

Resolving Seasonal Tank Issues

Mallori McAllister, Underground Storage Tank (UST) Inspector, Columbia Environmental Quality Control (EQC) Office

It is near that time of year when the need for kerosene tanks is drawing to an end for the season.

Many owners dealing in kerosene run into a dilemma in the summer months because they are not selling kerosene, not receiving deliveries and the tanks are no longer receiving passes from their automatic tank gauges (ATGs) because of low product.

THIS IS NOT OK!

All tanks, which are currently in use (defined as containing more than 1 inch of

product), must be monitored monthly for leaks. Even if you are not selling a product, your tank must still be monitored. Below is a list of ways to resolve this problem.

- 1. Keep enough product in the tank to pass all year long with ATG.**
- 2. Pump the tank down to below 1 inch of product.** Make sure to keep proof of the pump out and a record of your first delivery date of the new season. [Using your Submersible Turbine Pump (STP) to pump out as much product as possible will not achieve a low enough product level. There still may be hundreds of gallons of product in your tank, possibly around 6 inches. That is too high to

be of use and too low to get a pass with the ATG.]

- 3. If you are NOT selling a product and NOT receiving deliveries, you may use the following alternate form of monitoring for up to four months.**
 - a. Stick your tank weekly.
 - b. Calculate the change in level from the previous week. (It will change a little due to temperature.)
 - c. If the weekly measurement is over or under more than 30 gallons from the previous week, call **(803) 896-7957** immediately.
 - d. Keep these weekly stick readings and calculations for at least one year.

If you are selling product, you must continue to do monthly monitoring (i.e. ATG testing, SIR or Interstitial Monitoring). If, however, you are planning to not use a product during specific months of the year, make sure to schedule your Line Tightness Test and Line Leak Detector Function Checks during the months you will be selling product so you do not run into any product level issues associated with testing protocols.

If you have any questions, please call **(803) 896-7957**.

Help with Site Checks ...

Denise Place, UST Program, Columbia

DHEC's UST Program recently distributed a Site Check Assistance Fact Sheet to assist owners and operators with sampling when a release may have occurred. This fact sheet helps identify a suspected release from any portion of the UST system. Common reasons for requesting sampling include: visually contaminated soil or free product; faulty equipment; failing tightness tests; or unusual operating conditions.

A site check consists of limited soil or groundwater sampling in the area where a release is suspected. If collecting a sample is not possible (due to the suspected release area being directly above the tank, below a dispenser or in gravel), the sample should be collected as close as possible to the affected area. If spill bucket removal occurs, a sample should be collected directly below the spill bucket before the bucket is replaced. If the bucket is repaired but not removed, then the sample should be collected as close as possible to the repaired spill bucket.

Soil and water samples collected for analysis of gasoline, diesel and kerosene should use U.S. Environmental Protection Agency's (EPA) Method 5035/8260B (BTEX/Naphthalene) and EPA Method 3550/8270C (PAH). A South Carolina-certified laboratory must analyze the samples. Further information is available in the UST Assessment Guidelines and Analytical Methodology for Groundwater and Soil Assessment.

A site check must contain the following information: The UST permit number and site address; a detailed map showing the suspected release location; labeled sample location(s); north arrow; building locations; road names; tank and dispenser locations and extent of excavation; a complete description of soils; a detailed description of the methods used to collect and store samples; and a laboratory analysis report (must include the chain of custody).

The completed site check should be submitted to the S.C. DHEC, UST Program, Attn: Denise Place, 2600 Bull St., Columbia, SC 29201. For more information, call **(803) 896-6944** or e-mail placedm@dhec.sc.gov.

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Public Involvement

Maia Milenkova,
UST Program, Columbia

Protecting human health and the environment is a complicated task and a major challenge for the global community. Petroleum impacted sites due to leaking USTs are part of the challenge. In addition, sources of pollution are multiple and the factors of time and extent are of importance. Often the bad effects of environmental pollution only become obvious after many years. Improving our understanding and knowledge about the environmental risks and impacts is the greatest benefit of public participation process. Generating creative and locally appropriate solutions leads to stronger policies for achieving a healthy environment.

The community around a petroleum impacted site includes the people who live close to the site, local business owners, elected officials, local government agency representatives, workers at the site and even others farther from the site. One of the biggest concerns is to control and prevent the impact on our groundwater storage basins to protect public health. Gasoline is one of the many pollution threats to the groundwater. For most well owners, groundwater is their only source of water and should therefore be protected. Groundwater moves very slowly (often a few feet per year). Because of that, once it becomes polluted, it takes years for it to be naturally flushed clean. Manually cleaning pollutants out of groundwater can be very costly and difficult. Often the only solution is to find a new source of water (drilling deeper well, connecting to city water, if available, etc.). This is one aspect of the problem related to leaking USTs. Therefore, all members of the community have a right and need to know about the possible remedies for impacted UST sites. Their questions and concerns have to be heard.

Pursuant to the S.C. UST Control Regulations, R.61-92 Section 280.67, the UST Program provides notice to the public of pending corrective actions for a UST site. The main reason for that is to reach the members of the public and involve them in our work. Notice can be posted at or in the vicinity

See Public on page 4

Notes from Permitting ...

Please contact the Permitting Coordinator at **(803) 896-6942** with any questions.

■ ISSUE: DOUBLE-WALL PIPING FOR SUCTION SYSTEMS

- **Recent Scenario:** Recently, there has been some confusion regarding the new double-wall piping requirement as it pertains to suction piping that became effective on May 23, 2008.
- **Correct Procedure:** The new secondary containment requirement in the regulation includes suction piping. Therefore, all new and upgraded suction systems must use double-wall piping. Due to the nature of a European suction system, monthly interstitial monitoring will not be required.

■ ISSUE: MANIFOLDED TANKS

- **Recent Scenario:** A question was asked whether the piping between the tanks of a manifolded system had to meet the new requirements.
- **Correct Procedure:** The piping used to connect manifolded tanks must meet the secondary containment regulation. As with suction systems, however, monthly interstitial monitoring is not required.

■ ISSUE: FOUND TANKS

- **Recent Scenario:** There has been an increase in the number of out-of-service tanks that have been found that were not registered with the UST Program.
- **Correct Procedure:** If you have tanks on a property that have not been registered, a "Tank No Longer In Operation" form should be completed and submitted in order to register the tanks. A case-by-case analysis will be made to determine whether annual fees will apply as well as eligibility for the SUPERB fund.

■ ISSUE: TANK REMOVAL WITHOUT NOTIFICATION

- **Recent Scenario:** There have been several incidences in recent months of tanks being removed without notification and sampling not being conducted.
- **Correct Procedure:** A "Tank and Sludge Disposal" form should be completed and sent to the UST Program 30 days prior to removal. Forty-eight hours notice should be given prior to the actual removal to allow the inspector time to attend. A closure assessment following tank removal is required with sampling results to be submitted within 60 days.

Certified, Decertified UST Contractors

UST contractors who are involved with routine investigative activities and interpretation of geologic data associated with releases from USTs must be certified in accordance with the SUPERB Site Rehabilitation and Fund Access Regulations R.61-98. The following tables show newly certified contractors in 2009 as well as contractors who are no longer certified to conduct activities as defined by R.61-98.

CERTIFIED Site Rehabilitation Contractors as of January 1, 2009

PERMIT #	CONTRACTOR	DATE CERTIFIED
UCC-0385	Stantec Consulting Corporation	01/12/2009
UCC-0386	URS Corporation	03/31/2009
UCC-0387	Ayres Associates, Inc.	03/31/2009
UCC-0388	Crawford Environmental Services	03/31/2009
UCC-0390	EnviroAssessments, PLLC	04/29/2009
UCC-0391	Edge Solutions, Inc.	05/01/2009
UCC-0392	AECS	07/29/2009

DECERTIFIED Site Rehabilitation Contractors as of January 1, 2009

PERMIT #	CONTRACTOR	DATE DECERTIFIED
UCC-0002	Carolina Environmental Associates	02/03/2009
UCC-0276	Groundwater & Environmental Services, Inc.	02/17/2009
UCC-0279	Engineering Tectonics	04/24/2009
UCC-0284	Horne Engineering Services, LLC	07/17/2009
UCC-0367	Consultech Environmental, LLC	07/22/2009
UCC-0062	Geometrics, Inc.	07/28/2009

What You Need to Know: Total Tank System Interstitial Monitoring, New Regulations and Sump Sensors

Mallori McAllister, UST
Inspector, Columbia EQC Office

Here are the basics.

TOTAL TANK SYSTEM INTERSTITIAL MONITORING watches for leaks in the space between both walls of your double-wall tanks and piping. Here's what it involves:

- 12 months "Sensor Normal" or visual checks must be kept;
- All STP and dispenser sump sensors require annual function checks;
- All mechanical line leak detectors and some electronic line leak detectors, require annual third party function checks;
- **DO NOT** ignore alarms!

Here's a little more technical explanation.

As you are aware, all new and replacement UST systems now are going to have to be continuous double-walled systems complete with interstitial monitoring. The concept for interstitial monitoring on these systems is quite simple. Each tank (and piping run) will have a primary inner wall and a secondary outer wall. The space in between these two walls is called the interstice and monitoring this space will let owners and operators know if their system is leaking.

There are many different ways to do interstitial monitoring. Typically, these systems are equipped with sensors in the tank interstice and at all piping terminations in submersible turbine pump sumps and dispenser sumps. The sensors are then connected to an automatic tank gauge. A basic sensor is a float switch designed to complete or interrupt an electrical current in the presence of liquid. For instance, in a closed-circuit system, the electrical current is disrupted when the sensor is activated causing an alarm at the automatic tank gauge. Investigate all alarms with visual inspection and/or third-party contractors as soon as possible.

So what exactly does an alarm indicate? If the sensor is located in the interstice and there is a leak in the primary wall of a tank,

the interstice will fill with product causing the sensor to alarm. An interstitial alarm, however, also could mean that there is a hole in the secondary wall (the outer wall protecting the tank) and groundwater is intruding. In either case, immediate action is needed.

Sump sensors can help alert owners and operators of piping leaks. In a double-walled system, a product leak or water intrusion has to go somewhere – either into the STP sump or into the dispenser sump. A sump sensor alarm, like an interstitial alarm, typically will indicate "fuel alarm" on the ATG regardless of the type of liquid (water or petroleum) in contact with the sensor. More sophisticated sensors can differentiate between petroleum and water, but in most cases, owners and operators will need to determine the type of liquid and its source and take appropriate action.

So, what types of monitoring records are needed?

Regardless of the form of interstitial monitoring, 12 months of records should always be available. If sensors are wired into an ATG, owners/operators should be keeping 12 months "Sensor Normal" printouts or a "No Alarm" log along with annual function checks of all sump sensors. If sensors are not tied into an ATG, visual logs must be kept. These logs can be hand-written logs indicating that all dispenser sumps and STP sumps were checked on a specific date and were dry. If there is water in a sump, a note of the water along with the actions taken (i.e., sump pump out and source investigation) should be kept. If product is found, it should be properly investigated.

Please call **(803) 896-7957** if you have any questions regarding interstitial monitoring in the new regulations.

Environmental Excellence Awards

Listed below are the UST Environmental Excellence Award **WINNERS** for Spring 2009.

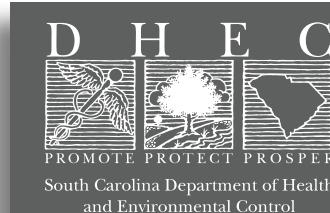
- **SMALL RETAIL:** This issue's Environmental Excellence Award for Small Retail goes to **McCarty's Emporium (#08922)** in Dalzell, South Carolina. McCarty's has been in operation for a decade and has been in compliance every year! Described as an Owner/Operator model by the area's inspector, McCarty's has clean equipment with impeccable records! Keep up the great work! Congratulations!
- **LARGE RETAIL:** With 42 total sites and no current outstanding violations, **Murphy Oil USA Inc.** stands a head above most other Large Retail owners. One site in particular, **Murphy USA 5363 (#17620)**, in Greenville, has been in compliance for the past nine years! Murphy strives for environmental excellence by going above and beyond the requirements for double-walled tank and line monitoring and expresses conscientiousness in utilizing the "One Sump System." It is with gratitude that we extend to them this issue's Environmental Excellence Award for Large Retail!
- **NON-RETAIL:** This issue's winner for the Non-Retail Environmental Excellence Award is **SCE&G**. At the time of this publication, SCE&G does not have a single open violation out of their 39 sites! One site in particular, **Wateree Station in Eastover (#07495)**, has not had a single violation in 11 years! Their inspector reports that the staff is very helpful and well organized. It is a model institution!

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Shear Valves: Are they secured?

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Sumter EQC Office

Some readers may be familiar with – and even cited for – 280.20 (e). (See the UST regulation.)

Your island form or dispensers came with a kit from the manufacturer to properly anchor your shear valves. The most popular system used prior to most facilities installing sumps had a double-band stabilizer/U-bolt anchoring system.

For this system to adequately anchor shear valves, a small piece of channel iron bracket (which was included but often discarded) must be properly applied as in the shear valve on the left in **PHOTO #1**. The shear valve on the right in Photo #1 does not have a channel iron bracket. The channel iron bracket wraps around the double flat band stabilizer and keeps it from separating should something hit the dispenser.

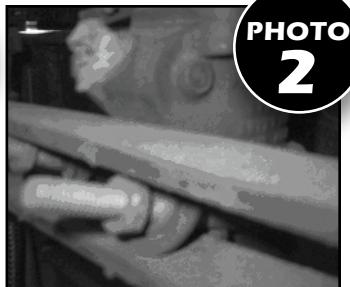
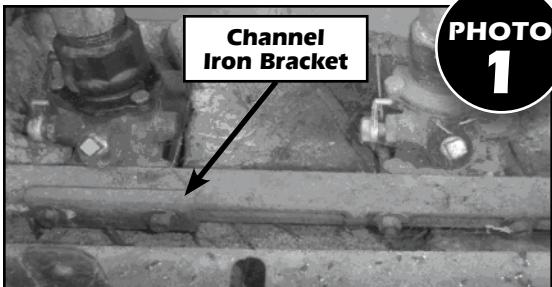
Otherwise, the washers and U-bolt would pull through as in **PHOTO #2**.

Remember these two important things.

1. The shear valve needs to be secured per manufacturer's specifications. If U-bolts are utilized to anchor a shear valve, the U-bolt must be placed in grooves on the shear valve to ensure proper U-bolt placement.
2. The U-bolt needs to be secured so that it isn't too low (on the piping, for example). This could cause the piping to break off instead of the shear valve and you may have a geyser of fuel, canopy on fire, etc.

Most tank vendors can install channel iron for you or you can do it yourself. Hardware stores carry pre-drilled uni-strut. It has to be thick uni-strut, however. (Some are too thin to do the job.) It must be thick enough to withstand forces put on it from the impact of a vehicle or object during heavy winds.

Call **(803) 896-7957** if you have any questions or ask your UST inspector.



Public, continued from page 2

of the site with duration long enough to give the public a chance to provide their comments and to address the special concerns that citizens may have (usually 14-30 days). Also, the site release information and decisions concerning the plan are made available to the public for review upon request through the Freedom of Information (FOI) Office. If a large number of people have questions, a meeting can be scheduled to further discuss the remedy actions proposed for the site. Consultation should be open on a group basis so that each member of the community is informed about issues they may not have given further thought. The UST owner/operator of the site and the site rehabilitation contractor also may be invited to the meeting. A public participation meeting provides the opportunity for people to express comments and inform them of planned or ongoing actions and identify and resolve any conflicts. This works well in situations where there is a delay in clean up process due to property access problems. An effective community relations effort leads into a discussion where it can provide helpful ideas. It also is a place to address special concerns that citizens may have.

The final measure of the success is achievement of the agency's vision: healthy people living in healthy communities. In order to provide good quality service, DHEC encourages working, making decisions and reaching goals together.

Return Service Requested

Columbia, SC 29201

2600 Bull Street

S.C. DHEC

Underground Storage Tank Program