Requirements

- You must be able to determine at least every 30 days whether or not your tank and piping are leaking by using proper release detection methods.
- Your release detection method must be able to detect a release from any portion of the tank and connected underground piping that routinely contains product.
- Release detection must be installed, calibrated, operated, and maintained according to the manufacturer's instructions.
- The 2005 Energy Act requires secondary containment and interstitial monitoring on all UST systems installed on or after October 1, 2008. (to include Emergency Generator Tanks)
- For Groundwater Monitoring and Vapor Monitoring contact the DERR for requirements.

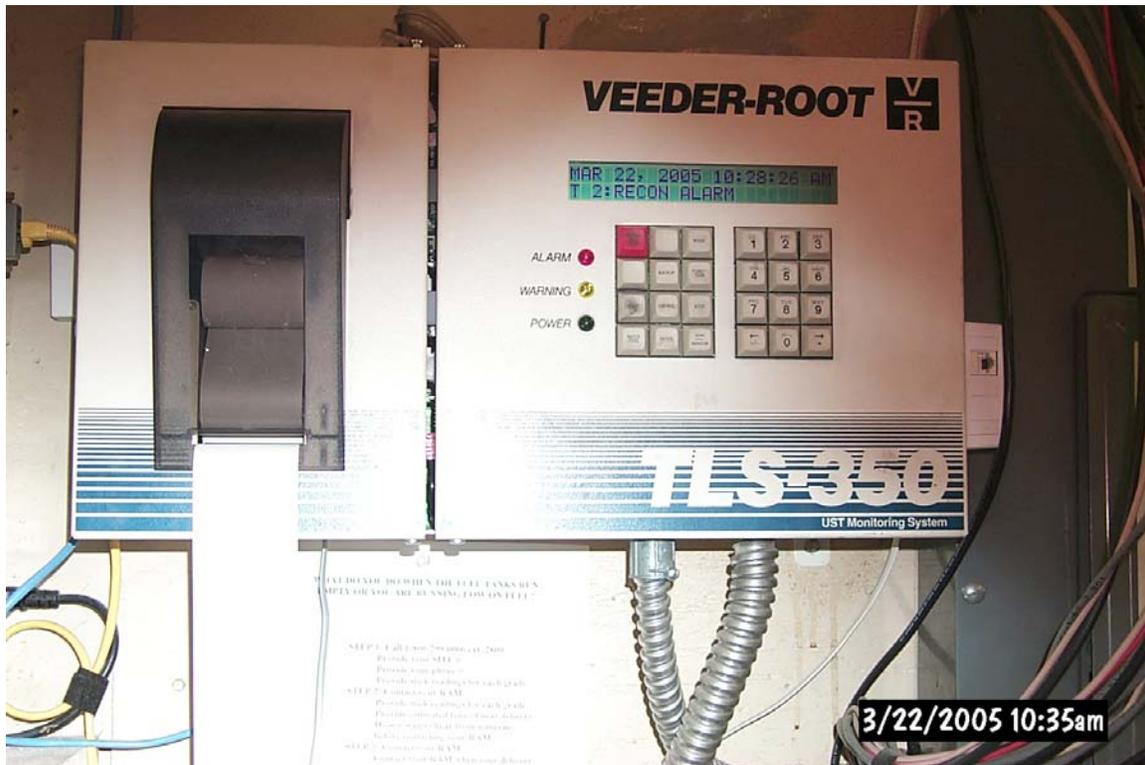
Permanent Forms of Leak Detection are

- Automatic Tank Gauging
- SIR
- Interstitial monitoring
- Groundwater Monitoring
- Vapor Monitoring

Non-Permanent Forms of Leak Detection are:

- Inventory Control with Tank Tightness Testing
- Manual Tank Gauging with Tank Tightness Testing

Automatic Tank Gauging



Example of an ATG monitor.

An automatic tank gauging (ATG) system consists of a probe permanently installed in a tank and wired to a monitor to provide information on product level and temperature. ATG systems automatically calculate the changes in product volume that can indicate a leaking tank.

Basically two types of ATG monitoring:

- Continuous in-tank Leak Detection, is technology that allows the AGT to continuously monitor fuel height and temperature information to detect idle times in the tank. During each idle time period, data is collected and combined with information from other idle periods to form a highly accurate leak detection database and perform leak test from this data. This method allows for around the clock fueling operations.
- Static Testing: Requires that the tanks not be used for a specified amount of time, according to the manufacturer's specifications. Can

be programmed to run during the facilities idle periods, which usually occur at night.

Additional ATG considerations:

- Make sure your ATG system is certified for the types of tanks and substances stored.
- Ensure that the ATG is set-up and programmed correctly
- Use your ATG system to test for leaks at least every 30 days.
 - Testing more often is recommended
- Ensure that the amount of product in your tank is sufficient to run the ATG leak test. The tank must contain a minimum amount of product to perform a valid leak test according to the manufacturer's specifications.
- Frequently test your ATG system according to the manufacturer's instructions to make sure it is working properly.
 - Don't assume it is always running properly.
 - Most ATG systems can run a diagnostic check.
- Have your ATG serviced according to the manufacturer's maintenance procedures.
- Failed tests.
 - If you get failed monthly test (.2 ghp test) it must be justified within 24 hours or contact the DERR as a suspected release.
 - If the test cannot be justified, shut the tanks down and contact the DERR
- Have an owners manual on site
- Keep the results of your ATG system tests for at least 3 years.
- Keep all records of calibration, maintenance, and repair.
- Keep manufacturer's performance claims (third party certifications) for the leak detection system for 5 years.

Secondary Containment With Interstitial Monitoring

Secondary containment is a barrier between the portion of an UST system that contains product and the outside environment. Examples of secondary containment include an outer tank or piping wall or an existing tank if a new primary tank is installed inside the existing tank. The area between the inner and outer walls is called the interstitial space – This space is monitored manually or automatically for evidence of a leak at least once every month.

Secondary containment:

- Provides a convenient means of recovering released product.
- Provides a space that can be monitored for the presence of releases.
- Contains a discharge from the tank or piping

Types of Interstitial Monitoring:

- Probes and sensors. Status reports must be printed out monthly.
- Some Interstitial Monitoring systems can be a visual inspection, and must be recorded/logged every 30 days.
- Some systems allow physical sticking of the interstitial space, and must be recorded/logged every 30 days.

Additional Interstitial Monitoring considerations:

- Make sure your interstitial monitoring equipment and any probes are certified for the types of tanks, piping, and stored contents.
- Make sure the probes/sensors are located at the lowest point in the sump.
- Use your release detection system to test for leaks at least every 30 days.
 - Testing more often is recommended
- Frequently test your leak detection system according to the manufacturer's instructions to make sure it is working properly.
 - Don't assume it is always running properly.

- Some interstitial monitoring systems have a “test” or “self diagnosis” mode that can easily and routinely run these checks.
- Have your monitoring system serviced according to the manufacturer’s maintenance procedures.
- Failed tests.
 - If you get failed monthly test (.2 ghp test) it must be justified within 24 hours or contact the DERR as a suspected release.
 - If the test cannot be justified, shut the tanks down and contact the DERR
- Have an owners manual on site
- Keep the results of your monthly monitoring tests for at least 1 year.
- Keep manufacturer’s performance claims (third party certifications) for the leak detection system for 5 years.
- Keep all records of calibration, maintenance, and repair.

Statistical Inventory Reconciliation (SIR)

SIR is a method in which a trained professional uses sophisticated computer software to conduct a statistical analysis of inventory, delivery, and dispensing data. You must supply the professional with data every month. The results of the analysis may be PASS, INCONCLUSIVE, or FAIL. Most SIR methods analyze both the tanks and lines.

- Make sure your SIR vendor's methodology is certified and approved for use in Utah.
- Always check for discrepancies which may indicate a release.
- Supply daily inventory data to your SIR vendor at least every 30 days. The vendor will provide you with your leak detection results after the statistical analysis are completed.
- If you receive an "inconclusive" result, you must work with your SIR vendor to correct the problem and document the results of the investigation.
 - An inconclusive result means that you have not performed leak detection for that month.
 - If you cannot resolve the problem, treat the inconclusive result as a suspected release.
- If you use an ATG system to gather data for the SIR vendor, have the ATG periodically serviced according to the manufacturer's specifications.
- If you stick your tank to gather data for the SIR vendor, make sure your stick can measure to 1/8 of an inch and can measure the level of product over the full range of the tank's height. Measure and record any level of water.
- Keep results of your SIR tests for at least 3 years.
- If you use an ATG system, keep all records of calibration, maintenance and repair.
- Keep records of investigations conducted as a result of any monthly monitoring conclusion of "inconclusive" or "fail" for at least 3 years.

Inventory Control and Tank Tightness Testing

Inventory control involves taking measurements of tank contents and recording the amount of product pumped each operating day, measuring and recording tank deliveries, and reconciling all this data at least once a month. This method also includes tightness testing.

Any new tank brought into use after 1998 and before Oct 2008 can use this method.

- Take inventory readings and record the numbers at least each day the product is added to or taken out of the tank.
- Reconcile the fuel deliveries with the delivery receipts by taking reading before and after each delivery.
- Reconcile your data at least every 30 days.
- Have a tank tightness test conducted at least every 5 years.
- Keep results and data for at least 1 year.
- Keep the results of your most recent tightness test
- Ensure that the equipment used to measure the product can measure the full range of the tank height to 1/8th of an inch.
- Be sure to check for water to 1/8th of an inch.

Manual Tank Gauging

Manual tank gauging involves taking your tank out of service for the testing period (at least 36 hours) each week, during which the contents of the tank are measured twice at the beginning and twice at the end of the test period. The measurements are then compared to weekly and monthly standards to determine if the tank is tight.

- Manual tank gauging can be used only on tanks 2,000 gallons or smaller.
- Tanks 1,000 gallons or smaller can use this method alone.
- Tanks from 1,001 to 2,000 gallons can use manual tank gauging only when it is combined with periodic tank tightness testing. The combined method of manual tank gauging and tank tightness testing is a TEMPORARY leak detection method.
 - You can use the combined method only for 10 years after installing a new tank
 - During this 10-year period, tanks need tightness testing every 5 years.
 - After the 10-year period, you must use a permanent form of monthly monitoring method,
- Once a week record two inventory readings at the beginning of the test, allow the tank to sit undisturbed for the time specified, and record two inventory readings at the end of the test.
- Reconcile the numbers weekly and record them.
- At the end of 4 weeks, reconcile your records for the monthly standard and record the results.
- Ensure that your measuring stick can measure to the nearest 1/8th of an inch and can measure the level of product over the full range of the tank's height.
- Keep your records for at least 1 year.

Chapter 6

Release Detection for Lines

- **General Requirements**
- **Automatic Line Leak Detectors**
- **Line testing**
- **Suction lines**

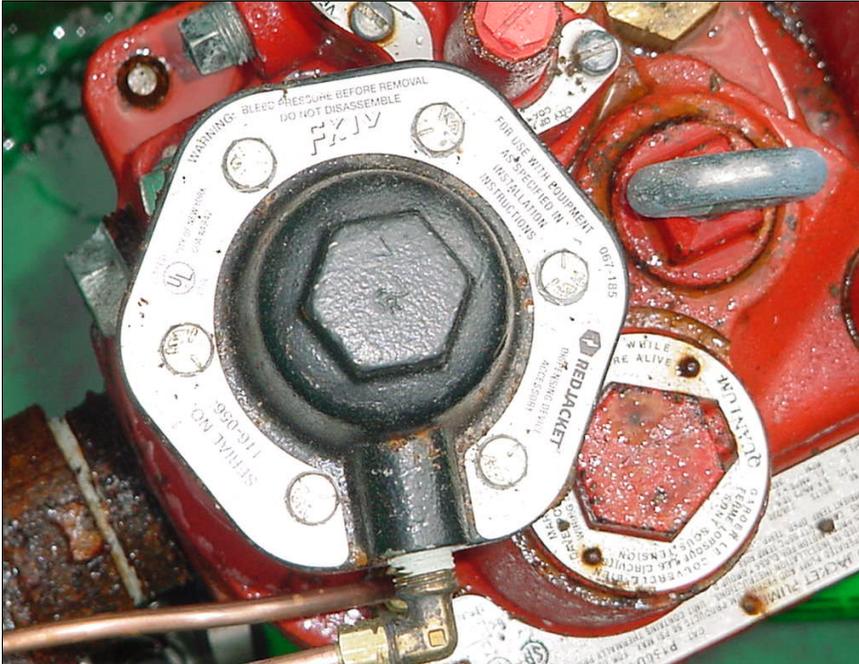
General Requirements

- For pressurize piping you must have an Automatic Line Leak Detector and another form of leak detection. These other forms include:
 - .1gph annual test(by a Utah certified tester)
 - .2gph monthly test, using an Electronic Line Leak Detector (ELLD) or Interstitial Monitoring (IM) or SIR.
- Your release detection method must be able to detect a release from any portion of the underground piping that routinely contains product.
- Release detection must be installed, calibrated, operated, and maintained according to the manufacturer's instructions.
- The 2005 Energy Act requires secondary containment and interstitial monitoring on all piping installed or repaired on or after October 1, 2008. (to include Emergency Generator Tanks)

Automatic Line Leak Detectors

Line Leak Detectors (LLDs) are designed to detect a catastrophic release from pressurized piping. They must be designed to detect a leak at least as small as 3 gallons per hour. When a leak is detected, LLDs must shut off the product flow or restrict the product flow in the piping or triggers a visual or audible alarm.

Automatic Line Leak Detectors may be either mechanical or electronic.



- Mechanical (restricts product flow)
 - Requires an annual 3 gph functionality/simulated leak test at installation and annually.
- Electronic (shuts off product flow)
 - Requires an initial 3 gph functionality/simulated leak test
 - Has performed a 3gph functionality test within the last 12 months, (this test can come from your ATG)

Note: If an Electronic Line Leak Detector (ELLD) is not being used for 0.2 gph monthly monitoring with your ATG, you must do an annual .1gph Line Tightness Test.

Lines

- Pressurized
 - Annual line tightness test at .1gph (leak rate at 1.5 times the operating pressure).
 - or
 - Monthly monitoring (.2gph IM or SIR)
 - The ELLD has performed a .2 gph test, at least once a month for 12 months.
 - IM – sensor status report printed or manual log completed at least once a month for 12 months. Sensors must be located at the lowest point in the containment.
 - SIR reports available for the past 12 months.

- Two types of Suction Piping
 - US suction: which has a check valve at the tank, this type requires a line tightness test every three years.
 - Safer suction: Release detection is not required for safe suction if the system operates at less than atmospheric pressure, the piping is sloped back toward the tank and there is only one check valve in the system located directly under the dispenser.

All annual line tightness tests and simulated leak detector tests must be performed by a Utah certified UST tester.

Chapter 7

Corrosion Protection

- **General Requirements**
- **Cathodic Protection**
- **Flex Connectors**
- **Testing Requirements**

General Requirements

All portions of the UST system that routinely contains product must be constructed of a non-metallic material or isolated from the ground or be cathodically protected (CP). Cathodic Protection helps prevent the UST system from corroding and leaking product into the environment.

- Non-metallic Materials
 - Fiberglass Reinforced Plastic (FRP)
 - Flexible plastic piping



Fiberglass Tanks

- Steel
 - Fiberglass coating over the steel (composite steel)
 - Epoxy coating with Cathodic Protection (STIP-3)
 - Steel tanks or piping with Impressed Current cathodic protection system.



Used STIP-3 tank, showing the anodes.

Cathodic Protection

- Galvanic Cathodic Protection uses a coating along with an anode composed of magnesium or zinc attach to the tank (STPI-3)
- Impressed Current (IC) cathodic protection uses a rectifier and anodes to protect metal tanks and piping.



Rectifier

Flex Connectors

Is a flexible braided piping, usually found under the dispensers or at the submersible pump.

Flex Connectors must have one of the following:

- Not in contact with the soil
- Booted (usually a rubber material wrapped around the flex)
- Cathodically protected

Testing Requirements

- A cathodic protection system must be tested/surveyed within six months of installation and every three years thereafter, to a code of practice developed by a nationally recognized association.
- Any repair records must be kept for the life of the UST system.
- IC system (rectifier) must be monitored every 60 days.
 - Document that the rectifier is on by initialing or signing a log.
 - The last 3 system checks must be maintained for compliance inspections.
- All CP testing must be performed by a Utah certified tester.
- For Impress Current, the results of the last three rectifier checks, and the last two corrosion tests/surveys must be maintained for compliance inspections.

The rectifier must remain on 24 hours a day.

Chapter 8

Inspections and Checks

- **Daily Inspections**
- **Weekly Inspections**
- **Monthly Inspections**
- **Annual Inspections**

Daily Inspections

- May be conducted by the C operator
- Visually check for any problems
 - Leaks at dispensers such as leaking swivels or nozzles
 - Complaints of Automatic Nozzles not shutting off
 - Fuel on the driveway
 - Any unusual conditions

Weekly Inspections

- The Class B operator should be in contact with the facility at least once a week.
- Weekly inspections may also be conducted by the C operator, under the direction of the Class B
- Ensure that the status of the UST system is monitored every seven days for alarms and unusual operating conditions that may indicate a release

Bottom line: Do your Inventory Records match how much product is physically on site?

Monthly Inspections

- Each UST facility must have an on site operator inspection every 30 days. The inspection must be performed by or under the direction of the designated Class B operator. The Class B operator will ensure that documentation of each inspection is kept and made available for review by the DERR. The Class B operator must sign all monthly inspection forms.
- The UST operator inspection must document that
 - Release detection systems are properly operating and maintained
 - Spill, overfill, vapor recovery, and corrosion protection systems are in place and operational

- Tank top man ways, tank and dispenser sumps, secondary containment sumps, and under dispenser containment sumps are intact, and are properly maintained to be free of water, product and debris
- That tank tags are attach at the fill pipe
- Alarm conditions that could indicate a release are properly investigated and corrected and are reported as suspected releases if applicable, or documented to show that no release has occurred.
- Unusual operating conditions and other indications of a release or suspected release are properly reported.
- The individual conducting the inspection will use the form “UST Operator Inspection-Utah” to conduct on site operator inspections. The form is dated April 30, 2009.
- The DERR may allow operator inspections to be performed less frequently in situations where it is impractical to conduct an inspection every 30 days. The owner or operator must request the exemption, justify the reason for the exemption, and submit a plan for conducting operator inspections at the facility.
- UST facilities whose tanks are properly temporarily closed may conduct an operator inspection every 90 days
- A facility that normally has no employee or other responsible person on site, or is open to dispense fuel at times when no one is on site must have
 - A sign posted in a conspicuous place, giving the name and telephone number or the facility owner, operator or local emergency responders
 - Have an emergency shutoff device

Annual Inspections

- Facility Compliance Inspections - Conducted by the DERR
- The Class B operator must be on site for compliance inspections, or designate another knowledgeable individual to be on site for the inspection.

The Class B operator is ultimately responsible for passing these inspections. Failure to pass a Compliance Inspection will result in the Class B having to be re-trained.

Note:

Owner or Operators must maintain the following records for inspections:

- Documentation of operation of corrosion protection equipment.
- Documentation of repairs
- Release detection records

Chapter 9

Emergency Response

- **Release**
- **Spills**
- **Overfills**
- **Reporting of spills and overfills**
- **Suspected Releases**
- **Suspected releases, confirmation steps**
- **Response**

Release:

- is any spilling, leaking, emitting discharging, escaping, leaching or disposing from an UST in groundwater, surface water or subsurface soils.

Spills

- Spills can occur during customer's use at the dispenser or during the filling of an UST at the underground tank fill pipe.

Overfills

- Occurs when an underground tank is filled beyond its capacity resulting in a discharge of a regulated substance to the environment. Normally it comes from the fill pipe or another access point to the tank.

Reporting of Spills and Overfills

- Spills over 25 gals must be reported to the DERR within 24 hours.
- Spills less than 25 gals that are cleaned up within 24 hours do not have to be reported to the DERR.
- Spills less than 25 gals that are not cleaned up within 24 hours have to be reported to the DERR.

**OWNERS AND OPERATORS
must report a spill or overfill to the DERR at
(801) 536-4100 within 24 hours of the spill or overfill.**

Suspected Releases

A suspected release may occur from:

- Overfill Alarm
 - Some tanks have an overfill alarm, these may be visual or audible alarms, operators should know what these alarms indicate.

- Automatic Tank Gauge (ATG) Alarms
 - From a failed ATG test
 - failed electronic line leak detector test
 - Interstitial monitoring alarm, from a sensor detecting fuel or water
 - overfill alarm
 - High water alarm

- Tank monitoring results include:
 - **ATG**- If you get a failed monthly test (.2 gph test)
 - **Interstitial Monitoring** - Fuel Alarm, from interstitial and sump sensors
 - **SIR** – any monthly failed test or 2 consecutive inconclusive tests
 - **MTG** - fails monthly MTG test
 - **Inventory Control** – fails monthly test

- Unusual Operating Conditions
 - Sudden lose of product from the UST system
 - Unexplained presents of water in the tank
 - Erratic behavior of product dispensing equipment
 - One **FAILED** test from tank leak detection methods conducted monthly, such as SIR or ATG.
 - A tripped Automatic Line Leak Detector (ALLD)

- Observation
 - Any released regulated substance at the UST site or in the surrounding area – such as the presence of liquid petroleum, soil contamination, surface water or groundwater contamination, or petroleum vapors in sewers, basements, or utility lines.
 - Discovery of a release of a regulated substance at the UST site or in the surrounding area, such as vapors in basements or free product in soils or monitoring wells, or petroleum sheen on the surface water.

Reporting of Suspected Releases

**OWNERS AND OPERATORS
must report a suspected release or unusual operating condition
to the DERR at (801) 536-4100 within 24 hours of the spill or overflow.**

Suspected Release Confirmation Steps

- **OWNERS AND OPERATORS MUST investigate and confirm within 7 days that a suspected release of a regulated substance did not occur.**
 - **Release Investigation and Confirmation Steps:**
 - Try and obtain a passing ATG or UST monitoring test for a failed monthly tank leak monitoring test.
 - Try and obtain justification that indicates the alarm was false or that the unusual operating conditions did not create a release of petroleum product.
 - If an alarm or unusual operating conditions cannot be justified or a passing test cannot be obtained, the owner or operator must obtain a Utah certified tester to troubleshoot the problem.

If the Utah certified tester cannot obtain a passing test or justify the alarm, the owner must notify the DERR 801 536-4100 and seek help.

- **You are not required to report if:**
 - The monitoring device is found to be defective and is immediately repaired, recalibrated, or replaced and further monitoring does not confirm the initial suspected release.
 - In the case of inventory control, the first month fails and the second month passes.

Note: Whenever you observe anything unusual with your system or detect product where it shouldn't be, contact your service representative and the DERR (801-536-4100).

Response

Owner and Operator Cleanup Response for Spills, Overfills and Releases

You need to be fully prepared to respond to releases **BEFORE** they may occur. You need to know what to do when release detection methods indicate a suspected or confirmed release. Be ready to take the following steps, as appropriate.

Stop The Release

- Take immediate action to prevent the release of more product.
- Turn off the power to the dispenser and “bag” the nozzle if you suspect a piping leak.
- Make sure you know where your emergency shutoff switch is located.
- Empty the tank expeditiously, if you suspect a tank leak, without further contaminating the site. You may need the assistance of your supplier or distributor. But keep the dispensers operating.

O/O must report a release to the DERR at 801-536-4100 within 24 hours of the release

Contain The Spill Or Overfill

Contain, absorb, and clean up any surface spills or overfills immediately. You should keep enough absorbent material at your facility to contain a spill or overfill of petroleum products until emergency response personnel can respond to the incident. The suggested supplies include, but are not limited to, the following:

- Containment devices, such as containment booms, dikes, and pillows.
- Absorbent material, such as kitty litter, chopped corn cob, sand, and sawdust. (Be sure you properly dispose of used absorbent materials.)
- Mats or other material capable of keeping spill or overfill out of nearby storm drains.
- Spark-free flashlight.
- Spark-free shovel.
- Buckets.
- Reels of “caution tape,” traffic cones, and warning signs.
- Personal protective gear.

Also, identify any fire, explosion or vapor hazards and take action to neutralize these hazards.

Call For Help

Contact your local fire or emergency response authority. Make sure you have these crucial telephone numbers prominently posted where you and your employees can easily see them. See the next page for a form you can copy and post.

Chapter 10

Alternative Fuels

- **General Requirements**
- **Ethanol**
- **Bio-Diesel**

General Requirements

- "Alternative Fuel" means a petroleum-based fuel containing:
 - more than ten percent ethanol, or
 - more than twenty percent biodiesel.
- Notification Requirements:
 - The owner or operator of an underground storage tank shall notify the Executive Secretary whenever:
 - an alternative fuel is stored in the tank.
 - shall be submitted at least 10 days prior to storing an alternative fuel in the tank

Ethanols

E10 and E85 - Concerns lie with ethanol blends greater than E10

- Equipment with Potential Compatibility Issues
 - Fill Pipes
 - Spill and overfill devices
 - Tanks and piping
 - Gaskets, bushings, and couplings
 - Sealants and adhesives
 - Flex connectors and boots
 - Submersible pumps
 - Leak Detection Equipment
 - Filters
 - Shear valves
 - Hoses and nozzles
 - Sumps and Dispenser pans

- Compatibility Concerns
 - State and Federal rules require that all equipment used for storing and dispensing fuels be compatible with the product being stored.
 - Ethanol blended fuels can cause system parts to degrade and dissolve over time
 - E-85 is not compatible with soft metals, such as aluminum, brass, and zinc, many plastics such as polyurethane and PVC.

- Phase Separation
 - Many UST facilities are now or will be receiving gasoline that contains 10% ethanol (E10). If enough water is present in the tank, the water/ethanol mixture will separate from the gasoline and will be drawn to the bottom of the tank.

- Accelerated Corrosion
 - Ethanol acts as a solvent, loosens internal deposits, these particles produced can clog a filter at the dispenser in a short time.

- Conductivity
 - Ethanol has a greater electrical conductivity than petroleum
 - Might impair the operation of capacitance ATG probes
 - Magnetostrictive probes will work but must be compatible

Biodiesels

Products from vegetable oils or recycled greases. Most common is B-20.

- Compatibility
 - Inappropriate filters may clog
 - Copper, brass, bronze, lead, may accelerate corrosion and create sediments
 - Natural Rubber and Nitrile may soften and cause gaskets to fail
- Acceptable Material
 - Teflon, Viton, Fluorinated Plastics, Nylon, Aluminum, Steel, Polypropylene and Fiberglass

Chapter 11

Stage One Vapor Recovery

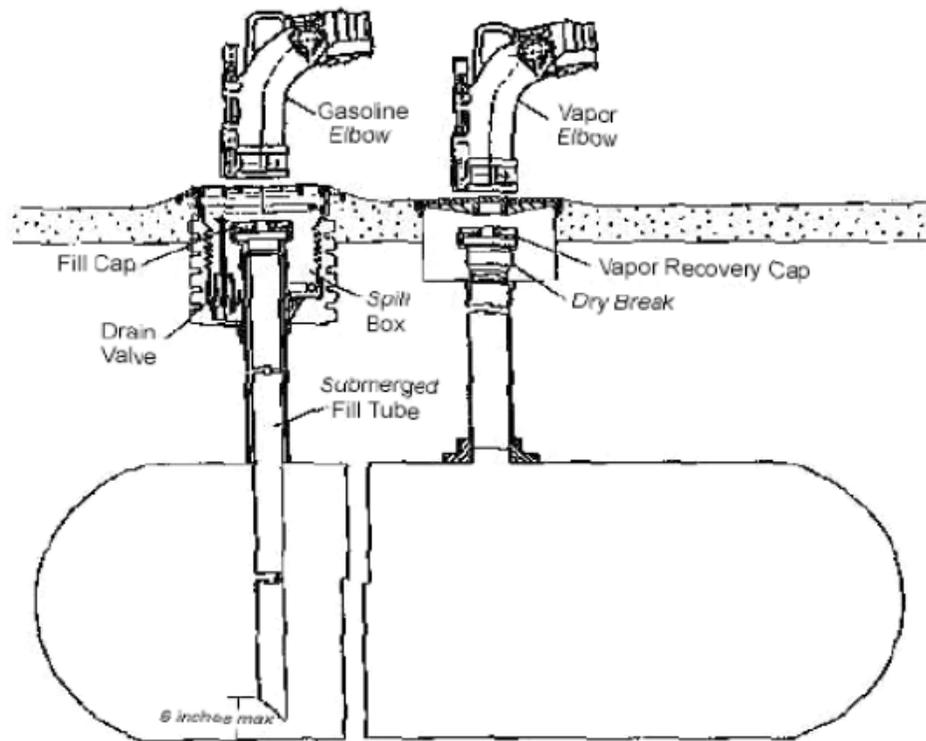
- **General Requirements**
- **Two Point**
- **Coaxial**
- **Pressurize Vent Caps**

General Requirements

- Stage I Vapor Recovery refers to the control of vapors during the transfer of gasoline from the cargo tank to the gasoline dispensing facility. Stage I Vapor Recovery systems control emissions during delivery and storage of gasoline at the gasoline dispensing facility.
- During gasoline delivery, emissions are controlled by diverting the displaced gasoline vapor from the storage tank into the tanker compartment of the vehicle unloading gasoline. The captured vapor is then transported back to the terminal for processing by condensation, adsorption or incineration.
- Vapor Recovery is not required for Diesel Tanks
- All facilities in the state must be in compliance with vapor recovery not later than **April 30, 2011**.

Two Point Vapor Recovery

- Dual-, or two-point system – the filling and vapor recovery provisions on the storage tank consist of two attachment points (one for liquid delivery and one for vapor return to the truck). This is the most common type of system.

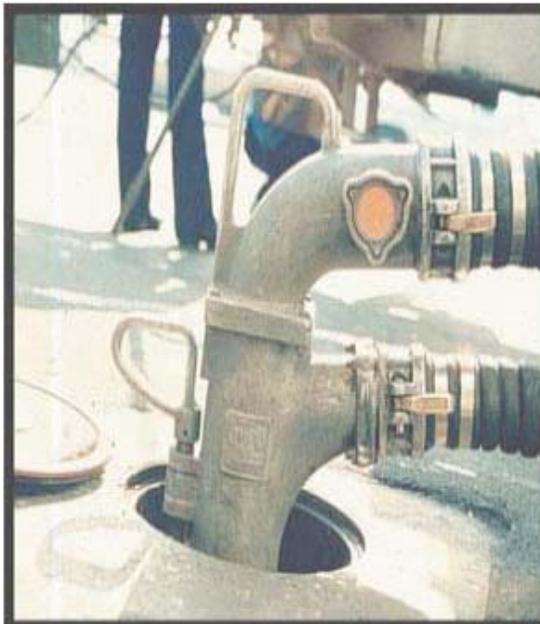


Stage I Dual (Two-point) Vapor Recovery System



Coaxial Vapor Recovery

- **Coaxial, or single-point system** – the filling and vapor recovery provisions consist of a single attachment point.



One Point Coaxial

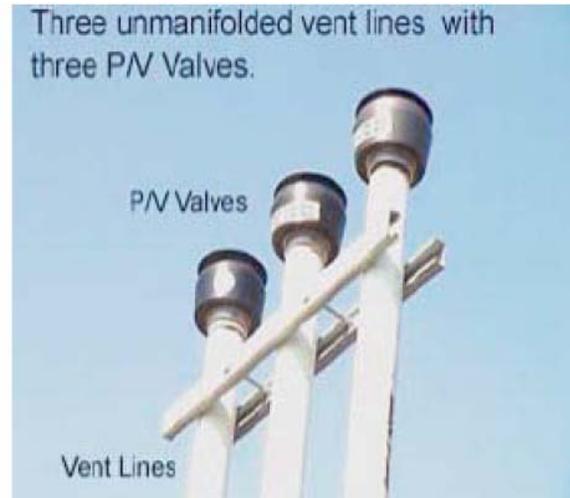




Coaxial Vapor Recovery

Both systems must provide a liquid and vapor tight seal during delivery and at all other times

Pressure Vent Caps



The pressure vent caps are required as part of the Vapor Recovery System.

Appendix

- **UST Operator Inspection Form**
- **UST Operator Inspection Form Detailed Instructions**
- **UST Operator Training Registration Application Form**

UST Operator Inspection - Utah

Facility ID	Facility Name & Address	Class B Operator(s)
Inspections Conducted By:		
Category	Description	Year: J F M A M J J A S O N D
Tank Leak Detection	ATG <input type="checkbox"/> IM <input type="checkbox"/> SIR <input type="checkbox"/> IC <input type="checkbox"/> MTG <input type="checkbox"/> Other <input type="checkbox"/>	Answer Yes, No, or Not Applicable (NA)
Monthly Leak Detection	Valid leak tests have been performed and filed for all USTs	
Weekly Check	The status of the UST system is monitored every seven days for alarms and unusual operating conditions that may indicate a release	
Piping Leak Detection	ALD <input type="checkbox"/> LTT <input type="checkbox"/> .2 GPH <input type="checkbox"/> IM <input type="checkbox"/> SIR <input type="checkbox"/>	
Annual Automatic Line Leak Detector (ALD) Functionality Test	Passing tests within the last 12 months	Date:
	Mechanical ALD: <input type="checkbox"/> Simulated Leak (SL) Electronic ALD: <input type="checkbox"/> 3gph <input type="checkbox"/> .2gph <input type="checkbox"/> .1gph <input type="checkbox"/> SL	Tester:
Line Tightness Testing (LTT)	Passing tests within the last 12 months	Date:
		Tester:
Monthly Line Monitoring	Valid piping test results passed and available for inspection	
Corrosion Protection	All portions of the UST system in contact with the ground are non-metallic or cathodically protected	
Impressed Current and Galvanic Systems	Cathodic Protection test has been performed within the last 3 years and has passed and is available for inspection	Date:
		Tester:
Impressed Current only	Rectifier has been checked and logged within last 60 days	
Physical Inspection	All tank top covers present, in good condition and seated firmly	
	All tank top entry ports are properly capped and sealed	
Spill Containment	All are free from debris, water and product	
	All are free from cracks, holes and deformation	
Overfill	All fills are un-obstructed	
	Auto-shutoff valves or ball floats are present and functional	
	Overfill alarm properly located and clearly identified	
Vapor Recovery Port	Poppet of vapor-recovery adaptors moves freely & seals tightly	
	Vapor recovery ports are un-obstructed	
UST Compliance Tags	Current year tags are present and old tags removed	
Dispenser, Submersible and Other Sumps	Debris, water and product have been removed and properly disposed	
	Sumps free of cracks, holes and other defects	
	Penetration fittings intact and secured	
	All sensors are placed in the lowest portion of the sumps	
All Submersible Pumps (STP)	Flexible connectors and piping in good condition	
	Submersible pump & visible piping and fittings show no sign of leaking	
All Dispensers	Flexible connectors and piping in good condition	
	Visible piping, fittings, ancillary equipment show no sign of leaking and all conduits are sealed	
Suspected Release Reporting	All suspected releases discovered during the operator inspection have been reported to DERR within 24 hours	
Date of operator inspection		
Initials of person performing inspection		

I certify under penalty of law that I am the Class B Operator referenced above and that I am familiar with information on this form and that it is true, accurate and was completed in accordance with R311-201-12(h).

Signature of Class B Operator	Date:
-------------------------------	-------

Describe any observations or deficiencies here:

UST Operator Inspection Form Detailed Instructions

Tank Leak Detection:

Monthly Leak Detection

- Valid leak tests have been performed and filed for all USTs
- ATG Automatic Tank Gauging:**
 - Passing valid tank test report printed & filed for current month.
- IM Interstitial Monitoring:**
 - Sensor status report printed or manual log completed & filed for current month.
- SIR Statistical Inventory Reconciliation:**
 - Inventory readings for product input, withdrawals, and the amount remaining in the tank are up to date for the current month.
 - Last months results passed, available and filed.
- IC Inventory Control:**
 - Inventory readings for product input, withdrawals, and the amount remaining in the tank are up to date for the current month.
 - Last months inventory readings are properly reconciled and are within the appropriate allowable amount and filed.
- MTG Manual Tank Gauging:**
 - Records show proper sticking and measuring of product level at beginning and end of inactive period of appropriate length.
 - Last months inventory readings are properly reconciled and are within the appropriate allowable amount and filed.

Weekly Check

- The status of the UST system is monitored every seven days for alarms and unusual operating conditions that may indicate a release:
 - Ensure that any alarms or failed tests from your ATG have been investigated and justified or reported as a suspected release to DERR.
 - Inventory records show no unaccounted losses of product.

Piping Leak Detection:

(ALD) Annual Automatic Line Leak Detector Functionality Test(s):

- Passing tests within the last 12 months:
 - A Utah Certified Tester has tested for proper operation of the line leak detector by simulating a 3.0 gallons per hour leak (SL) **or** the electronic line leak detector has performed a 3 gallons per hour (gph), .2 gph or .1 gph test with the last 12 months.

(LTT) Line Tightness Test(s):

- Passing tests within the last 12 months:
 - A Utah Certified Tester has tested the pressurized piping (.1 gallons per hour (GPH)) within the last 12 months, has passed and has been properly filed.

(.2 GPH, IM, SIR) Monthly Line Monitoring:

- Valid piping test results passed and available for inspection:
 - **(.2 GPH)**: Electronic Line Leak Detector has a passing valid test report, it has been printed and filed.
 - **(IM)** Interstitial Monitoring: Sensor status report printed or manual log completed and filed.
 - **(SIR)** Statistical Inventory Reconciliation: Last months results passed, available and filed.

Corrosion Protection:

- All portions of the UST system in contact with the ground are non-metallic or cathodically protected:
 - Any metallic components of the UST system in contact with soil or water must have cathodic protection.

Impressed Current and Galvanic Systems:

- Cathodic Protection test has been performed within the last 3 years and has passed and is available for inspection:
 - A Utah Certified Cathodic Protection Tester has performed a Cathodic Protection test within the last 3 years and has passed and is available for inspection.

Impressed Current System only:

- Rectifier has been checked and logged within last 60 days:
 - Log is current and available for inspection.

Physical Inspection:

- All tank top covers present, in good condition and seated firmly:
 - Check to ensure the lids to the turbine sumps, spill buckets and transition sumps create a tight seal when closed and are securely fastened.
- All tank top entry ports are properly capped and sealed:
 - Check to ensure the caps at the fill and vapor recovery ports are seated firmly and not broken or cracked.
 - All other entry ports including probes (interstitial and ATG) and all other unused entry ports are sealed tightly.

Spill Containment:

- All are free from debris, water and product:
 - Water or product must be removed and disposed of properly, so that the bucket can have the capacity to contain a spill and be easily visually inspected.
- All are free from cracks, holes and deformation:
 - Visually inspect the spill buckets for cracks and holes. Check for deformation in the spill bucket or separation from the fill pipe.

Overfill:

- All fills are un-obstructed:

- No obstructions, such as a broken gauge stick, inside the drop tube. This disables the overfill valve (if present) and can cause the UST to be overfilled.
- Auto-shutoff valves or ball floats are present and functional:
 - Drop tube shutoff valve present (can be seen down the drop tube)
 - 2 point vapor recovery with ball float. No rock or other obstruction jammed in vapor recovery poppet.
- Overfill alarm properly located and clearly identified:
 - Alarm is mounted close enough to the fills so that the delivery driver can clearly see and hear it.
 - The alarm is functional and sounds at the proper level.

Vapor Recovery Port:

- Poppet of vapor-recovery adaptors moves freely & seals tightly:
 - The poppet at the vapor recovery port (dry break) moves freely and seals tightly.
- Vapor recovery ports are un-obstructed:
 - The poppet at the vapor recovery port (dry break) has no obstructions such as rocks or sticks.

UST Compliance Tags:

- Current year Tags are present and old tags removed:
 - Current year Tags are attached by nylon straps to the fills and are clearly visible to the delivery drivers. All previous year Tags have been removed.

Dispenser, Submersible and other sumps:

- Debris, water and product have been removed and properly disposed:
 - Liquids and ice can damage sumps or cause corrosion of metal components. Many sumps are not designed to contain fuel for long periods of time and it may compromise the integrity of the sump. Check to see if debris such as old fuel filters, old leak detectors, gravel, dirt and garbage has been removed.
- Sumps free of cracks, holes and other defects:
 - Ensure that the walls of the sumps are intact and are not slumping or warping. Check for cracks in areas where components, such as conduits and piping, enter the sump.
- Penetration fittings intact and secured:
 - Inspect all sump penetrations for tears or any other sign of deterioration. Loose seals can potentially allow a release of fuel into the environment.
- All sensors are placed in the lowest portion of the sumps:
 - Sensor properly mounted vertically at the bottom of the sump at the lowest point.

All Submersible Turbine Pumps (STP) (with or without containment sumps):

- Flexible connectors and piping in good condition:
 - Any visible flex connect not deformed, kinked or bent beyond what the manufacture recommends.

- Inspect any visible flex plastic piping for splitting, sponginess, any elongation or cracking.
- Submersible pump and visible piping and fittings show no sign of leaking:
 - All fittings, such as leak detector and functional element, are tight and show no sign of leaks or seeps. If no sump, check for soil staining which may indicate a drip.

All Dispensers:

- Flexible connectors and piping in good condition:
 - Check all the dispensers with a flashlight. Check visible flex connectors or flexible plastic piping for any deformation, splitting or kinking.
- Visible piping, fittings, ancillary equipment shows no sign of leaking and all conduits are sealed:
 - Check for drips or seeps from fuel filter, fire valves or any other fittings within the dispenser. If no sump, check for soil staining which may indicate a drip.

Suspected Release Reporting:

- All suspected releases discovered during the operator inspection have been reported to DERR within 24 hours:
 - Be prepared to respond to releases BEFORE they may occur. You need to know what to do when release detection methods indicate a suspected or confirmed release.
 - A suspected release can be:
 - a failed monthly tank test,
 - a failed monthly or annual line test,
 - an unaccounted loss of inventory from the UST,
 - any Unusual Operating Conditions, such as drips at dispensers or sub-pump,
 - UST overfills or surface spills of fuel,
 - free product or vapors found on site or on adjacent properties.

The person performing the inspection must date and initial the inspection each month. The Class B operator must sign off on the inspections. If any information on this form is found to be inaccurate the Class B operator may be subject to the retraining requirements found in Utah Underground Storage Tank Rules R311-201-12(k) and in the UST Owner/Operator Guidance Document-Chapter 2.

**Utah
Underground
Storage Tank
(UST)
Program**

UST Operator Training Registration Application Form



Instructions: This form part of the application packet necessary to satisfy the registration requirement for Class A and B operators (R311-201-12). Incomplete application packets will not be accepted. A complete application packet will include: this application form, citizenship status documentation (notarized with copy of Driver License), the \$50 registration fee, and certificate of completion or date of enrollment in approved training.

For State Use Only

Registration Number(s) : OA- OB-

Date Fee Processed:

Date Passed:

Expiration Date:

Training Confirmed: Yes/No

Applicant Name (Print)

Employer Name **or** Contractor Name (class B only)

Work Address, City, State

Employer/Contractor Address, City, State (If Different)

Phone #

Phone #

Contact:

Email Address:

UST Inspector License # (Contractor only) TI-

Type of Registration (check one): Class A Class B Both Class A & B

Initial Retraining

Organization Providing Training:

Training Date:

Exam Date:

Each UST facility must have three classes of operators, A, B, and C, to perform specific duties and help ensure that UST systems remain in compliance and protect human health and the environment. Please list all facilities you are responsible for as a class A or B operator. (Complete form on back of this page if you have additional facilities). You will be required to be re-trained if any of the below listed facilities are found to be out of compliance under Utah Administrative Code, Subsection R311-201-12(k).

Facility Name & Address	Facility ID #	Class A and/or B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B
		<input type="checkbox"/> A <input type="checkbox"/> B

I hereby certify that the forgoing information is true and that I have read the UST Operator Training and Registration requirements for Class A and B Operators in the Utah Administrative Code R311-201-12. I understand that submission of false or misleading information in this application may result in rejection of the registration.

Signature:

Date:

