

THINK



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Compliance Issues

by Brian Churchill

Although the 1998 deadline passed several years ago and UST regulations have changed very little since then, UST compliance inspectors continue to find the same violations time after time at many facilities throughout the state. In order to increase compliance rates, the Tank Management Branch (TMB) is increasing the frequency of inspections. And tickets and fines will be more common for owners and operators in the future to increase compliance levels. For more information please refer to Think Tank Spring 2002 or visit: <http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/ust/thinktank/PDF/tt36.pdf>

Some of the most common compliance deficiencies are:

Corrosion protection: The Regulations specifically state, “all metal piping must be coated or wrapped, and cathodically protected...” Product dispensers sumps, tank top sumps and various other locations throughout piping runs continue to be ongoing areas of violation of this requirement at many facilities. If your facility has steel piping that is not properly protected from corrosion or completely isolated from soil, it **MUST** be properly upgraded to current standards. Cathodic protection systems must be tested within six weeks of installation and at least once every three years thereafter. If underground work is performed at or near the facility, the cathodic protection system must be remonitored within six weeks after work completion and at least every twelve months thereafter. All impressed current systems must be inspected at least every sixty days and the results recorded.

Leak detection: Facilities must conduct inventory control and one other method of release detection for the tanks and lines. (Tanks containing heating oil are only required to have one method of leak detection.) Records must be kept for each tank, or cluster of tanks if they are interconnected, and must include measurements of bottom water levels, sales, use, deliveries, inventory on hand, and losses or gains. The data must be accumulated for each day a tank has a regulated substance added or withdrawn but not less frequently than once a week. Water measurements must be taken at least once a week and the water level may never be greater than two inches. Reconciliation of the inventory control data must be conducted at the end of each month. If the reconciliation or “leak check” fails or if there is a trend of significant negative losses, the Department **MUST** be notified immediately! Manual Tank Gauging (MTG) is an approved leak detection method for used oil tanks of 1,000 gallons or less but inventory control must also be performed. MTG may be substituted for inventory control for used oil tanks of 2,000 gallons or less but another approved leak detection method must also be used.

Other methods of UST release detection include annual, monthly and continuous methods. Annual tank tightness testing may be conducted for USTs that were upgraded to 1998 standards no more than 10 years ago or USTs less than 10 years of age. While many USTs have already reached the deadline, 2008 will be the last year that annual tank tightness testing will be an approved method of release detection in

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Delaware. Monthly and continuous methods of release detection include but may not be limited to automatic tank gauge (ATG) 0.2 gph tank tightness tests, interstitial double wall tank monitoring, and alternative methods such as statistical inventory reconciliation (SIR). Please note that all alternative methods of release detection must be approved by the TMB before they are used. Piping release detection methods include but may not be limited to annual line and line leak detector tests, interstitial sump monitoring, 0.1 gph electronic line leak detector (ELLD) line tightness tests, an alternative method of release detection, and SIR in combination with annual line leak detector tests. Sumps must be kept dry at all times and sump sensors must be located on the bottom of sumps. If the sumps are not water tight and the sumps cannot be kept dry at all times, another method of release detection must

be chosen. Under current regulations, annual line and line leak detector tests are an acceptable method of release detection throughout the piping system's life. If any leak detection method fails, the Department MUST be notified immediately!

Commercial pollution liability insurance: Facilities that choose commercial pollution liability insurance as their method of financial responsibility must have Appendix C or Appendix D from Delaware's Regulations completely filled out by their insurance provider. ACORD or Federal Certificate of Liability Insurance forms do **not** meet insurance requirements in Delaware and will not be accepted under any circumstances.

Dual point Stage I and vapor shear valves: As of May 1, 2003 all facilities with Stage I vapor recovery systems were required to

install dual point Stage I vapor recovery systems and all facilities with Stage II vapor recovery systems were required to install vapor shear valves. Please note that the TMB is finding vapor shear valves that are not installed per manufacturer's specifications and will be requiring owners to have them correctly reinstalled upon discovery.

All UST owners and operators are expected to be familiar with UST Regulations. For clarification or more information on any of these topics or any UST compliance topics, please contact your compliance officer. As stated in *Think Tank* Spring 2002, "outreach will be directed more to those who ask for help and enforcement will be directed more toward those found in violation." Together we can work towards compliance and avoid costly fines or loss of business. ■

Mental Exercise

by Pat Ellis

The following words are all included in the puzzle. They may be forward or backward, and either vertical or horizontal. No words are on the diagonal.

- | | | |
|-------------|---------------|--------------|
| ADSORPTION | HYDROLYSIS | PPM |
| AIRSPARGING | INVESTIGATION | PURGED |
| ANALYSIS | KEROSENE | RATS |
| AROMATICS | LABORATORY | RECALCITRANT |
| BACTERIA | LEAK | RELEASE |
| BTEX | LINE | REFORMULATED |
| CANCER | LUST | REMEDICATION |
| CARBON | METALS | RESIN |
| CLEANUP | MIGRATION | SITE |
| CLOSURE | MISCIBLE | SOILS |
| CONTAMINANT | MODELS | SOLUBILITY |
| CORE | MONITORING | SPILLS |
| COSTS | MTBE | SVE |
| CUMENE | MULTIPHASE | TAME |
| DATA | OCTANE | TBA |
| DIESEL | ORGANICS | TBF |
| ETHANOL | OXIDATION | THERMAL |
| ETHER | OXYFUEL | TOLUENE |
| GAS | OXYGENATES | TPH |
| GASOLINE | OZONE | WATER |
| GROUND | PEROXIDE | WELLS |
| HYDRAULIC | PLUME | XYLENE |
| HYDROLOGY | PPB | |

L	A	M	R	E	H	T	O	L	U	E	N	E	N	E	M	U	C	S
B	E	N	O	Z	O	N	O	I	T	A	D	I	X	O	R	S	O	P
E	N	E	L	Y	X	A	Y	G	O	L	O	R	D	Y	H	I	R	I
L	E	A	K	M	O	N	I	T	O	R	I	N	G	R	Y	T	E	L
B	A	C	T	E	R	I	A	N	O	B	R	A	C	E	D	E	M	L
T	R	E	F	O	R	M	U	L	A	T	E	D	O	T	R	A	I	S
E	S	N	E	X	S	A	E	I	D	A	T	A	R	A	O	I	S	G
X	L	B	V	Y	L	T	S	N	S	C	H	H	G	W	L	R	C	E
F	L	S	T	G	S	N	A	E	O	E	A	N	A	L	Y	S	I	S
R	E	H	T	E	O	O	E	I	R	M	N	R	N	O	S	P	B	A
E	W	C	A	N	L	C	L	N	P	U	O	E	I	X	I	A	L	H
D	P	O	R	A	U	N	E	V	T	L	L	S	C	Y	S	R	E	P
I	P	S	V	T	B	T	R	E	I	P	D	I	S	F	W	G	A	I
X	M	T	B	E	I	G	A	S	O	L	I	N	E	U	C	I	R	T
O	F	S	K	S	L	T	B	T	N	Q	P	P	B	E	I	N	O	L
R	E	M	E	D	I	A	T	I	O	N	E	D	E	L	L	G	M	U
E	N	O	N	F	T	P	H	G	R	O	U	N	D	N	U	L	A	M
P	A	D	E	B	Y	W	T	A	M	E	S	R	O	P	A	U	T	E
S	T	E	S	T	N	A	R	T	I	C	L	A	C	E	R	S	I	T
L	C	L	O	S	U	R	E	I	P	L	E	S	E	I	D	T	C	A
I	O	S	R	X	L	A	B	O	R	A	T	O	R	Y	Y	Z	S	L
O	C	L	E	A	N	U	P	N	R	E	C	N	A	C	H	G	A	S
S	O	E	K	N	O	I	T	A	R	G	I	M	P	U	R	G	E	D

So You Want an NFA Letter for Your Non-regulated Tank...

by Chris Brown

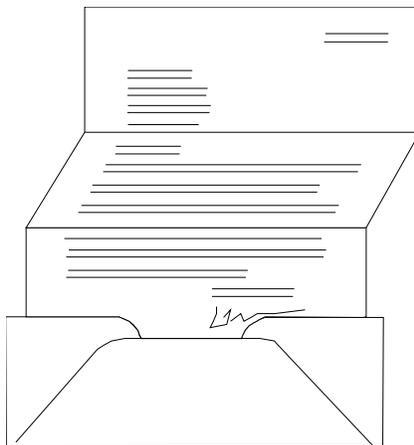
NO FURTHER ACTION — words that an UST owner waits to hear following removal or abandonment of their tank. Although many tanks are not regulated by the state of Delaware, if a product release is confirmed from any tank, regulated or not, the investigation and cleanup process is regulated by the State Law. When it has been demonstrated by the responsible party (RP) that the released product has been removed, or that residual contamination poses no threat to human health and safety, and the environment, the Tank Management Branch (TMB) issues an “NFA” letter to the RP stating that no further action is necessary, and “tank closure” has been obtained.

So, if the owner of an unregulated UST feels confident their tank has not released any product, how and why would the owner want the TMB to become involved? A real estate transfer is a common scenario. Perhaps a homeowner with a small, unregulated heating oil UST on the property is preparing to sell the property. It may have seemed like there were no problems with the tank, but does the seller currently own a deal-killing leaking UST? As for the buyer, will the new owner inherit what could be an environmental mess and financial headache caused by a leaking UST? Additionally, many financial institutions want documentation that contamination issues from an UST (and other sources as well) are resolved before lending money to a buyer.

To prepare for a smooth real estate transaction the owner of an unregulated UST may choose to document that the possibility of a leaking tank has already been addressed. For the TMB to become involved, a tank owner in

search of an NFA must follow the same process that the owner of a regulated UST would follow — remove, or abandon the tank in place, and provide to the TMB documentation that no product release occurred, or that released product was either removed or the risk to human health, safety and the environment has been acceptably minimized. Following review of all required documentation the TMB would then rule that “no further action” regarding the tank is required.

For the TMB to review removal or abandonment documentation, the TMB must first be properly notified of a tank owner’s intent.



A Delaware-certified tank removal contractor is required to remove or abandon the tank. The contractor will submit to the TMB an “UST Removal/Abandonment Notification” form which must be signed by the tank owner and received by the TMB at least ten (10) days prior to removal or abandonment. At that point the UST is registered with TMB and the property is assigned a facility identification number. The TMB does not charge a fee to register unregulated tanks intended for removal or abandonment.

Determining if a release occurred is an integral step in a tank removal or abandonment

and is the basis for the TMB’s decision on tank closure. For tank removals the TMB requires a minimum of two (2) soil samples to be collected and analyzed: one (1) grab sample from two (2) feet below the tank, and a composite sample of the excavated soil. For tanks abandoned in place, unless site conditions limit access, at least four (4) samples are required: one (1) grab and one (1) composite sample must be taken from a boring or test pit at opposite corners of the tank. For tanks with bottoms below the water table, grab samples should be taken from just above the water table. For proper abandonment, the tank must also be cleaned and filled with a solid, inert, non-compressible material such as concrete slurry.

Complete tank closure documentation must be submitted to the TMB within sixty (60) days of tank removal or abandonment. The documentation must include: soil analytical results, sample chains-of-custody, a site map, and appropriate disposal documentation for the tank, piping, product, sludge and soil. Upon the TMB’s review of the documentation, if the requirements for regulated tanks are met, a closure letter will be issued.

Removing an unregulated UST prior to a real estate transfer involves an added expense for the tank owner, but the peace of mind gained by having a letter from the TMB stating “no further action” is necessary for the tank may more than compensate for the expense. Just remember, for the TMB to become involved, treat the unregulated tank as a regulated tank, starting with proper notification of the planned removal or abandonment. And please... Do not wait until two days before settlement. ■

Vapor Recovery Systems — Why inspect daily? Part I

Colin Gomes

Part I of this series of articles will deal with components around the dispenser or hanging hardware. Subsequent articles will deal with components around the tank field, venting and processing equipment.

For owners of gasoline dispensing facilities that include a vapor recovery system, one of the more tedious requirements of the Stage II Vapor Recovery Operating Permit is conducting the daily inspection of the system. Fulfilling this condition of your Operating Permit is vitally important to Balance System owners, but it has become as important to Vacuum Assist System owners since the Department began requiring annual testing of the vapor recovery systems. Additionally, damage to your equipment can occur at any time. Daily inspection will limit the hazard to the period between inspections.

Many owners have had to have their system retested or rescheduled because of defective components that could have been discovered and replaced before the testing contractor showed up on site. The additional cost for retesting and the loss of evaporating fuel, which adds to air pollution, could be avoided with regular inspection of accessible vapor recovery components. Why pay twice for the same service? Why allow your merchandise to go up in “smoke”? Inspect your system to catch a defective component as soon as possible.

The following are some of the items at the dispenser that can be easily identified as defective by your daily inspector.

Fueling Instructions: Inspect each dispenser for the fueling instruction label. The label should

clearly demonstrate how to dispense fuel from your system and display the toll free number for complaints.

Bellows: Stretch out and inspect rubber bellows or boots for tears and splits. Inspect clamps; in some nozzles the vapor check valve opens when the boot is compressed, the bellows should be snugly attached to the check valve by the clamp. If the clamp is too high, too low, or loose, the valve will not work properly and vapors will escape.

Faceplates: Inspect faceplates to make sure they can make a good seal around an automobile gas tank. A good seal maximizes the volume of vapor recycled to your storage tanks from the automobile.

Nozzles: Inspect the nozzle for gasoline leaks. Wiggle the spout, looseness is a defect, and check for spouts that are bent out of shape. Check the automatic shut off mechanism by observing the fueling of automobiles, watch for spillage. Observe other nozzles on the same dispenser while one is being used. Look for signs of vapor escaping from idle Balance nozzles. This is evidence of a defective vapor valve. Under the same circumstances a vacuum assisted nozzle, with a defective vapor valve, would draw air into the system. This would be difficult to observe without enclosing the nozzle in a plastic bag and waiting for the bag to collapse.

Spring: Inspect your nozzle to see that the spring is not missing. Some nozzles require a spring to latch the nozzle to the automobile fill port.

Hoses: Inspect your hoses for wear and splits. By far the biggest headache in maintaining a balance vapor recovery system is constantly replacing split coaxial hoses. Unfortunately, covering the split with black electrical tape is not a solution. Vapor will leak from any split in the outer coaxial Balance hose. Vacuum assist hoses tend to develop cracks in the outer wall of the coaxial hose at its connection to the nozzle and break-away and at the bottom of the hose loop. Also, the short or whip hose is susceptible to cracking. If these are ignored, eventually gasoline will spray from these cracks onto your customer. Damaged balance and vacuum assist hoses must be replaced with hoses that comply with the conditions of your operating permit. Hoses that are too long are an obvious permit violation; they will not recirculate gasoline as designed and do not comply with the CARB Executive Order to which your system was built. Hoses that are kinked, flattened or full of gasoline may cause the nozzle to constantly shut off while fueling.

A damaged nozzle or hose create an opening whereby gasoline vapor will escape into the atmosphere from your storage tank, or from your customer’s automobile. This hazardous vapor may drift into your customer’s breathing zone during refueling, and then into the atmosphere to add to air pollution. This condition will always fail the required annual testing. Avoid these headaches by conducting a daily inspection and tagging or locking out defective components and replacing them with approved parts as soon as possible. ■

DNREC's Underground Injection Control Group: Who We Are and What We Do

By Kathy Wright, UIC Group

What do the following things have in common: infiltration trench, air sparging, geoprobe injection? If you guessed “UIC” then you get a gold star! If you are scratching your head asking, “What does UIC mean?” you are not alone.

The Underground Injection Control (UIC) group is part of the Ground Water Discharges Section (GWDS), of the Division of Water Resources in the Department of Natural Resources and Environmental Control (DNREC). The entire makeup of the UIC group changed recently, resulting in new staff who are working to create a program more closely aligned with the Federal UIC program. The UIC program now consists of the following staff: Ron Graeber (Program Manager I); Kathy Wright (Environmental Engineer II) and David Kelley (Sr. Environmental Compliance Specialist). While Ron oversees the entire program, Kathy processes UIC applications, and David handles the inspections and site visits.

The UIC group is responsible for activities associated with the injection of *fluids* into the ground. Both the EPA and DNREC define a ‘fluid’ as “a material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.”

The UIC group is accountable for the administration of the State of Delaware *Regulations Governing Underground Injection Control* and Title 40 of the Code of Federal Regulations. This responsibility involves handling the facilities that currently possess permits or authorizations and processing incoming applications

and amendments in addition to seeking to bring un-permitted activities into compliance. Furthermore, the UIC group is beginning the process of revising the State UIC regulations to reflect federal UIC regulatory changes.

In recent months, the UIC group has been in contact with the Tank Management Branch (TMB), to develop a procedure for efficiently processing new UIC applications. The consultant is required to submit a UIC application (available on the TMB website) for any remedial technology that involves the injection of a fluid, as defined above, into the subsurface — this includes infiltration galleries, air sparging, the injection of chemical oxidizer such as ozone, hydrogen peroxide, permanganate, and persulfate, and systems that enhance natural attenuation of contamination through injection of oxygen releasing compound (ORC), bacteria, and propane. Other remediation technologies that may require a UIC application are oxygen diffusion systems and in situ oxygen generation systems. TMB and the UIC group are currently working towards developing a comprehensive list of technologies for which UIC applications are required. If you are unsure whether your project requires the submission of a UIC application, you

should contact the UIC group at (302)739-4762.

Most UIC applications result in the issuance of UIC Authorizations. Prior to issuing a UIC Authorization, the UIC group must receive a completed UIC application, a copy of the corrective action work plan (CAWP) and a copy of the TMB work plan approval letter. UIC Authorizations are normally processed in less than two (2) weeks. UIC Permits require more time to process, as permits are far more detailed projects. In general the remedial technologies utilized at leaking underground storage tank (LUST) sites will only require a UIC Authorization; however, this may vary depending upon the proposed technology.

At this time, thanks to the EPA, there is *no fee* associated with the issuance of a UIC Permit or Authorization, so companies have nothing to lose by obtaining the proper approval. ■



THINK TANK

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Announcements

Chris Brown – was hired as a Hydrologist in July. Prior to coming to the TMB, Chris worked with a consulting firm as an Engineering Geologist for seven years and with the Delaware Nature Society for four years as a program coordinator. Chris is married and enjoys hiking and spending time with his five year old daughter Abby.

Erich Schuller – was hired in July as an Environmental Scientist for the AST program. Previously, Erich spent 12 years as a Hazardous Waste Disposal Supervisor with Clean Harbors, Bridgeport, NJ. In his spare time he volunteers as crew aboard the Kalmar Nyckel.

AST Update

The Aboveground Storage Tank Technical Advisory Committee (ASTTAC) will be meeting in August, September and October to review the draft Aboveground Storage Tank Regulations. The draft AST regulations are currently divided into five sections. Part A details General Requirements, Part B details Installation and Upgrade requirements, Part C details Inspection and Monitoring requirements, Part D details Financial Responsibility requirements and Part E details Corrective Action requirements. Committee meetings to review the draft regulations are scheduled as follows:

August 21, 2003, 9:00am-12:00pm	Review of Part A
September 10, 2003, 9:00am-12:00pm	Review of Parts B & D
September 24, 2003, 9:00am-12:00pm	Review of Parts C & E
October 7, 2003, 9:00am-2:00pm	Review of full regulations
October 16, 2003, 9:00am-2:00pm	Review of full regulations

All meetings are open to the public and will be held at the DNREC office, 391 Lukens Drive, New Castle, DE. For more information or directions to the office please call 302-395-2500.

TMB web site — <http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/ust/>

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