

Flood Prevention for Underground Storage Fuel Tanks in the Green River Valley

If you have an underground fuel storage tank and you live below the Howard Hanson Dam in the Green River Valley, your tank system may be at higher risk for damage during the coming flood season (roughly October through March).

The King County Flood Control District has warned residents, businesses and farms below the Howard Hanson Dam to prepare now for a higher risk of flooding.

The higher risk is due to water seeping more rapidly through the earthen bank next to the dam after record high water last winter. Until the U.S. Army Corps of Engineers (Corps) can make repairs, it will limit the amount of flood water it stores behind the dam, according to the district's August 10th, 2009, bulletin.

The restricted flood storage means if heavy and prolonged rain occurs this flood season, many homes, businesses and agricultural lands in the valley that don't typically flood could be flooded by several feet of water. This includes parts of Auburn, Kent, Renton, South Seattle and Tukwila according to the district bulletin.

If flooding should occur; your underground fuel storage tank system may be affected or damaged by flooding in several ways:

- Empty or very low fuel could cause certain tanks to float out of the ground.
- Loose fittings above the tanks could cause water to enter the tanks and displace the fuel out of the tanks.
- Groundwater pressure can put stress on underground piping possibly causing it to shift and crack.
- Water and debris can damage electrical systems.

There are several possible steps you can take **in advance to limit the damage to your underground tank and the environment** if flooding occurs.

- **Keep the tank one-third to two-thirds full of fuel.** This will add weight to the tank so it is less likely to float out of the ground. Do not fill the tank full; at least one-third of the tank should be empty to allow for potential flood water that may

Contact information

For reporting a spill or tank failure:

Ecology's Spills Reporting Hotline
1-800-258-5990

If you have questions about your underground fuel storage system:

Northwest Region
(425) 649-7000
Southwest Region
(360) 407-6300

Department of Agriculture
(360) 902-1857

Ecology UST Web page:

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

Links for flooding

publications on 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_disc_laimer.html

King County Web Page on Flooding:

<http://www.kingcounty.gov/safety/FloodPlan/GreenRiverValley.aspx>

enter the tank through fittings; this will lessen the likelihood of fuel being released into the floodwater.

- **Secure all the openings on top of the tank.** Make sure the fill caps are in good condition and fastened securely. Also, check the seal on the plungers in the spill buckets so water cannot get into the tank. Have your tank service provider ensure all riser fittings above your tank are tight, including the following risers: vapor recovery, Automatic Tank Gauge probe, interstitial port, and empty risers.

If you need to **evacuate the site due to imminent flooding** please take the following steps:

- **Close or “trip” the shear valve on your pressurized piping system** to prevent fuel from getting out of the pipelines if debris floats by and knocks over a dispenser.
- Start a log book with the **level of fuel and water in each tank** or print out the level from the automatic tank gauge system if you have one.
- **Turn off the electricity to the system.** This includes power to the dispensers, pumps, lighting and any other system components.

Procedures to follow for a spill from your underground storage tank:

- If there is any evidence of spilled fuel, call the Ecology’s Spills Reporting Hotline (*see other side of this publication for contact information*).
- Call your local fire department.
- Turn off any power in the vicinity of the tank(s) and piping. If any power lines are down in the area around the tank(s), call the power company immediately.
- If your tank has floated out of the ground, rope off the area and keep people away from the hole in the ground.

After the flood recedes do not use the tanks until you have completed the following steps:

- **Check your tank for water**, using a stick and water-finding paste. If there is water, have it removed. Even though you do not see water on the pavement, the flood waters may still be underground above the tank where you cannot see it. Have a tank service provider remove water from your spill buckets and all sumps above the tanks and under the dispensers.
- **Stick the tanks every 2 hours** and keep a log book with the level of fuel and level of water. Check your first reading against the fuel level before the flood. Determine if you have lost any fuel out of the tank. If the amount of fuel in your tank is decreasing, it **must immediately be removed** by a reclaimer or recycler. If water continues to accumulate, have it removed. When no water has entered the tank for a full 24 hours, you may proceed to the tank and line tightness testing.
- **Tank and line tightness testing** must be performed by a certified tank service provider to ensure the system is tight and not damaged. The tank service provider must also verify the condition of your system and determine if the underground storage tank system meets requirements. If you fail the tank tightness test, the remaining fuel **must be removed** by a reclaimer or recycler.

If your underground storage tank system passes the tightness testing and is **in compliance** with the tank regulations, the next steps are:

- If your tank took on water, the **remaining fuel must be tested** to ensure it meets fuel quality specifications. Please call the Department of Agriculture, for more information.

- If your tank contains **E10 gasoline** or **alcohol-blended fuels**, the **remaining fuel must be tested** to ensure it meets fuel quality specifications; even if your water-finding paste did not detect water. Alcohol-blended fuels can contain entrained water above the allowable limits, which the **water-finding paste may not pick up**. Please call the Department of Agriculture for more information.
- If the fuel does not meet fuel quality specifications it **must be removed** by a reclaimer or recycler.

See two additional Ecology publications: *[Flooding: Evaluating your Underground Storage Tank System Before Restart](#)* and *[Instructions for Service Providers – Underground Storage Tank System Restart After Flooding](#)* (links are on the Ecology's UST web page; see the first page of this publication for information).

Special accommodations:

To ask about the availability of this document in a version for the visually impaired call the Toxic Cleanup Program at 360-407-7170. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.