



Focus On Flooding: Evaluating Your Underground Storage Tank System Before Restart

For Underground Storage Tank Operators

Toxics Cleanup Program

Contact information

For reporting a spill or tank failure, or questions about your UST system:

Ecology's Spills Reporting Hotline

Southwest Region
(360) 407-6300

Northwest Region
(425) 649-7282



Ecology's UST Web page:

<http://www.ecy.wa.gov/programs/tcp/ust-lust/tanks.html>

Finding an UST service provider:

http://www.ecy.wa.gov/programs/tcp/ust-lust/svc_pro/svc_prov_disclaimer.html

U.S. Environmental Protection Agency inventory control guidance

<http://www.epa.gov/OUST/pubs/inventry.pdf>

Your Underground Storage Tank (UST) system may have been affected by recent flooding. There are Washington state rules and regulations that require you to take certain steps when restarting your system. These steps help prevent accidental releases, ensure your safety, and protect human health and the environment. The Washington Department of Ecology (Ecology) is available to assist you!

How can flooding damage my UST system?

UST systems can be damaged in several ways:

- Empty or partially full tanks can float up, damaging the system.
- Water can get inside tanks and displace the contents.
- Groundwater pressure can put stress on underground piping, causing it to leak.
- Water and debris can damage electrical systems.
- Floodwaters over the top of the vent lines can fill the tank with water.
- Loose fill caps/vapor recovery caps allowing water into the tank.

It is important to assess the impact of this damage before putting your system back into service. Protecting public safety and health is our first goal.

What do I need to do before restarting my UST system?

UST owners and operators are responsible for having their UST systems (tanks, piping, and electrical systems) evaluated by an International Code Council (ICC) certified tank service provider. (See the box to the left for information on how to find a service provider.)

The service provider will determine if the tanks are ready to be filled with new product and put back into service. You should have a tightness test performed on the tanks and lines (pressurized systems) as soon as service providers are available. Ecology recommends a tightness test as soon as possible.

Do not put new product into your tanks if this evaluation or later monitoring shows that the UST system has been damaged. The system should be taken out of service and repaired or replaced.

What does my service provider need to know?

The second sheet of this document has instructions for your service provider. These instructions include how to properly inspect your UST system and get it back into service. There is also information about how to inspect the system after it has been restarted.

What should I do with contaminated water?

You will need to properly store and dispose of any petroleum-contaminated water. This water should not be discharged to streets, storm drains, sumps, ditches, or any areas not permitted to receive these liquids. Contact a hazardous waste contractor for more information about proper disposal.

What do I need to do after I restart my UST system?

Once your UST system is back in service, you will need to regularly check for leaks. Depending on the level of residual contamination, certain leak detection methods may not work. You should use the following methods to ensure that no product is being released:

1. Use careful daily inventory control and strict record keeping. The U.S. Environmental Protection Agency has inventory control guidance at <http://www.epa.gov/OUST/pubs/inventry.pdf>.
2. Do daily checks for water with water-finding paste for several days, until you can determine that the system is tight.

If these daily water checks show excessive water or the daily inventory control shows loss of product, **immediately stop using the tanks and properly empty them of all product.** Ecology's Spills Reporting Hotline (360) 407-6300 should be notified within 24 hours.

Finding Your Region



▲ = Regional Office Location

**Southwest
Regional Office:**
360-407-6300

**Northwest
Regional Office:**
425-649-7000

**Central
Regional Office:**
509-575-2490

**Eastern
Regional Office:**
509-329-3400



Instructions for Service Providers

Underground Storage Tank System Restart After Flooding

For Certified Underground Storage Tank Service Providers

Toxics Cleanup Program

This sheet should be given to your International Code Council certified tank service provider before restarting an UST system that has been affected by a flood.

Service providers can reach Department of Ecology staff at (360) 407-6300 in the Southwest Region and at (425) 649-7282 in the Northwest Region.

Technical Protocol for Service Providers

These protocols should be followed to place tanks back into service:

1. Stick tanks using water finding paste or read the automatic tank gauge system, if operable, to determine whether water has entered the UST.
2. Flooded or water-impacted tanks and all lines may need to be drained of water and mud, or pumped dry and cleaned as conditions warrant. Liquids removed must be properly handled and disposed.
3. The interstitial spaces of tanks and lines of double walled systems, if flood impacted, will need to be drained and flushed where possible. Blockage of interstitial spaces will render leak detection useless. Depending on the level of residual contamination at the facility, certain leak detection methods may no longer be viable. Tanks with brine or vacuum interstitial sensors may be returned to service if brine or vacuum levels are normal.

Be prepared to repair damaged leak detection equipment after emergency conditions cease.

4. All facility sumps, pans, and spill buckets need to be pumped dry and cleaned. Replace sump lid gaskets if applicable. If sump lids are missing replace them. Replace sumps and spill buckets that fail to prevent water intrusion after initial cleaning and drying.
5. Check tank bottoms for water and debris. Remove and dispose as appropriate (see item #2 above).
6. Check the deflection of fiberglass tanks. If deflection is greater than the manufacturer's specification—the general guideline is 2%—call the manufacturer for instruction.
7. If tanks have shifted and problems are found, **repair or replace them** according to manufacturer's instructions and appropriate industry standards and regulations. These **systems should be shut down and should not receive fuel** until they are deemed safe for reuse (tightness tested).
8. Check vents for movement, cracking, blockage and proper operation. Check dispenser filters and submersible check-valve screens for plugging with dirt or mud. Flush the dispensers and the UST system if necessary. Collect fluids for proper disposal.

Check critical safety devices (e.g., emergency power shut off controls, line leak detectors, shear valves, stop switches, isolation relays on dispensers, etc.). Shear valves may be salvaged if they can be cleaned and lubricated with corrosion preventative. Some will still have to be replaced. Sump sensors may need to be replaced after emergency conditions cease.

9. In-tank pumps, Automatic Tank Gauge (ATG) probes, overfill devices, automatic line leak detectors, fill and vapor dust caps, etc. should be assessed. Assess their condition after cleaning and replace as necessary.
10. ATG consoles and any associated electronics that are not submerged, should have a programming and operability check performed by a certified technician after emergency conditions cease.
11. After emergency conditions cease, submerged Corrosion Protection (CP) rectifiers and associated aboveground equipment protecting tanks or lines may have to be replaced. If they are not submerged, have a National Association of Corrosion Engineers (NACE) certified professional perform an operability check of the equipment.

Inspect CP lines in saw cuts for damage and replace as necessary. If CP systems are out of service for an extended period of time, perform integrity assessment of affected component before placing CP system back into service. An NACE certified professional will be helpful assessing the CP system.

12. Check accessible fittings, valves and miscellaneous piping for damage and corrosion. Clean and replace as necessary.
13. Document all inspection, assessment and repair activities at each UST system site. Provide this information to Ecology within three months of restarting operations at that UST facility.
14. Submerged dispensers will have to be replaced or repaired as necessary. This includes the hanging hardware. Any suction system dispensers will probably have flood impacted motors and pumps and may need complete replacement.

Post Start-Up Protocol for Service Providers

This protocol should be followed once flood-impacted tanks have been placed back into service and emergency response and restoration have been completed:

1. Precision tightness test tanks, lines and interstitial spaces.
2. Assess interstitial spaces for blockages, especially if used for leak detection.
3. Cathodic protection systems should be checked to make sure they are connected and operational.

Decisions regarding replacement of tanks and lines should be made based on outcome of these tests. Ecology field staff should be consulted on these decisions whenever possible.