

THINK



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Compliant Operations

Post-1998 Compliance - Part 2 - FR

by David Brixen

Beginning on July 1, 1995, the Department of Natural Resources and Environmental Control (the Department) began enforcing the financial responsibility (FR) regulations found in Part F of Delaware's *Regulations Governing Underground Storage Tank Systems (The Regulations)*. According to Part F, owners and operators are required to have an assurance mechanism in place so that if a release occurs, there will be financial resources available for costs associated with a clean up. Although there are a variety of mechanisms that satisfy these requirements, the majority of owners and operators have opted to use pollution liability insurance.

In order to prove to the Department that you are in compliance with the FR regulations for insurance you must submit the forms in either Part F, Appendix C or Appendix D of *The Regulations*. Submission of the proper forms will help insure the policy you have purchased is in compliance with the Department's regulations. The Department requires proof of insurance at the time of installation prior to loading the UST, before recommissioning your UST after an upgrade or retrofit, during any change of service or product, at the time of an inspection and/or anytime the Department deems it necessary.

Pollution liability insurance is similar to automobile or homeowners insurance in that you pay a premium for the protection from financial hardship in the event of a mishap. The difference is there is a set amount and scope of insurance you must carry to satisfy the FR regulations. The amount of insurance you must carry is dependent on the type of facility you own and the amount of product used. If you own or operate a petroleum mar-

keting facility **or** handle an average of more than 10,000 gallons of petroleum per month, the minimum per-occurrence insurance needed is \$ 1,000,000. This includes **all** gasoline stations and business that use a high volume of petroleum such as, but not limited to, large trucking and bus companies. All other owners and operators must carry a minimum of \$500,000 in per-occurrence insurance. Per-occurrence insurance covers costs associated with any single release up to your policy amount minus a deductible.

In addition to per-occurrence insurance, owners or operators of 1 to 100 UST systems must carry a minimum of \$1,000,000 in aggregate insurance. Those who own or operate 101 or more petroleum UST systems must carry at least \$2,000,000 in aggregate insurance. Aggregate insurance becomes effective if you have multiple releases during your policy period. Be aware that owners or operators are responsible for costs incurred beyond their policy amounts.

The scope of insurance refers to what activities are covered under a pollution liability policy. In order to satisfy the regulations, a policy must cover costs for taking corrective action, compensating third parties, bodily injury and property damage caused by accidental releases arising from the operation of petroleum USTs. The insurer is responsible for the initial payment of the deductible amount and may recover those costs from the insured. It is extremely important for owners or operators to make sure the amount and scope of insurance meet these criteria for two reasons. The first is to insure compliance with FR re-

Continued on p. 2 - see Compliance

quirements. The second is to make sure that they have relieved themselves from the financial hardships that can be associated with petroleum releases.

Premiums are based on a variety of criteria. Included are the age and construction of tanks, the amount of product stored, the type of leak detection used, previous releases and the amount of deductible chosen. It is in the owner's or operator's best interest to limit the deductible amount to the amount that can be incurred without putting the business at financial risk. If a company can not pay the deductible without going under, then how does the policy protect the business? Insurance is intended to protect the owner or operator as well as to

protect the environment.

When purchasing a policy it is important to know what you are getting. Ask questions and demand answers. Make sure you have the proper amounts and scope of coverage and that the proper forms are submitted to the Department. The insurance industry is there to provide a service and you should take advantage of that. Find out the steps that are needed to make a claim. If you upgrade or retrofit your system find out if your premium will go down. Ask how many claims your company has paid. Ask how many claims have been denied and for what reasons.

Remember, the more information you can provide the insurance company substantiating

your claim the easier it will be for you to collect on your policy.

Things that will help you prove that you are a diligent owner or operator include, but are not limited to, making sure your insurance application is accurate and up to date, proof that you are doing leak detection, proof that you are operating your cathodic protection systems properly, proof of vapor recovery testing and your inspection and repair logs. *If you are negligent in your day to day operations your claim may be denied because the release was allowed to continue.*

The bottom line is that compliance goes hand in hand with getting a claim processed. Stay in compliance, keep your policy up to date and you will limit your liability.

Odds 'n Ends

Technical Paper Insert

This issue of *Think Tank* contains a technical paper by Pat Ellis, UST Branch Hydrologist and nationally recognized MTBE expert.

While it is of a technical nature and will appeal to consultants who deal with MTBE contamination and cleanup, it contains items of interest to owners and operators of gasoline USTs. The solubility of MTBE, its concentration of up to 15% in gasoline, and its resistance to degradation makes even small spills (as small as 1-2 gallons) or leaks potentially harmful to groundwater and more expensive to clean up than gasoline that does not contain MTBE.

The Department has required testing for MTBE for approximately 18 months. To date, 26 private wells and a number of public wells have been found to contain detectable levels of MTBE. This is a problem that will be more evident as testing becomes more routine.

UST on the Internet

You may visit the UST Branch at our web page: <http://sirb.awm.dnrec.state.de.us/deusthom.htm>

You can find various items there including the UST Regulations, the DERBCAP guidance document, certified contractor lists, and links to other sites such as DNREC's Environmental Navigator. Copies of *Think Tank* can also be viewed and downloaded from the site. Back issues will be available as they are prepared for the internet.

Also available soon (check back often, we're updating constantly) will be an updated version of the Technical Guidance Manual. The tank installation portion is nearly done and will be posted soon. Information on our upcoming symposium and workshop *Tanks 2000... and Beyond* is posted.

You can also register your e-mail address and ask questions or request to be placed on our e-mail mailing list.

e-mail

The following is a list of e-mail addresses for the UST Branch:

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* Note - Jill Hall is jihall

GPS/GIS...the Latest

by Tripp Fischer

In the fall of 1994, the UST Branch began a mapping effort utilizing two global positioning system (GPS) receivers. The goal was to record latitude and longitude for every UST site in the state of Delaware; leaking, non-leaking, operating, non-operating, those with tanks, those with tanks removed. More than six years later, nearly 96% of the 3,481 facilities have accurate, to less than one meter, x and y coordinates (latitude and longitude).

The coordinates for each site are entered into the Department's database which allows for efficient exporting capabilities to use in other mapping efforts within the Department. An example of such an application is DNREC's Environmental Navigator, now available on the web. Creating map "layers" from the data within Department Geographic Information Systems (GIS) has allowed for fast and accurate Land Use Planning Act (LUPA) reviews, better risk-based analyses of LUST sites, better protection of sensitive groundwater and well-head recharge areas throughout the state, and more accurate hydrogeological transport modeling.

Technology is moving faster than a Randy Johnson fastball and GPS technology is no exception. With an industry that covers such a wide range of interests, many questions arise as to which system is feasible for the task at hand. This should shed some light on the subject.

Background/Science

The Department of Defense (DOD) developed the Global Positioning System (GPS) more than 20 years ago for military purposes and has since been made available for public use. Global Positioning Systems utilize a network of more than 20 satellites orbiting 11,000

miles above the earth. The satellites transmit signals that the receiver uses to calculate its position on earth in three dimensions (x, y and z).

Selective Availability and DGPS

Selective Availability (SA) is the term used to describe the degradation feature that the United States imposed on the GPS waves (L1 and L2) to protect national security. By altering the satellite time data, the DOD could control the accuracy of the GPS readings in "real-time". With SA, any position recorded could have a distance error of up to 30 meters in any direction. However, engineers figured out a way to combat SA and still achieve accuracy to less than 1 meter through a process called Differential GPS or DGPS. DGPS requires an additional receiver that is placed on an actual surveyed point with known coordinates.

This stationary receiver, or "base station", collects the same degraded (SA) signals as the mobile receiver (that is logging the points of interest). However, since the "base station" knows its actual location (surveyed point) its position can be compared to the degraded SA data it received. This difference can then be used to correct the mobile receiver's measurements through post-processing software. This same theory may be accomplished in "real-time" through actual radio contact between receivers (RTDGPS). This requires the base station to broadcast corrections to the mobile receiver in the field so that the user may obtain accurate locations in the field as opposed to correcting the points in the office with computer software.

Now for the kicker, effective May 2, 2000, the White House officially stopped SA and reserves

the right to deny GPS signals if national security is in jeopardy. Then DGPS is out the window right? Wrong! By turning off SA, real-time GPS error (without differential corrections) improved from 30 to 3 meters. Although accuracy improved 10 times, DGPS is still necessary to get within 1 meter of your target.

Receivers/Systems

GPS service is free, the receiver that collects the information is what you pay for. Aside from the inexpensive hiking GPS units that can locate a lake or base camp, there are basically two types of mapping grade GPS receivers, single and dual phase. Single-phase units collect only the L1 signal and are generally sub-meter (accuracy) units following differential processing. Single-phase systems are great for GIS mapping, wetland delineation, computer modeling, and sample locations.

Dual-phase systems collect both the L1 and the more accurate L2 signals and therefore are more expensive and harder to use. Dual-phase units are more of a survey-grade GPS, accurate to 5 millimeters and are used when accurate x, y, and z control is needed such as well surveys and measuring grade.

What can GPS do for me?

GPS in combination with a Geographic Information System and/or Computer Assisted Drawing (CAD) program can be a very powerful tool. With the ability to join concentration data tables with actual GPS located points on a digital map one can assess environmental concerns quite effectively. It makes mapping more accurate, more efficient and increases the integrity of the work.

THINK TANK

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Announcements

Pat Ellis – was named DNREC's Division of Air and Waste Management employee of the year. She also received the Secretary's Award for Excellence. Dr. Ellis is a nationally recognized expert on the gasoline additive MTBE.

Nichole Mobile – was hired as a secretary. She was previously a seasonal secretary with the UST Branch.

Tripp Fischer – was promoted to Hydrologist II. Married April 8, 2000, he and his wife Trish are presently living in Landenberg, PA.

Matt Lesley – Hydrologist with the UST Branch for seven years, has taken a position with a consulting company in Wilmington. We wish him the best in his new career.

Brian Churchill – a graduate of Wesley College, was hired as an Environmental Scientist. He was formerly employed as an environmental scientist with a local consulting firm.

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