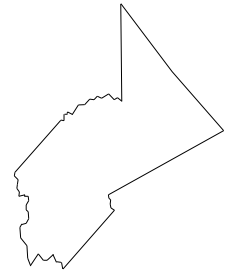




Stanislaus County UST Newsletter January 2004



Welcome to the "Stanislaus County Underground Storage Tank Newsletter". In an ongoing effort to safeguard today's environment and protect tomorrow's future, Stanislaus County is committed to educate and inform the owners and operators of underground storage tanks with news and regulations that would help in the successful operation of their UST systems.

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UST Program - "California UST System Operator" Exam

The International Code Council (ICC) "California UST System Operator" exam became available on August 1, 2003. The State Water Resources Control Board's proposed training regulations would require that "designated operators" pass ICC's California UST System Operator exam by January 1, 2005.

Please visit the ICC website at: <http://www.iccsafe.org/certification/bulletin.htm> for information on the exam; click on the link for the "2003 Candidate Bulletin / Voluntary Certification Program for AST/UST." The bulletin contains information on how to make an exam reservation and other exam details. In addition, page 19 of the bulletin describes the content of the California UST System Operator exam.

If you have questions about this exam, please call or e-mail Mr. Scott Bacon at (916) 341-5873 or bacons@swrcb.ca.gov.

NEW UST SYSTEMS REQUIREMENTS JULY 1, 2003 AND JULY 1, 2004

July 1, 2003 brought a few new construction requirements for UST's. Among those are: the "product tight" definition for UST systems to mean impervious to liquid and vapor substances [H&S Code 25290.2(a)], changing of the definition of "pipe" to



include vent, vapor recovery and fill pipe [H&S Code 25290.2(j)], and the new post-installation testing requirements of (1) enhanced leak detection, (2) inert gas pressure test, or 3) testing equivalent or approved by the SWRCB [H&S Code 25290.2(i)] before the system is placed into use. **After July 1, 2004** the regulatory requirements become updated and continuous monitoring using vacuum, interstitial liquid or pressure methods will be included in the new construction requirements [H&S Code 25290.1, 25290.1(a), 25290.1(c)(3), 25290.1(k), 25290.1(j)].

Gasoline - Quick Fact

A typical portable fuel container, also called a gas can, emits about 8 pounds of hydrocarbons through spills and evaporation each year. Compared to a new car, a typical portable fuel container emits twice the amount of hydrocarbons each year. There are about 78 million portable fuel containers in the United States. In total, portable fuel containers emit about 621 million pounds, or 310,000 tons, of hydrocarbons each year. A rough estimate of hydrocarbon emissions from gasoline spillage alone is approximately 28,000 tons per year nationwide. About one tenth of a gallon of gasoline is spilled per portable fuel container each year during typical use and handling. These releases contribute, at least in part, to the United States Geologic Society (USGS) estimate that more than 40 million people use groundwater that contains at least one volatile organic compound, many of which are components of gasoline.

TANK CLOSURE REQUIREMENTS

Sher Bill. Under the Sher Bill, in order to close a UST permanently, a person must "demonstrate to the local agency that all residual amounts of the hazardous substance or hazardous substances which were stored in the tank prior to its closure have been removed, properly disposed of, and neutralized." H&S Section 25298(c)(1). In addition, a person closing a UST must demonstrate to the responsible agency that "there has been no significant soil contamination resulting from a discharge in the area surrounding the underground storage tank or facility."

SWRCB Regulations. The regulations provide that, prior to closure, the UST owner must submit to the local agency a proposal describing how he/she intends to comply with the closure requirements. See Section 2670(f). An owner who proposes to remove the UST as part of closure must "document to the local agency that proper disposal has been completed." Section 2672(b)(3). In all closure cases, the owner must "demonstrate to the satisfaction of the local agency that no unauthorized release has occurred." Section 2672(d).

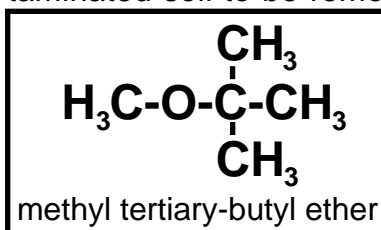
Fire Code. "[a]ny underground tank which has been abandoned for a period of one year shall be removed from the ground and the hole properly filled," unless the Chief approves a method of abandonment in place. Id. at Section 15.217(d).

Why Is Over-Excavating Important?

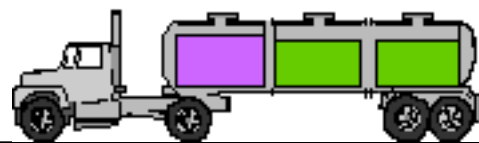
Over-excavating soil is an act used to remove stained/contaminated soil from a Leaking Underground Fuel Tank (LUFT) site. To obtain closure of a contaminated LUFT site, it is important to begin remediation methods, such as soil over-excavation, as soon as possible. The ultimate goal for the Responsible Party of a LUFT site, where contamination has been discovered, is to clean up the soil at the site as soon as practicable and to prevent, if possible, the contamination of groundwater. Unfortunately, without diligence, petroleum products, and other hazardous materials, located in the soil may find their way to groundwater, making the cleanup process more difficult. If soil

and groundwater are contaminated, it is beneficial to the environment and may reduce costs for contaminated soil to be removed from the site in a timely manner, preventing additional groundwater

contamination. If contaminants are not removed from the soil, or contaminants have been detected in the groundwater above Maximum Contaminant Limits, the Responsible Party of the site may be directed by the Department to begin groundwater investigation at the site. The site activities would, then, be followed closely by Site Mitigation staff to ensure proper clean up activities are proposed and performed. The cost for clean up of groundwater becomes more expensive due to length of the process, equipment, and labor involved. To assist with the costs, the State Water Resources Control Board may be able to find certain LUFT/UST sites eligible for UST Clean Up Fund monies; completion of an application for the UST Clean Up Fund is required in a timely manner to be considered for eligibility.



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THE WORLD WIDE WEB

Understanding UST Requirements> <http://www.swrcb.ca.gov/cwphome/ust/docs/ustguide.htm>

California Code of Regulations, UST> <http://www.swrcb.ca.gov/cwphome/ust/legal/caustreg.html>

SWRCB Flexible Piping Advisory> <http://www.swrcb.ca.gov/cwphome/ust/docs/enforce/Flexible%20Piping%20Advisory.October%207.2003.pdf>

Underground Storage Tank Cleanup Fund - Home> <http://www.swrcb.ca.gov/cwphome/ustcf/index.html>

Spills and Overfills

Federal regulations under 40 CFR Section 280.30 describe actions that UST owners and operators must take to prevent accidental spills and overfills. When a delivery is being made to fill an UST, the owner and operator has the responsibility to:

- Ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made.
- Ensure that the transfer operation is monitored constantly to prevent overfilling and spilling.

It's a good idea to physically measure (don't rely solely on automated devices) the level of fuel that is already in the tank before beginning preparations to refill the tank. To be safe, measure twice and double-check your calculations (have someone else check your calculations as well). During refilling, the delivery person should never leave the tanker unattended while fuel is being transferred. It is important to take extra precautions up front and avoid costly and potentially disastrous accidents.

Additional information about proper filling procedures may be found in the National Fire Protection Association Publication 385. Further guidance on spill and overfill prevention appears in American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets", and National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code".

How Do You Measure Up?

Getting in compliance was one thing, staying in compliance is another. Everyone's focus for the last year has been upgrading and replacing. Now that this is done you need to put in place mechanisms to prevent a release. To be effective these leak detection preventatives must be maintained and operated on an ongoing basis.

*Pressurized Piping Systems and UST's

It is required that an annual test is run to insure that automatic line-leak detectors are operational and annual tightness testing or monthly monitoring is performed on the UST. Monthly monitoring can be interstitial monitoring, automatic in-tank gauging, vapor or ground water monitoring or SIR (Statistical Inventory Reconciliation).

*Cathodic Protection

Must be tested six months after installation as well as every three years after that. Systems that have been upgraded with impressed current systems must be inspected every 60 days. The amp and volt readings must be recorded and kept at the location.

*Interior lined tanks

These tanks must be inspected, by a coatings expert or special inspector, ten years after installation and every five years after that.

*Suction Piping

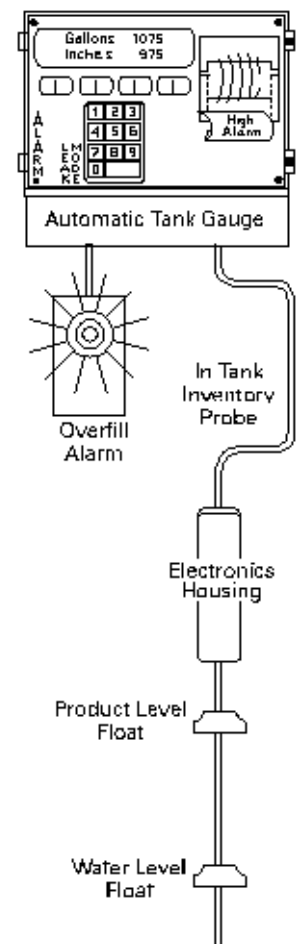
Must be tested every three years if not equipped with monthly monitoring.

*Secondary Containment Testing

All secondary containment systems must have periodic testing done every 36 months.

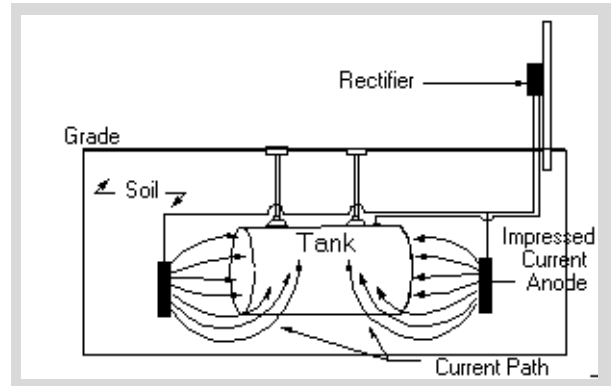
Additional items to keep in mind are:

- API coloring codes: Is the appropriate color on the correct product? Is the color faded or worn?
- Alarms: Are all alarms in working condition? Are they visible, audible and placed in an area where immediate action can take place?
- Signs: Are the appropriate signs in place to alert delivery people of certain conditions? Are the signs legible?
- Spill Kits: Are they easily accessible? Do they need to be replaced or replenished?



Cathodic Protection and Maintaining the System Integrity

Not long ago all underground storage tanks (UST's) were made of steel. As time passed and these old tanks were removed or replaced, owners and operators found that a lot of tanks had rusted through and contaminated the environment. In the 1980's the EPA stated that the number one contaminate in groundwater in the United States was gasoline and petroleum products. In an effort to reduce the amount of contamination that came from underground storage tanks the EPA mandated that any new steel UST's or piping installed after December 22, 1988 be installed with corrosion protection



Corrosion protection in the form of cathodic protection involves reversing the “rusting” process. Galvanic and impressed current systems accomplish this by reversing the electron flow from the tank.

1. Galvanic System - a metal object is attached to the tank which is more prone to rust than the steel in the tank. This object, the anode, rusts instead of the tank.
2. Impressed Current System - a voltage is applied to the tank to counter act the corrosion -causing current (electron loss) normally flowing away from it.

Several things can go wrong with these systems. Because galvanic systems use anodes they can become disconnected, or with time become used up and not capable of protecting the tank from corroding. In impressed current systems the wires connecting the rectifier to the tank can be broken, become disconnected or accidentally cut. Therefore, these systems need to be tested periodically to determine they are working the way they were designed.

Regulations require that the cathodic protection systems installed at UST sites be designed by a corrosion expert. The system must be tested by a qualified cathodic protection tester within 6 months of installation and at least every 3 years thereafter. You will need to keep the results of the last two tests to prove that the cathodic protection is working. In addition, you must inspect an impressed current system every 60 days to verify that the system is operating. Also, keep results of your last three 60-day inspections to prove that the impressed current system is operating properly.

US EPA web site for Cathodic Protection-><http://www.epa.gov/swerust1/ustsystem/cathodic.htm>

The Stanislaus County UST Newsletter is published annually for owners and operators of underground storage tanks in Stanislaus County. The Stanislaus County UST Newsletter is not intended to replace industry standards or State and Federal UST laws and regulations.

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Stanislaus County UST Inspections

The whole point of doing an inspection is to see if the tank owner is complying with UST regulations and educate him about his responsibilities. Checklists are always a good idea, along with binders to hold information needed for inspectors to do their job fast and easy. Some areas we look at are:

- 1) Records: (a) operating records, (b) maintenance records, (c) ATG printouts, (d) business plan, (e) training records (f) tank/probe/monitor tests (g) last cathodic test (single walled lined tanks)
- 2) Dispenser areas: (a) current weights and measure dispenser certification (b) evidence of leaks, (c) dispenser pans
- 3) CUPA facility and tank forms

