

Underground storage tanks: What you don't know can hurt you

Even abandoned tanks are regulated. False filing can cost \$10,000/day/tank

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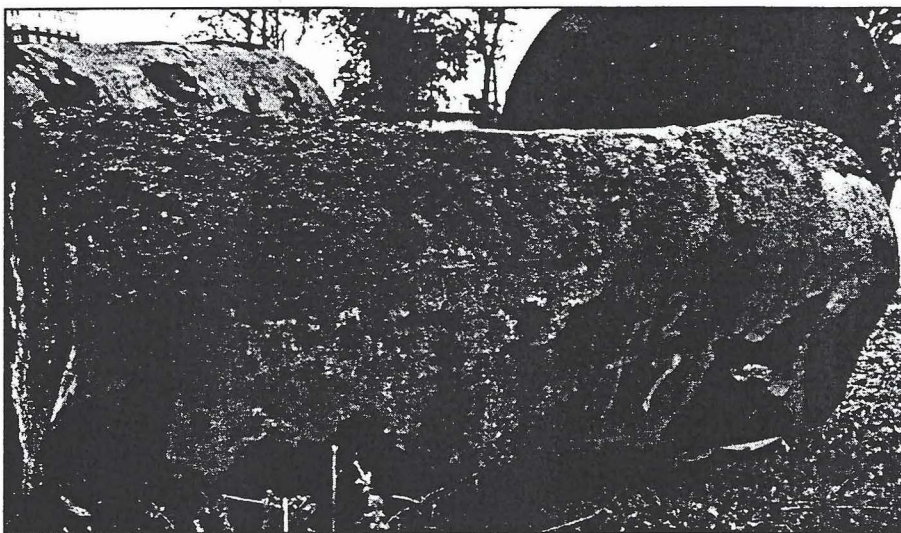
Implementing the new federal requirements for underground storage tanks (USTs) is most often not a "do-it-yourself" proposition. A search and survey by experienced personnel may be the only way to know if a problem exists and to implement installation and remediation properly. Keeping this in mind could save time and money.

For example, seven underground storage tanks containing benzene were uncovered during construction of new manufacturing facilities in New Jersey. Benzene had leaked into the soil and groundwater and migrated off site. The construction permit was revoked until appropriate cleanup could be performed. The delay cost \$50,000, plus \$225,000 in cleanup costs. Groundwater remediation is expected to last another year and cost at least \$100,000.

RCRA Subtitle I

Such problems, together with growing public concerns prompted new UST regulations under RCRA Subtitle I. They apply to both owners and operators of USTs which have 10% or more of their volume underground and which contain petroleum or other "hazardous substances".

For new USTs, compliance covers design, construction and installation. All units, new or existing, are covered by release detection, release reporting, response and corrective action, closure and post closure procedures, and financial responsibility requirements.



Implementing the new federal requirements for underground storage tanks (USTs) is most often not a "do-it-yourself" proposition. New UST regulations, under RCRA Subtitle I, apply to both owners and operators of USTs which have 10% or more of their volume underground and which contain petroleum or other "hazardous substances". (Photo courtesy of Burns & McDonnell Engineering Co.)

Underground tanks and piping must be equipped with devices that prevent spills and overfills. They must be protected from corrosion and inspected periodically by an independent testing laboratory or association. All metal components must be covered with a dielectric coating.

Testing and checking

Buying and installing a new tank does not guarantee a leak-free situation. One method of testing for leaks is tightness testing. In this procedure, a tank is filled to capacity and inspected. It is important to perform a tightness test carefully in order to avoid a spill.

Another leak detection method is electronic monitoring. Sensory devices are placed on areas of the tank and associated piping which often leak. If unusual

hydrocarbon vapors are detected, the sensor activates an alarm, warning of a possible spill. However, electronic systems can be overly sensitive and prone to false alarms.

Compliance

Detection equipment requirements for pressurized piping include devices to automatically shut off or restrict flow, or an alarm that indicates a leak. Annual tightness testing or monthly monitoring methods are required for the tanks involved.

Codes mandate that suction piping be monitored monthly or tested for tightness every three years. Leak detection is not required in situations where suction piping is sloped to draw back to the storage tank, or where there is only one check

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valve included in each suction line directly below the pump.

Existing tanks which have been upgraded with corrosion protection and devices to prevent spills and overfills require monthly inventory control and a tank tightness test every five years. If the

existing tank has not been upgraded, the law requires monthly inventory control and a yearly tightness test until December 1998.

Some USTs are exempt from the RCRA regulations: flow-through process tanks, stormwater and wastewater collection sys-


tems, and emergency spill and overflow tanks. Tanks containing hazardous wastes are subject to separate regulations.

Reporting and records

If a spill or overfill occurs in spite of protective devices, all suspected and confirmed releases, as well as cleanup plans, must be reported within 24 hours to the designated state agency. In addition, the owner or operator must take immediate action to prevent further release, including:

- Removing as much of the substance as possible from the system;
- Visually inspecting for further releases;
- Monitoring and mitigating fire and safety hazards;
- Investigating and remedying hazards posed by contaminated soils and groundwater; and
- Removing any free product.

In addition, tanks must be cleaned and are subject to a site assessment and written documentation of the investigation results and necessary repairs.

Owners and operators beware: Failure to comply with the requirements of these regulations will result in stiff penalties. Filing false information, or failing to file may result in civil penalties of \$10,000 per tank for each day of violation. 

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