



Potential Environmental Impacts

Spills or leaks of vehicle fuels can contaminate drinking water wells and aquifers. If washed away by either hoses or rainfall, the toxic chemicals in fuels can end up killing fish and other aquatic life in nearby streams and rivers. Ignitable vapors from leaking tanks can collect in places such as basements or sewers, potentially causing fires or explosions.

Gasoline contains a significant amount of volatile organic compounds (VOCs), many of which are also air toxics. Gasoline vapors can contribute to ground level or “bad” ozone by reacting in sunlight with nitrogen oxides. Breathing ozone can cause coughing, throat irritation, wheezing and shortness of breath and aggravate asthma and other lung diseases. Ground level ozone can also have harmful effects on sensitive vegetation and ecosystems.



Removal of soil contaminated by a leaking underground storage tank

Legal Requirements

Fueling stations and other facilities that store petroleum products are subject to legal requirements that cover the installation and operation of 1) **underground and aboveground petroleum storage tanks**, and in some cases, 2) **gasoline vapor recovery systems**. These requirements help to protect the environment from the release of fuels and gasoline vapors to the environment.

To further protect drinking water, facilities located in **designated aquifer protection areas** are subject to additional regulations. To determine whether your facility is in an aquifer protection area, go to www.ct.gov/deep/aquiferprotection.

Underground Petroleum Storage

Petroleum tanks with 10% or more of total volume below grade (including the volume of connected underground pipes) are considered Underground Storage Tank systems (USTs) and must meet certain requirements. For vehicle service operations, regulated tanks include gasoline, diesel fuel, kerosene, and used oil USTs of any size. Heating oil USTs used solely for on-site heating are also subject to some of the UST requirements. Oil/water separators are not subject to UST requirements but must be in compliance with all applicable standards for the management of wastewater (see the Shop Wastewater fact sheet). UST requirements are summarized below:

UST Installation and Operation

- 1) The tanks must be constructed of fiberglass-reinforced plastic or steel with manufacturer applied anti-corrosive coating and cathodic protection, or be a composite or jacketed tank certified to meet UL Standard 1746 or the ACT-100. The piping must be constructed of

fiberglass-reinforced plastic or steel with manufacturer applied anti-corrosive coating and cathodic protection, or be flexible or semi-flexible plastic. UST systems must be installed according to manufacturer's specifications.

- 2) As of October 1, 2003, all new tanks and piping must be double-walled and have continuous interstitial monitoring.
- 3) The facility must have an approved method of leak detection for both tank and piping and records must be maintained for at least 5 years beyond the operational life of the UST system.
- 4) UST systems equipped with cathodic protection must be tested within 6 months of installation and at least annually thereafter. Additionally, impressed current cathodic protection systems require monthly inspections of rectifier current and voltage output.
- 5) Fill-pipes on tanks must have means to collect spills from delivery hoses unless the UST system is filled by transfers of no more than 25 gallons at one time.
- 6) The tanks must have overfill protection, such as automatic shutoff devices which activate at 95% UST capacity or restrict flow during deliveries at 90% full or trigger a high level alarm unless the UST system is filled by transfers of no more than 25 gallons at one time.
- 7) As of August 8, 2012, newly installed motor fuel UST systems must have liquid tight piping containment sumps and liquid tight under-dispenser containment sumps, both equipped with sensors. These requirements may also apply when significant upgrades are performed, such as replacing more than 50% of a facility's dispensers.
- 8) Operators of UST systems are required to be trained. A list of approved courses and exams is available on the [DEEP UST webpage](#).
- 9) UST systems must have a monthly visual inspection conducted under the direction of the Class A or B Operator.
- 10) Manual tank gauging may continue to be used for tanks with a capacity of 550 gallons or less (e.g., waste oil) unless they were installed on or after October 1, 2003.
- 11) USTs must be registered with DEEP when installed by submitting the Underground Storage Tank [Notification Form](#) (DEP-UST-NOT-001) or by using [EZFile](#).
- 12) All heating oil tanks installed on or after November 1, 1985 are required to be corrosion-protected. If they were installed on or after October 1, 2003, they must be double-walled. Heating oil tanks that are less than 2100 gallons capacity are exempt from registration, inventory control, life expectancy determination and failure detection testing at the end of life expectancy. State and local fire marshals can enforce the fire codes which include installation of spill and overfill prevention equipment.
- 13) All USTs not meeting these requirements must be properly closed. Failure to properly close non-upgraded USTs can result in monetary fines.

UST Reporting and Record Keeping

- 1) You must submit the following information to DEEP:
 - Annual registration with fee using [EZFile](#) or in hardship cases, the UST [Notification Form](#) (DEEP-UST-NOT-001).
 - Reports of all suspected releases and corrective actions.

- Notification before permanent closure or change-in-service. Sampling under the tank, lines and dispensers is also required at time of closure. If contamination is discovered, it must be reported immediately to the DEEP and corrective action reports must be submitted.
- 2) You must keep and maintain the following records at the UST site and make them immediately available for inspection by DEEP:
 - Copies of all Notification Forms.
 - Results of monthly visual inspections.
 - Documentation of annual tests of corrosion protection equipment.
 - Documentation of UST system repairs.
 - Documentation of compliance with release detection requirements.
 - Results of the site investigation conducted at permanent closure.
 - 3) These records must be maintained at the UST site for at least five years beyond the operational life of the UST system. Records, if greater than 5 years old, or with written approval by the DEEP Commissioner, may be kept at an alternative site, but must be made immediately available to DEEP inspectors upon request. Owners or operators of more than 10 facilities have additional limited off-site record storage options.

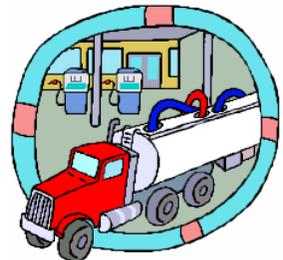
For more information, visit DEEP's [UST webpage](#) or contact the Storage Tank Program at DEP.USTfee@ct.gov or 860-424-3374.

Aboveground Petroleum Storage

If your facility stores oil (includes any kind or form, including gasoline) in aboveground tank(s) with a total aggregate volume of over 1,320 gallons (containers of less than 55 gallons are exempt) it may require a Spill Prevention, Control and Countermeasure (SPCC) Plan. The SPCC Plan outlines a facility's oil containment systems and procedures to prevent spills and contingency plans in case of spills. (See the SPCC Plans Fact Sheet for more information.) The aboveground storage tank should be located within a dike or over an impervious storage area with containment volumes equal to 110% of the capacity of the storage tank.

Gasoline Vapor Recovery

Gasoline contains a significant amount of volatile organic compounds (VOCs), many of which are also air toxics. To help control emissions, regulations requiring vapor recovery systems were implemented, some of which were recently changed.



Submerged Fill Pipe: Any gasoline storage tank with a capacity of 250 gallons or more must be equipped with a permanent submerged fill pipe (aka drop tube) unless it is a pressure “tank.” Submerged fill pipes installed on or prior to March 7, 2014 must have a discharge point no more than 18 inches from the bottom of the storage tank or be compliant with the requirements of [40 CFR 63 Subpart CCCCCC](#). Submerged fill pipes installed after March 7, 2014 must have a discharge point no more than six inches from the bottom of the storage tank.

Stage I: Stage I vapor recovery systems are required at dispensing stations with a monthly gasoline throughput of 10,000 gallons or more to control emissions from gasoline storage tanks having a capacity of 250 gallons or more. These systems enable gasoline tanker trucks to capture the vapors displaced from USTs during the delivery of gasoline so they can be returned to the terminal for processing. Owners of gasoline dispensing facilities with required Stage I vapor recovery systems must notify DEEP prior to conducting the required annual pressure decay, tank tie, and P/V vent cap tests and must submit the test results.

Note: Gasoline dispensing stations may be subject to additional requirements set forth by the U.S. EPA's regulation [40 CFR Part 63 Subpart CCCCCC](#). There are different requirements based on the monthly throughput levels. For more information about the specific federal requirements, go to [Summary of Regulations Controlling Air Emissions from Gasoline Dispensing Facilities](#).

Stage II: Stations that dispensed more than 10,000 gallons of gasoline per month were required to install Stage II vapor recovery systems on gasoline pumps in order to recover vapors during vehicle refueling. Because nearly all new vehicles since 2006 have on-board refueling vapor recovery technology (ORVR) installed, Stage II vapor recovery systems were required to be decommissioned by July 1, 2015 to avoid increased emissions due to incompatibilities between Stage II and ORVR. Any station with a Stage II system still in place is in violation of this law and must have the system removed.

More on [vapor recovery requirements](#) can be found on DEEP's website or contact DEEP's Bureau of Air Management at 860-424-4152.

Best Management Practices

Best Management Practices #1 - #5 below are required by law to be followed at facilities located in aquifer protection areas. However, it is suggested that **all** fueling stations follow the complete list of BMPs below. These BMPs will help reduce the environment impacts of your operation and protect you from future liabilities.

- 1) Hazardous materials, such as gasoline, must be stored in a building or under a roof that minimizes stormwater from entering the area. Cover fueling areas to prevent runoff from washing away pollutants.
- 2) The floor within the building or under the roof where the hazardous material is stored must be constructed or treated to protect the surface from deteriorating due to spillage. Pave the fueling area with an impervious surface such as nonporous concrete. Gasoline can penetrate asphalt and reach the soil below.
- 3) Any structure used for storage or transfer of hazardous materials must be protected from stormwater run-on and groundwater intrusion. Install curbing or grade the area around the fueling island to prevent stormwater from flowing onto the area and becoming contaminated.
- 4) Store any hazardous material in a secure area in containers certified to meet state or federal specifications for the transport or storage of such material (e.g., DOT or OSHA specifications).

- 5) Hazardous material must be stored within an impermeable containment area which capable of containing at least the volume of the largest container of such hazardous material present in such area, or 10% of the total volume of all such containers in such area. Examples include berms, walls, specially-designed containment pallets, and double-walled tanks.
- 6) Routinely check the spill bucket surrounding the fill pipe for water or debris (e.g., leaf litter, sand). If liquid petroleum does spill from the hose into the bucket during delivery, a clean spill bucket will allow for the material to be drained back into the tank. Accumulated water may contain residual fuel and must not be disposed of to the ground or sewer system. Place this water in a container and ship it off-site for proper disposal or recycling. Debris should be placed in a separate container, such as the container used to store other solid materials contaminated with fuel (e.g., absorbents and filters). See the Waste Fuel, Tanks and Filters Fact Sheet for information on managing these materials.
- 7) Keep all information about registered underground storage tanks on file in a central location at the UST site.

Additional Information

- ◆ **Spills:** Contain any spill or release of oil or petroleum product, chemical or waste and report it to the DEEP's Emergency Response and Spill Prevention Division at 860-424-3338. See the Spill Reporting Fact Sheet for more information on the requirements.

A hazardous waste determination must be conducted on any materials resulting from the clean-up of a spill to determine whether or not disposal of the materials is subject to hazardous waste regulations. See Appendix A for information on hazardous waste determinations and storage and disposal requirements.

- ◆ **Financial Responsibility:** Owners and operators of USTs must demonstrate financial ability to respond in the event of a release. The UST Petroleum Clean-Up Program can no longer be used to demonstrate financial responsibility. More information on other mechanisms to meet this requirement is available on [DEEP's UST webpage](#).
- ◆ **MTBE:** The use of MTBE in gasoline was banned in Connecticut in 2004 and fuel suppliers replaced it with ethanol. Nevertheless, MTBE remains a ground water contaminant at gas station sites as well as other sites in the State. Find more information on [MTBE](#) on the DEEP website or call DEEP's Bureau of Air Management at 860-424-4152.
- ◆ **Gas Cans:** All portable fuel containers sold in Connecticut must meet certain "no-spill" requirements. For more information about gas cans, visit the [DEEP website](#) or call DEEP's Bureau of Air Management at 860-424-4152.
- ◆ **EPCRA:** If your facility stores 10,000 pounds or more of gasoline, diesel fuel, propane, ethylene glycol, kerosene, and/or fuel oil, either aboveground or underground for dispensing or for on-site use, you may have to report storage of that substance under EPCRA (The Emergency Planning and Community Right-to-Know Act of 1986). For specific reporting requirements, see Appendix B.

Legal References

Underground Storage Tanks

- Requirements - [RCSA Section 22a-449\(d\)-1](#) and [RCSA Sections 22a-449\(d\) 101-113](#)
- Requirement for double-walled underground storage tanks - [CGS Sections 22a-449o](#)
- Storage of underground storage tank system records - [CGS Section 22a-449q](#)
- Annual Registration and Fee - [CGS Section 22a-449 \(e\)](#)
- Tank Closure: [RCSA Section 22a-449\(d\)-107](#)

Above Ground Storage Tanks

- Oil Pollution Prevention - [40 CFR 112.1](#)

Vapor Recovery

- Control of organic compound emissions - [RCSA Section 22a-174-20\(a\) & \(b\)](#),
- Dispensing of Gasoline, Stage I vapor recovery and annual testing requirements - [RCSA Sections 22a-174-30a](#); [40 CFR Part 63 Subpart CCCCC](#)
- Decommissioning of Stage II vapor recovery and annual testing requirements – [Public Act 13-120](#)

Aquifer Protection

- Land use regulations for facilities within aquifer protection areas - [RCSA Sec. 22a-354i-1 to 22a-354i-10](#)

Spill Clean-up

- Report of discharge, spill, loss, seepage or filtration - [CGS Section 22a-450](#)
- Hazardous Waste Determination - [RCSA Section 22a-449\(c\)-102\(a\)\(2\)\(A\)](#); [40 CFR 262.11](#)

Pollution Prevention Checklist

- ✓ Are fueling areas covered and bermed to prevent polluted runoff?
 - ✓ Is water and debris regularly removed from the spill bucket to prevent contamination?
 - ✓ Is a spill kit readily available at the fueling area?
-



Did You Know?

Your business could incur substantial economic loss as a result of a leaking tank piping including loss of property value from contamination and the expense of cleanup.

[2014 Pit Stops Fact Sheets](#). Connecticut Department of Energy and Environmental Protection, Office of Pollution Prevention, 860-424-3297. Updated September 2015 www.ct.gov/deep/pitstops