



Petroleum Storage Tank Spill and Overfill Prevention and Control

A guide for owners and operators of USTs

This is a general guide to laws and regulations for underground storage tanks and an aid in minimizing potential risks; it does not replace those laws and regulations, which take precedence over any information in this publication. If your UST system is located in Kinney, Uvalde, Medina, Bexar, Comal, Hays, Travis, or Williamson county, additional requirements related to the protection of the Edwards or the Trinity Aquifer may apply (Title 30, Texas Administrative Code [30 TAC], Chapters 213 and 214). In addition to the laws and TCEQ rules, local governments and other state and federal agencies may have rules that apply. The owner and operator are responsible for ensuring compliance with all applicable laws and regulations.

How can releases from USTs be prevented?

The TCEQ has adopted technical regulations requiring owners and operators of UST systems to prevent spills and other releases, overfills, and corrosion. Spills and overfills result mainly from bad filling practices. In addition, unprotected steel tanks and piping can corrode and release product through holes caused by corrosion of the metal tank or piping. See module RG-475f, *Protecting Petroleum Storage Tanks Against Corrosion*, for additional information. Regulations pertaining to spill and overfill prevention and control located in 30 TAC 334.51 list the required equipment and define proper fill procedures, maintenance, and record keeping.

What is spill and overfill prevention and control? What is its purpose?

Spill and overfill prevention and control relies on equipment designed to prevent releases to the environment during filling of a UST. The purpose of spill and overfill prevention is to prevent the need for cleanup of contamination that may occur when the UST is filled. Overfills and repetitive spills can result in significant cleanup costs and lost product from your UST system.

What are my requirements?

Three pieces of equipment are necessary to meet requirements for spill and overfill prevention: a tight-fill fitting, a spill container, and an overfill prevention device.

- **Tight-fill fitting:** The fill pipe of the tank must be equipped with a tight-fill fitting, adapter, or similar device to ensure a liquid-tight seal during the transfer of product into the tank. Such a fitting between the delivery hose and the UST's fill port reduces the likelihood of a leak.

- **Spill container equipment:** The fill tube must either be fitted with a spill bucket or enclosed in a liquid-tight manway, riser, or sump. The spill bucket must be designed to minimize entry of surface water, groundwater, or any other substance. Facilities with vapor-recovery equipment may have a vapor-tight drain valve. Spill-containing equipment catches any product from the delivery hose and is located at ground level, surrounding the tight-fill fitting. Spill buckets should be kept clear of debris and liquid at all times.
- **Overfill prevention device:** Each tank is required to have a valve or other device that will prevent overfilling of the tank. There are three basic options:
 - automatic shutoff,
 - automatic flow restrictor (may not be used as overfill prevention if installed or replaced after September 1, 2018), or
 - audible alarm with flow restrictor or automatic shutoff.

What are spill buckets?

A spill bucket, also known as a *spill-containment manhole* or a *catchment basin*, is a bucket sealed around the fill pipe (see Figure 1). Try to keep water, sediment, and spilled product out of spill buckets, and pump out the spill bucket to dispose of any debris, liquid, or sediment properly. If the liquid contains fuel or chemicals, it could be considered a hazardous waste and should be disposed of properly. If sumps are required to be liquid tight, then water must be removed. If the spill buckets are not liquid tight, you may need to remove water to meet corrosion protection requirements (see RG-475f for more information).



Figure 1. Spill bucket.

Manufacturers equip spill buckets with either pumps or drains to remove liquid. See Figure 2.

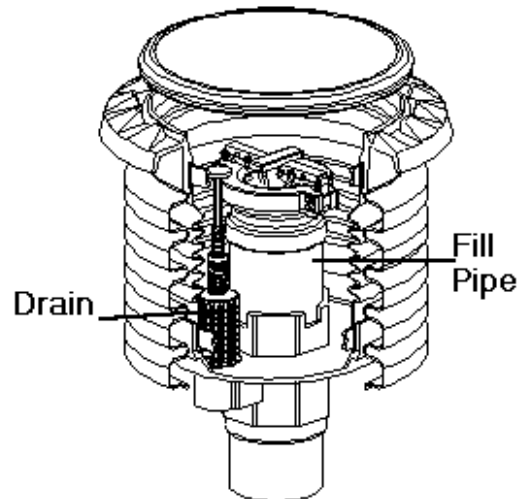


Figure 2. Spill bucket with a drain valve.

What is an automatic shutoff?

An **automatic shutoff** stops flow of product into the tank at a preset level (never more than 95 percent of the tank volume). The most common shutoff devices have a flapper or float (Figure 3) which rises as the tank is filled. Then, when the liquid reaches the preset level, the flapper or float shuts off the flow (Figure 4). The shutoff is most commonly installed in the drop tube.

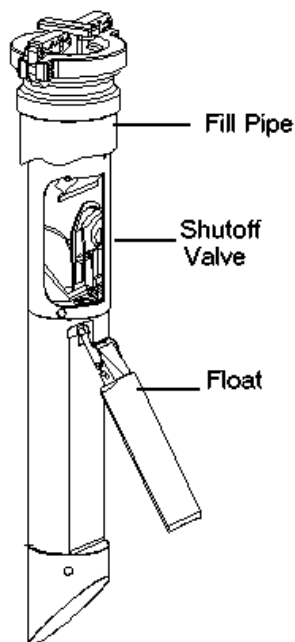


Figure 3. Automatic shutoff device with the float down and the fill valve open.

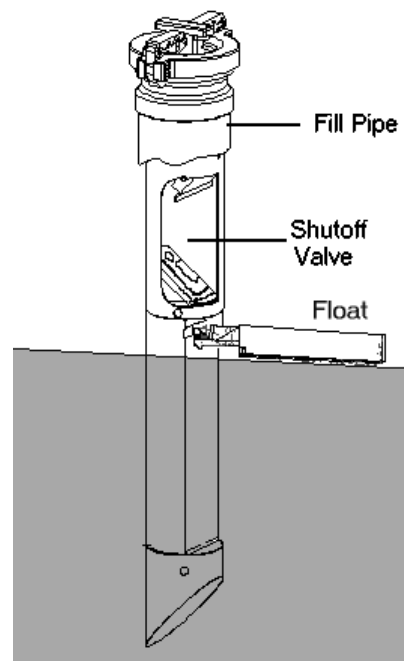


Figure 4. Automatic shutoff device with the float up and the fill valve closed.

What is an automatic flow restrictor?

An **automatic flow restrictor** must restrict flow to the tank above a preset level which never exceeds 90 percent of the volume of the tank. A ball-float valve (Figures 5 and 6), the most common flow restrictor, is usually installed in the vent line or in a separate, dedicated portal, such as an ATG probe riser or Stage I vapor recovery riser. Automatic flow restrictors are no longer allowed to be used as overfill prevention when installed or replaced after September 1, 2018.

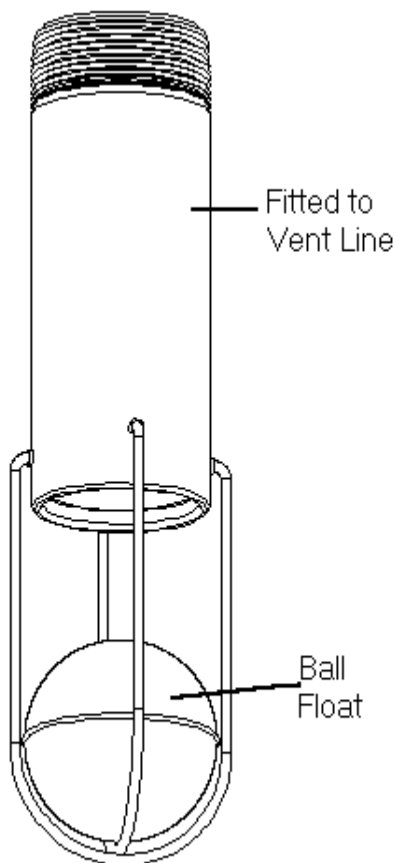


Figure 5. The ball float valve with the ball at the bottom of the cage and the vent line open. The product is below the cage.

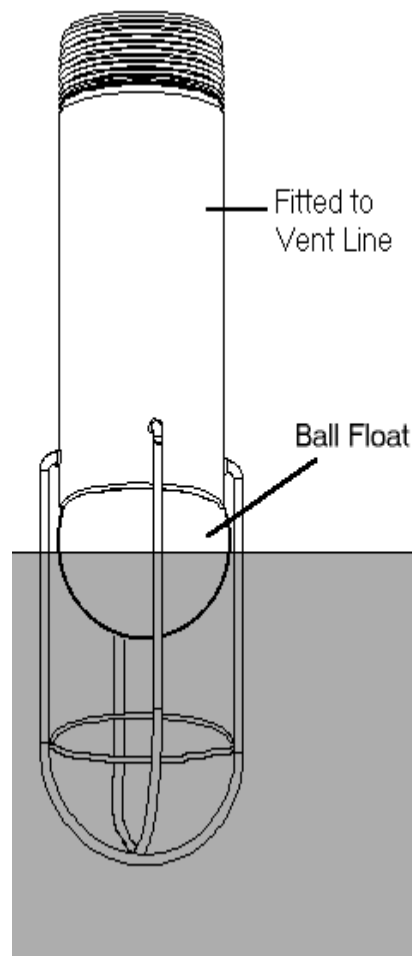


Figure 6. The ball float valve rises as the product rises. The ball eventually seats in the vent line and restricts vapor flowing out of the vent before the tank is full.

Can I use an audible alarm as an overfill device?

An **audible alarm** (Figure 7) that is emitted when the level reaches 90 percent of the tank's volume may be used as an overfill device if used in conjunction with either a flow restrictor or shutoff set at 98 percent of the tank volume.

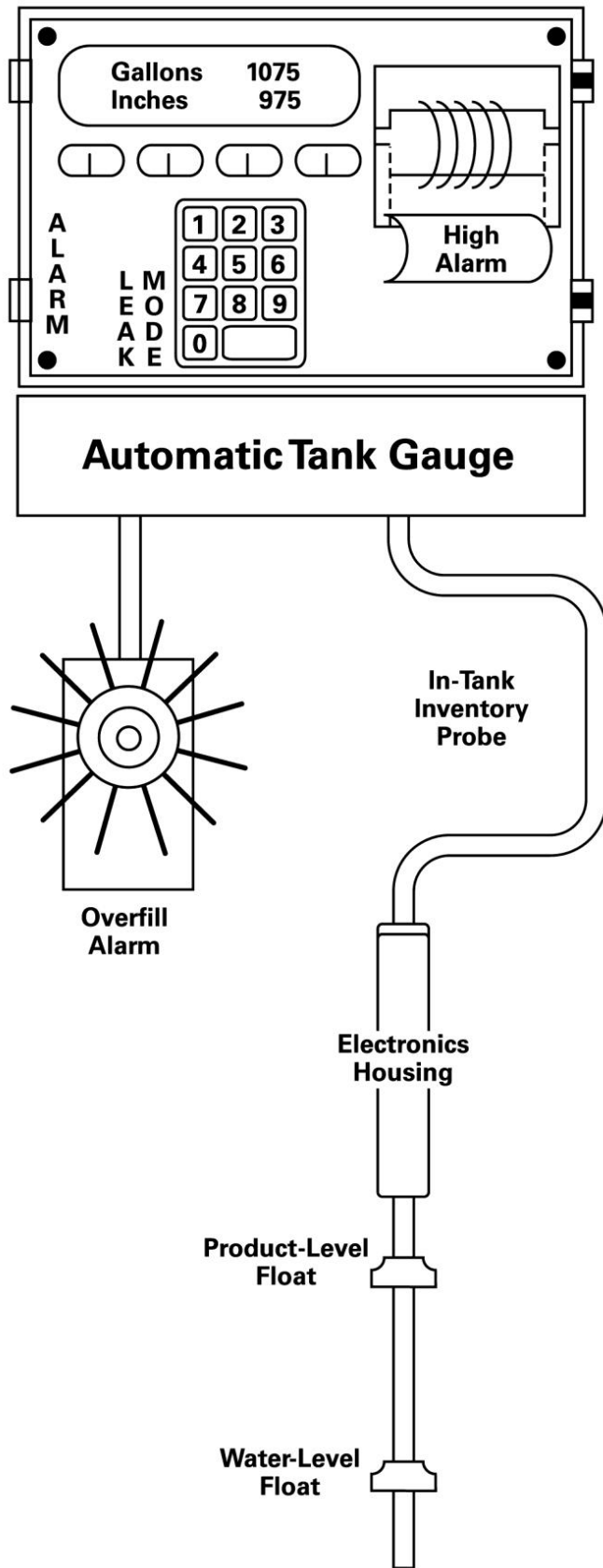


Figure 7. Overfill alarm.

How often do I need to inspect spill prevention equipment?

All spill containers need to be regularly inspected to ensure they are free of debris and liquid and do not have any damage. Currently, facilities are required to conduct this inspection at least once every 60 days.

Beginning January 1, 2021, all facilities are required to conduct 30-day walkthrough inspections of their spill prevention equipment. The owner or operator should make sure that the spill container's sides and bottoms and any penetration points are liquid tight. Remove any liquids or debris found during the inspection within 96 hours of discovery and properly dispose of it. To document compliance with this requirement, keep a logbook with the date of inspection, the result, and name of the person performing the inspection. A sample inspection form is included with this document.

During a 30-day walkthrough inspection:

- Remove any liquid and debris within 96 hours and properly dispose of it.
- Make sure the fill pipe does not have any obstructions and that the cap fits securely.
- If there is double-walled spill prevention, check for leaks in the interstitial area.

What other inspections are required?

In addition to conducting 30-day walkthrough inspections of spill prevention equipment, you must also conduct annual walkthrough inspections of your other containment sumps.

While conducting the annual walkthrough inspection:

- Check all the containment sumps for damage, leaks, or evidence of potential releases.
- For USTs built after January 1, 2009, and any containment sump used for interstitial monitoring, if the sumps have secondary containment, ensure that they are liquid tight and check for leaks in the interstitial area.
- For USTs built before January 1, 2009, and not used for interstitial monitoring of piping, if the sumps are single-walled, check for functioning cathodic protection if the metal components in the sump are in contact with water. Remove any liquid and debris within 96 hours and properly dispose of it.

If you receive product deliveries at frequencies greater than 30 days, then you may conduct your walkthrough inspection prior to each delivery. Make sure to keep records of each delivery and walkthrough inspection.

Exceptions

Certain UST systems are not required to be equipped with the spill and overfill prevention equipment. These exceptions include facilities that do not exceed 25 gallons per transfer, and UST systems that are equipped with alternative equipment that has been reviewed and approved by the agency.

What records do I need to keep?

Generally, you need to keep records to document you're operating your UST system in compliance with applicable rules. No later than January 1, 2021, maintain documentation for the 30-day and annual walkthrough inspections. Keep installation records for the UST system, including documentation of the overfill-prevention device, as long as the equipment is in use.

Where do I find more information?

The complete requirements for spill and overfill prevention may be found at 30 TAC 334.48(h) and 334.51.

See the EPA publication *UST Systems: Inspecting and Maintaining Sumps and Spill Buckets*, EPA 510-R-05-001, available online at <www.epa.gov/ust/ust-systems-inspecting-and-maintaining-sumps-and-spill-buckets-practical-help-and-checklist>.

Search for TCEQ publications online at <www.tceq.texas.gov/publications>. For confidential environmental compliance assistance for small businesses and local governments, contact Small Business and Local Government Assistance via the hotline at 800-447-2827 or online at <www.TexasEnviroHelp.org>.



30-Day Inspection Log of Spill Prevention Equipment

If you have questions on how to complete this form or about the Petroleum Storage Tank (PST) program, please contact the Small Business and Local Government Assistance hotline at 1-800-447-2827, or online at www.TexasEnviroHelp.org.

Facility Information

Facility Name:	Facility ID No.:
Street Address:	City, State, Zip:
Inspected By:	Date/Time of Inspection:

Instructions

- This form may be used to document spill prevention equipment walkthrough inspections performed every 30 days. Owners and operators must begin conducting these inspections no later than January 1, 2021.
- **If applicable**, check interstitial areas of spill prevention equipment.
- If your UST system is receiving deliveries at intervals greater than every 30 days, you may check spill prevention equipment prior to each delivery.

Spill Buckets MM/DD/YY	Bucket No. (Circle one)	Fixed?	Date Fixed	Bucket No. (Circle one)	Fixed?	Date Fixed	Bucket No. (Circle one)	Fixed?	Date Fixed	Bucket No. (Circle one)	Fixed?	Date Fixed
Is the spill bucket free of any liquid and/or debris?	Yes/No			Yes/No			Yes/No			Yes/No		
Is the spill bucket free of cracks or holes?	Yes/No			Yes/No			Yes/No			Yes/No		
Is the fill cap secured tightly on the fill pipe?	Yes/No			Yes/No			Yes/No			Yes/No		
If debris and/or liquid is present, was it removed within 96 hrs.?	Yes/No			Yes/No			Yes/No			Yes/No		
Is the fill pipe free from obstructions?	Yes/No			Yes/No			Yes/No			Yes/No		
Applicable only to: Double-walled spill prevention equipment with interstitial monitoring. Is interstitial area free of leaks?	Yes/No			Yes/No			Yes/No			Yes/No		

Comments: (e.g.: repairs made, corrective actions taken, etc.):
