

L.U.S.T. LINE



A Report On Federal & State Programs To Control Leaking Underground Storage Tanks

Nabbing Truant Tanks With Timely Tickets

Expediting UST Compliance

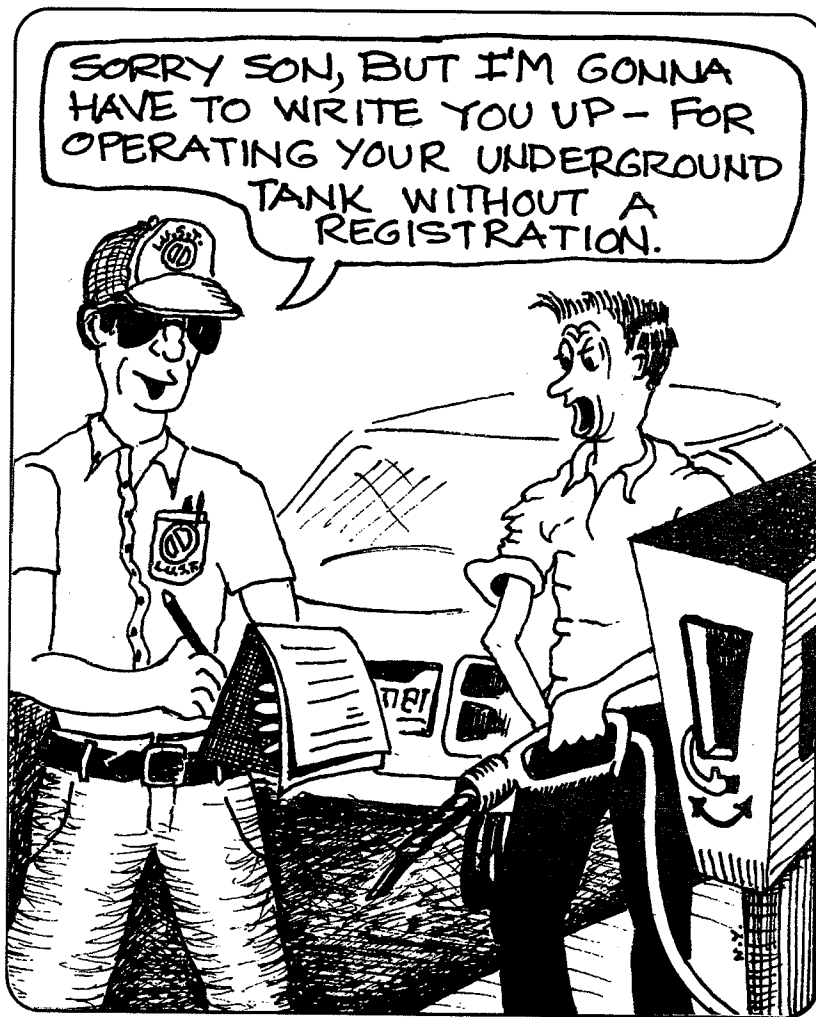
State and local UST programs face the awesome challenge of bringing the nation's thousands upon thousands of USTs into compliance. While many tank owners are already voluntarily abiding by the rules, there are many other reluctant or uninformed tank owners who still don't have the religion and need some encouragement. The question tank regulators are asking is, "What non-traditional enforcement mechanism can we use, since the old way of doing things could keep us in court for years?" The answer is, on-site field citations - they are appropriate for UST programs, and they are already being used successfully in UST and other environmental programs in some jurisdictions.

While the number one goal in UST regulatory circles is to encourage voluntary compliance, enforcement will have to pick up where that approach falls short. However, in cases of minor violations, traditional enforcement procedures, with their administrative orders and court hearings, are extremely time consuming and burdensome. Inspections for such things as leak detection, recordkeeping, and cathodic protection are bound to reveal scads of non-compliers, especially in these early stages of UST regulation.

This is why EPA is working to help states find ways to "expedite enforcement" by promoting the use of on-site notices or citations that are issued directly by the inspector without going through the state's judicial system. A field citation, for example, is a procedure somewhat like writing a traffic ticket with a predetermined fine. It is a simplified administrative order issued by an inspector, usually at the site of the violation.

Expedited enforcement, when used as a complement to existing administrative, civil and criminal authorities, can enable UST inspectors to address more violations immediately, while still enabling programs to address more serious

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violations using the appropriate traditional enforcement methods.

Inspectors in Dade County Florida and Washington D.C. are already using expedited enforcement procedures. (Dade County uses expedited enforcement for easily correctable violations throughout their environmental program, including USTs, and D.C. uses citations for their environmental program and will extend to USTs once regulations are in place.) Suffolk County, Long Island will have citation procedures for their UST program in operation by the end of the summer, and EPA is conducting expedited enforcement pilot projects at the state level in Connecticut, Delaware and New Mexico.

"I think it's going to be a very productive and efficient use of our limited manpower for enforcement," says Scott Deshefy of the Connecticut Department of Environmental Protection's UST Program. "We'll start out with a notice of non-compliance that's written on the spot. On it will be a checklist of violations and a category that will indicate whether the perpetrator admits to the violation or not. We'll consider whether or not to invoke actual monetary penalties later on, when we see how this works out."

The Fear of Appeal Syndrome

What if ... every citation you wrote was appealed ... and you spent your remaining days in public service testifying at hearings?

Don't worry shweet heart, it was just a bad dream.

LUSTLine

Editor, Ellen Frye

Prepared by the NEIWPCC with a grant (ACT-901555-01-0) from the U.S. Environmental Protection Agency
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LUSTLine is issued as a communication service for the Subtitle I RCRA Hazardous & Solid Waste Amendments rule promulgation process.

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Layout, Ricki Pappo

Some UST inspectors are understandably wary of citations because they don't want to spend their time in hearings. This is why field citations should only be used for minor infractions where minimal, if any, judgement is required - failure to register the tank, failure to do proper inventories, failure to provide cathodic protection for a metal tank, etc.

You occasionally get the cantankerous quarrelsome soul who won't hear reason, but in most cases the UST inspection can be an excellent way to establish rapport with tank owners and get supportive information out where it needs to be.

"You want these citations to be the simplest, most straight forward least troublesome form of enforcement," explains Jim Pim at Suffolk County, New York's Department of Health Services, "and if regulators can't manage that, they can't manage any enforcement. Let's face it, any enforcement ties up staff time to some extent. So, either we're enforcing or we're not enforcing.

"In Suffolk County, we have a ticket form of citation all set up and ready to go. The form sets up a list of simple violations which the inspector uses in issuing the ticket. The appearance date for the hearing is established on the ticket. To avoid the necessity of the hearing they can pay the fine - about \$250.00 per violation - and correct the violation. These violations are the most unequivocal and indisputable. We also have a next step up for more complicated violations, and we have even managed to expedite that process."

Indeed, field citations are most appropriate for relatively clear cut and easy to correct violations that are virtually indisputable. Once a list of clear cut violations is established it can be developed in a short-form wording format for the field citation.

But, in truth, indisputability can be disputable; 'tis a condition to be appraised through experience. Washington, D.C.'s experience has been that, over time, certain wordings on the citations need improvement - word or phrasing changes to help clarify the violation. They have found that modifications and touch-ups, as needed, can reduce the number of appeals, increase understanding of the infraction, and/or reduce the number of cases lost on appeals.

Angelo Tompros of D.C.'s Department of Consumer and Regulatory Affairs says his Department's penalty structure is based on the severity of the violation. "For each violation we have a separate piece of paper with a list of things the inspector should look for as a guideline," says Tompros. Out in the field the inspector has the option of either writing a field citation or going back to the office to review the case and then make a decision. Once the citation is issued, the violator has 15 days in which to either pay and correct the violation or request a hearing.

"If the person requests a hearing, a date will be set for an appearance before an administrative law judge who will hear the case and render a decision in 10 to 12 days. We have within our department our own Office of Adjudication to hear the cases - its not a long drawn out process. We also have a computer program in place to track these violations."

A Fine or a Warning?

Expedited enforcement can be handled with or without penalty assessments. In the case of citations with fines, penalties below the "knock their socks off" range seem to get better results. The severity of the violation may determine the relative penalty. Jurisdictions currently issuing citations or considering citations are talking average fines of \$50-500 per violation. Smaller penalty assessments seem to be the most effective - the violator figures it make more sense to pay the fine, correct a glaring violation, and avoid schlepping down to a stuffy government building for a hearing.

On the other hand, you can hold off on the penalty by issuing a warning first. In Dade County, Florida, inspectors issue an on-site warning notice that identifies the violation first. After a specified time period, if inspectors get no compliance they issue a notice of violation which gives the violator 15 days, for failure to register tanks, or 30 days, for other types of violations, to voluntarily comply without penalty. This notice tells them what will happen if they fail to comply, including penalties.

"We give the violator every opportunity to comply without any penalties or action on our part," explains Amando Villanueva, Chief of the Dade County UST Program. So far, there have been no appeals.

Villanueva says the County has a regular facility inspection program, which has moved more and more toward preventative maintenance of facilities versus their prior program of mostly cleaning up messes. "We got

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Ticketing Tanks, *continued*

away from getting bogged down with courts and boards to hear cases," he explains. "We have a pool of hearing officers who know about tank issues—environmental consultants or engineers. These officers hear a case, make a decision and its over with."

"We're looking for compliance first," Dade County Inspector Clyde Sirman stresses. "We don't want to have to fine you. We don't want to get into a confrontational situation. We want to explain to you what your deficiencies are, that you need to correct them, and that we can help you correct them by giving you information that explains it to you. But, if you don't come through, then we'll issue a ticket. We give them every opportunity to understand what must be done so there are no excuses."

Educating the Tank Owner in the Process

Although the UST inspector is a regulator and in an adversarial position, facility inspections are a good opportunity to promote voluntary compliance, to see that the tank owner operator is informed about laws, regulations, and other information that would help him understand what must be done. You occasionally get the cantankerous quarrelsome soul who won't hear reason, but in most cases the UST inspection can be an excellent way to establish rapport with tank owners and get supportive information out where it needs to be.

Inspectors need to be well trained to identify violations and assess their severity, including the determination of which violations can be adequately served by a field citation and which warrant further enforcement action.

When you get right down to it, decorum is probably the secret to success. The cocky arrogant inspector is as bad as the confrontational tank owner. You arrive at the site, explain who you are, why you're there, and what you'll be doing. You're positive, professional, consistent and courteous. You acknowledge that the inspection may temporarily disrupt operation of the business. You conduct the inspection. Finally, you explain what you've found and what needs to be done...

"Mr. Meanwell, we've gone over you're inventory records, and I'd like to point out that you're not properly accounting for you're inventory losses or gains, and you're not sticking you're tanks as a daily routine. We've checked all you're monitoring systems, and the groundwater did not appear to have any

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New Insurers Enter UST Market

Things are beginning to look more promising in the tank insurance market. Within the past five months, two major providers have announced they will write pollution liability insurance for owners and operators of underground storage tanks. In April, The American International Group, Inc. (AIG), a global insurance organization and the largest provider of commercial and industrial insurance in the United States, made the announcement. In July, the Great American Insurance Companies of Cincinnati, Ohio took the first step by announcing a new program which will cover most of the western states.

The Great American Insurance Companies' coverage will be offered by their Agricultural Excess and Surplus Company affiliate. The program will be available to owners of petroleum tanks, including marketers, non-marketers and municipalities. Initial market areas include the Pacific Northwest, the Rocky Mountain States, and the Southwest (excluding California). For more information, people in these localities can contact: Bruce Thiffault, Westar Insurance Group, Bellevue, Washington - (206) 827-6000. The company intends to market this program nationwide at a later time.

The Fred S. James and Company of Harrisburg, Pa. has been designated Program Manager for AIG for all operators of USTs with 25 or less tanks to be insured on a single policy. The program covers off-site cleanup and third-party liability and currently provides \$1 million per occurrence and \$2 million aggregate on a claims-made basis. The minimum premium is \$2,500 with a minimum deductible of \$10,000. For more information on the program, call 1-800-255-7112 (outside of PA) or 1-800-1422 (in PA).

Also, the National Union Fire Insurance Company of Pittsburgh, Pa., a member company of AIG, is providing tank coverage for third-party bodily injury and property damage and off-site cleanup costs. Owners and operators of tanks containing motor fuel and waste oil can obtain limits of \$1 million per loss and \$2 million aggregate with a minimum premium of \$25,000. Higher limits will be written upon request. Coverage will be written on a claims-made basis.

Pollution coverage for National Union will be written on a site-by-site basis. Rates will be determined by the number of tanks at a location, tank and pipe construction, monitoring systems, inventory methods and the surround-

Providers of Underground Storage Tank Pollution Liability Insurance*

PETROMARK
The Planning Corporation
13347 Sunset Hills Rd.
Reston, VA 22090
(703) 481-0200

**Federated Mutual Insurance
Company**
129 East Broadway
Owatonna, MN 55060
(507) 455-5200

**Environmental Protection
Insurance Co. (EPIC)**
111 N. Canal St.
Chicago, IL 60606
(312) 715-0800

Oilmen's Fund
350 Fifth Ave., Suite 6805
Empire State Building
New York, NY 10018
(212) 629-4290

H.S. Weavers
James Group Service
9th Floor
230 West Monroe St.
Chicago, IL 60606
(312) 236-0220
Available in Indiana and Illinois

**AIG - National Union Fire
Insurance Co.**
70 Pine St.
New York, NY 10270
(212) 770-3148

AIG - Fred S. James
(Program Manager)
P.O. Box 1675
Harrisburg, PA 17105
(800) 255-7112 (outside PA)
(800) 382-1122 (inside PA)
Designed for Small Businesses

**Agricultural Excess and
Surplus Co.**
Great American Insurance
Companies
Westar Insurance Group
Bellevue, Washington
(206) 827-6000

*As of August 1989

ing environment. Coverage may not be available in all states. For more information call (212) 770-3148. ■

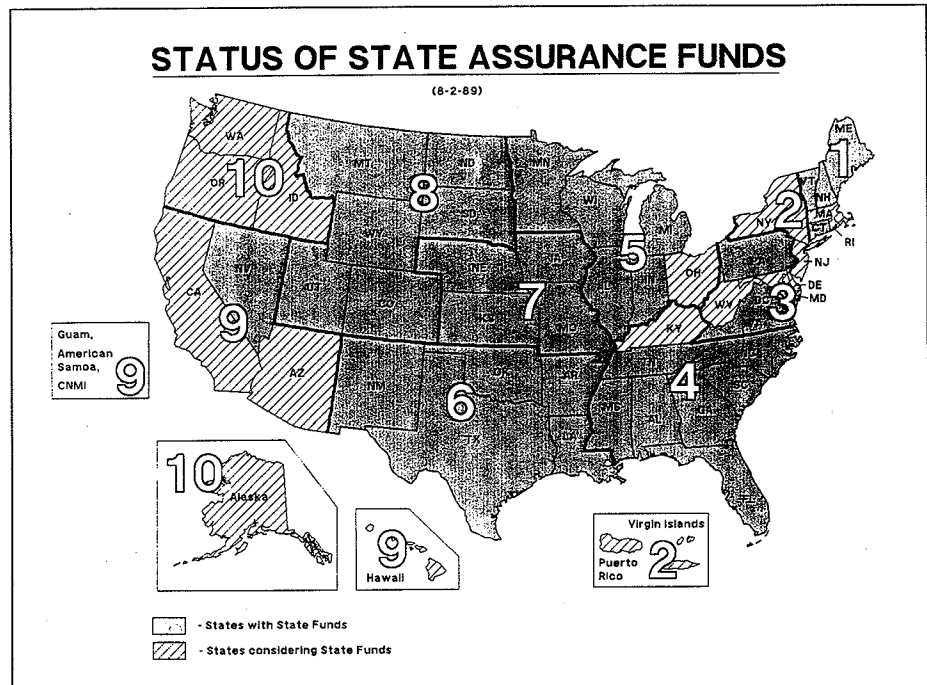
States Move Ahead With Financial Assurance Programs

So far, 36 states have passed statutes creating financial assurance programs to help owners and operators pay for cleaning up leaks from USTs, and to comply with the federal financial responsibility requirements. States have tended to develop programs that are unique to their own needs, infrastructures and political personalities.

State financial assurance programs vary in the amounts and types of coverage provided. Not all funds provide both corrective action and third party liability coverage, and most cover only a portion of the federal financial responsibility requirement. States have chosen several methods of funding their assurance programs including taxes, fees and bonds. Eligibility requirements vary from state to state, some more stringent than others.

States like Georgia and Minnesota have established programs whereby they reimburse owners and operators for "eligible" costs up to some set limit. This type of program is designed to encourage responsible parties to take the corrective action initiative.

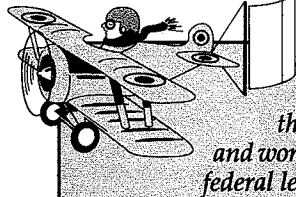
EPA is encouraged by the development of these state financial assurance programs and is currently tracking their progress. Clearly there was a great deal of activity in state legislatures in this past session, and it looks as though the next session, beginning in January 1990, will be just as active. ■



* Numbers indicate EPA regions

For more information about specific state financial assurance programs, contact your state UST program..
Contact NEIWPCC for a copy of a national list of state and federal UST contracts.

Give Heed Ye Olde and Rustin' Tanks...December '89 is Nigh!



Give heed, ye olde and rustin' tanks bein' some 25 years and older, or of ages unknown. The time is comin', if ye hadn't thought of it already, for you to be lookin' after yer creakin' joints and worn spots by seein' to leak detectin' your system. Don't forget, yer federal leak detection deadline is December 1989!

In anticipation of the first federal leak detection compliance deadline of December 1989, the EPA Office of Underground Storage Tanks (OUST) has developed an array of information that can be used by states and tank-related associations to promote compliance. OUST has been meeting with tankowner/operators, representatives of major oil companies, equipment and product suppliers and states to learn how to convey appropriate leak detection messages and information to the regulated community.

From these meetings OUST has learned that they need to find ways to: diminish confusion and misinformation over the regulations, alleviate fear of finding a release...and the cost involved, and provide a simplified translation of the regulations. Thus, the following outreach tools have been developed:

- **Statement Stuffers** - for use by associations, marketers and states to be included in invoices or other mailings. The stuffer is envelop size and contains a list of the compliance deadlines, and sources for additional help.
- **An Advertisement** - for use by UST-related industries and associations. This piece provides basic information which can be used in public service advertising columns of UST-related journals.
- **A Compliance Article** - available for reprint in UST-related publications and for general distribution by a state to the regulated community. Beyond the information in the statement stuffer, this piece provides an overview of the UST problem and various compliance options.
- **Leak Detection Options Summarized** - a two page piece with a paragraph on each option, designed to provide

baseline information so owners/operators can seek further information on a preferred method(s).

- **In-depth Summaries of Leak Detection Options** - provides about two pages for each option and will provide cost information and conditions for optimal use for each method.
- **A Draft Letter** - covering leak detection requirements, a brief overview of options, and where to go for more information. The letter can be sent by a state agency, local official or an association to those in the regulated community.

The masters for reproducing this information are available to states, associations, and members of the regulated community at no cost. If you are interested in receiving any of these materials, please call your state UST program or national association representing your industry. ■

The Fall issue of *LUSTLine* will lean heavily toward the subject of leak detection. We welcome any insight you might have on the subject or any "how we did it" stories. Please call Ellen Frye at (617) 861-8088 if you wish to contribute.

UST EXCHANGE



The UST Exchange is your written forum for promoting the exchange of UST experiences, successes, discoveries, frustrations, and anecdotes.

If you have any such information, get it off your chest.

Write Ellen Frye at NEIWPCC, 85 Merrimac St., Boston, MA 02114, or call 617/861-8088.

State Cleanup Fund Provides Financial Responsibility, Better Cooperation and Reasonable Cleanup Solutions

by Chuck Schwer, LUST Program Coordinator, Vermont Department of Environmental Conservation

In 1988, the Vermont General Assembly enacted a State Petroleum Cleanup Fund, which is designed to provide financial responsibility for UST owners. The Fund is supported by a tank assessment fee levied on all permitted USTs and a one cent per gallon licensing fee levied on all motor fuels. The tank assessment fee generates approximately \$4- 500,000 annually, and the licensing fee generates approximately \$3-5 million annually. Tank owners are responsible for the first \$10,000 of the cost of a cleanup.

The enactment of the Fund has led to two major improvements in our Department's petroleum sites management program. First, we have found that responsible parties are more cooperative and more willing to readily implement measures necessary to

rectify petroleum contamination. This is probably because of the limited financial responsibility of the tank owner; once the cleanup costs for a site exceed \$10,000 the State assumes the coverage.

Second, because the DEC is acting as an insurance carrier, we have much more say as to what remedial activities are or are not needed. We have also placed a greater emphasis on requiring cost competitive bidding. Therefore, we are seeing fairer and more reasonable solutions to petroleum related problems, both environmentally and economically.

In the past, we have experienced problems with contractors/consultants overcharging for their services and/or providing inappropriate scopes of work. For example, in one

situation a consultant gave a responsible party (RP) a cost/work proposal, which we reviewed because it would be paid for with State money. We found the proposal was not only over priced, but also inappropriate for the situation. We contacted the RP and explained the bid was not what was needed and suggested he get proposals from other consultants. We ended up with an excellent proposal and a successful job done at a reasonable price.

The Petroleum Cleanup Fund has enabled us to more adequately protect public health and the environment and to protect the consumer from misuse of the Fund. However, in the interest of reducing the State's liability by discouraging tank owner dependence on the State for financial assurance, the Legislature has required the State Petroleum Cleanup Advisory Board to study mechanisms to encourage those who can obtain pollution liability insurance to do so.

Misinformation's a Dangerous Thing

By Jim Ozment, Manager of the Technical Review Section, Tennessee Underground Storage Tank Program

It has become readily apparent that the new UST regulations will subject more average citizens and small companies to complicated environmental regulations than ever before. The tremendous influx of UST information and requirements will inevitably leave the regulated community besieged and bewildered by an array of misinformation, rumors, contradictions and the occasional charlatan. As regulators, we can't expect the regulated to be clear on what must be done.

To attack the misinformation affliction head-on, state regulators, consultants and service companies must rapidly educate themselves on these requirements so that they can convey this information...accurately. The key to any successful UST program, state or federal, will be staff training and public education. We need to educate ourselves first, before we can turn around and take on the immense task of educating the public.

Here in Tennessee we've seen an interesting assortment of misinformation. One type of misinformation we

often see involves monitoring wells. My favorite monitoring well story concerns gravel packing. Most of you know that a gravel pack is placed around the outside of the screened interval of a well to prevent fine soil materials from entering the well. We recently found a gentleman who filled the inside of his monitoring wells with gravel. He believed that gravel pack meant just what it sounded like, pack with gravel. As you can imagine, this made sample retrieval a bit more challenging.

Many tank owners are still vague about the purpose of the State's UST program. Recently we received a call from a gentleman living in rural east Tennessee who said he had heard of our program and understood that we cleaned up leaks. The staff person handling this call had a moment of pride that word of our program was reaching so many people. Then the caller said, "well I've got a leak, and I'm wantin' to know if you can come fix it for me." Needless to say, we did pay him a visit.

Misinformation is not confined to just tank owners. Tank installers, removers, and yes, even consultants are having their share of problems sorting out the regulations. Take, for instance, the electrical subcontractor who was installing a fiberglass tank and decided to fill it before he finished backfilling. You guessed it, another 10,000 gallons in the ground.

We've had consultants tell us there was no free product at a site when they had screened all the monitoring wells below the water table, so there was no way floating product could enter the well.

While states should be educating the regulated community, the task is enormous given the number of facilities regulated under this law. Certainly, the job must begin by firmly establishing our UST programs and then by educating ourselves about these programs. In most states, the staffing of UST programs has just begun. In Tennessee, we anticipate establishing six field offices with at least four persons in each office to address tank problems state wide. These personnel will come into the

(Continued on Page 6)

UST Exchange, continued

UST program with varying backgrounds and knowledge about USTs, but they will also bring strengths from other related fields. For us to maintain consistency and promote technical competency, training will be of the utmost importance.

Since we have limited funds in our training budget, we must use all the in-house expertise we have available. We hope to put together training programs using experienced personnel from our UST staff as well as from other Divisions within Tennessee's Bureau of Environment. Since UST problems are innately multimedia problems, we feel that drawing on experienced people in the areas of Solid Waste, Air Pollution, Superfund, Groundwater Protection and Water Pollution Control will go a long way toward solving our training problems. EPA should also be encouraged to help in providing Health and Safety training courses, as required by OSHA. Without this kind of training, we cannot put new staff into field situations dealing with hazardous conditions. (Ed. EPA has developed and already delivered health and safety training in several regions; the remainder of the regions will be covered in the next couple of months. One training session has been video taped in full.)

Without proper training for UST staffs, state programs could fall into disarray or fail totally. With good training and innovative leadership, states may be able to head off problems and actually reduce their workloads by preventing problems before they occur. In fact, the UST regulations, if implemented, are designed to do just that. But, the regulations will only be effective if they are thoroughly understood and practiced by the regulated community. Therefore, as state UST programs develop, training and education should be one of our prime goals. We cannot sit back and hope that somehow these regulations will be assimilated and gladly implemented by the regulated community. ■

**To order copies of
LUSTLine, Bulletin 11,
call Hotline
(800) 424-9346.**

**To add your name to the
LUSTLine Mailing List,
call (617) 367-8522**

Training Videos

- Watch for NEIWPCC's new video, *What Do We Have Here?: An Inspector's Guide to Site Assessment at Tank Closure* with a short appendix video on field instrumentation, which will be available this fall. The video points up the importance of site assessment at closure and discusses the ways this can be done. State and local UST inspectors from different parts of the country provide their own insight on the subject.

- *Tank Closure Without Tears: An Inspector's Safety Guide* - Covers important safety aspects of tank removal, especially dealing with flammable and explosive vapors.

Video and companion booklet available for purchase, \$25.00, prepaid. Booklet, \$5.00, prepaid, from: NEIWPCC, Attn: VIDEOS, 85 Merrimac St., Boston, MA 02114.

Video and booklet available for loan, \$5.00, prepaid, from: NERWI, Two Fort Rd., South Portland, ME 04106.

- *Doing It Right* - Proper tank and piping installation methods for installers, owners, and operators. Available for purchase only, \$16.00, prepaid, from: American Petroleum Institute, 1220 L St., N.W., Washington, D.C. 20005 or Petroleum Equipment Institute, Box 2380, Tulsa, OK 74101.

- Installation training videos are also available from both the fiberglass tank and piping and the steel tank industries. For more information, contact the Fiberglass Petroleum Tank and Pipe Institute at 419/247-5412 or the Steel Tank Institute at 312/498-1980.

Red Jacket Piston Leak Detector Alert!

Officials at the Marley Pump Company have received reports that some cap screws which hold the top of their Piston Leak Detector (PLD) Model #116-030 have broken, resulting in motor fuel leaks. Marley Pump also makes another kind of leak detector, a diaphragm style, which has been in use for many years and has not experienced this type of failure. Although only a small percentage of the PLD units have failed, according to a notice put out by the company, Marley is urging that corrective action be taken on all PLD units in service or in stock. In fact, they warn: **"Failure to undertake the following corrective action could result in significant motor fuel loss, environmental contamination and possible risk to human life."**

It is imperative that the appropriate corrective action be taken immediately. The following corrective action is necessary:

- On all units without broken cap screws, all cap screws must be replaced pursuant to Marley Pump's directions.
- On all units with one or more broken cap screw(s), the entire PLD must be replaced pursuant to Marley Pump's directions. Marley Pump will provide all necessary materials for the retrofit at its cost and will reimburse labor expenses of up to \$15 per PLD for bolt replacements or up to \$30 per PLD for PLD replacements.

Since becoming aware of the problem, Marley Pump officials have been looking into its cause and extent.

For more information, call Marley Pump at 1-800-334-3404.

EPA HQ UPDATE

Back by Popular Demand...the 1989 National UST Conference for States

EPA's Office of Underground Storage Tanks (OUST) has begun detailed planning for this year's UST conference called, you guessed it, the *Continuous Improvement Conference*. The event will be held at the Doubletree Hotel at Randolph Park, Tucson, Arizona on November 6-9.

Preliminary plans call for the following sub-themes: Prevention, Leak Detection, Closure, Corrective Action, State Program Approval, Development, and Management, Compliance and Enforcement, and Financial Responsibility. The conference will begin at 2:00 PM on Monday, November 6th with the keynote address and plenary session; it will end at 11:00 AM on Thursday, November 9th.

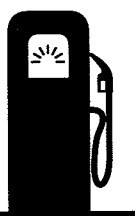
For further information, please contact Jerry Parker at (202) 475-7263 or Beverly Thomas at (202) 475-7267.

UST Best Sellers Now Available From U.S. GPO

OUST has decided to make Musts for USTs and Dollars and Sense available solely through the U.S. Government Printing Office (GPO). OUST had hoped these documents would be effective tools for communicating the final technical and financial responsibility requirements to the regulated community...and were they ever! OUST has printed and distributed over 200,000 copies of Musts for USTs and Dollars and Sense.

Effective early September, these documents may be purchased directly from GPO. Single copies will cost \$2.50 for Musts for USTs (order # 055-000-00294-1) and \$1.25 for Dollars and Sense (order # 055-000-00293-2). Call the GPO Order Desk at (202)783-3238.

Questions may be addressed to Beverly Thomas at (202) 475-7267.



Reg-In-A-Box Is Out!

Reg-In-A-Box, the new personal computer software developed by OUST, is designed to help users understand and work with the federal UST regulations. It provides an array of useful tools, including plain English explanations of individual sections, topic "advisors," and cross references. OUST distributed the software package, in IBM-PC-compatible and Apple Macintosh formats, to EPA Regional Offices, to state UST program offices, and to individuals who requested a copy after reading about Reg-In-A-Box in computer trade journals. Beyond this initial distribution, EPA is not distributing the software package.

However, anyone interested in obtaining a copy of either version can receive ordering information from OUST. Request Publication No. 84 from: U.S. EPA, Office of Underground Storage Tanks, P.O. Box 6044, Rockville, MD 20850.

Air Emissions at UST Cleanups Report

OUST has developed a manual to estimate air emissions from petroleum UST cleanups. The manual addresses two issues: First, the types, levels and durations of air pollutant emissions from UST cleanups, in general, are summarized for each technology. Second, the manual provides a simple methodology to estimate air pollutant emissions at specific sites. The technologies addressed are soil excavation and aeration, vacuum extraction and air stripping. Both total volatile organic compound (VOC) emissions and total benzene emissions are discussed.

OUST received considerable assistance during the development of the manual from state UST and air offices. This information helped verify the accuracy of the material, as well as tailor the document to suit state needs. The Estimating Air Emissions at Petroleum UST Cleanups report has been distributed to state UST programs.

For more information, contact Nancy Martin at (202) 382-4760.

Model Permit for Cleanup of Gasoline Spills

In response to the large number of UST cleanups that require a National Pollutant Discharge Elimination System (NPDES) permit, OUST has worked with numerous states and EPA Regions and the U.S. Office of Water Enforcement and Permits (OWEP) to develop a model NPDES permit, which is designed for use during a cleanup of gasoline released from USTs. The model permit and a background fact sheet were mailed to both the NPDES and UST programs in July.

The model permit expedites two critical activities: 1) issuing an NPDES permit, and 2) cleaning up gasoline released from a UST. Using the model permit, the administrative NPDES process can begin as soon as it is known that a permit is required, thus saving time needed to research contaminate discharges and draft a permit. The permit may also serve as the basis for establishing a "general" permit, which can quickly provide for authority to discharge. Because the initial stage of a UST cleanup often requires discharges to surface waters, expediting the permit process expedites UST cleanups. OUST is exploring the possibility of conducting state pilots on the use of this model permit.

For information, contact Richard Braddock at (202)382-5237.

A Compendium of Current Practices for Controlling UST Releases

OUST has published, Petroleum Tank Releases Under Control - A Compendium of Current Practices for State UST Inspectors. This handbook is both a training manual and field evaluation tool for state (and even local) inspectors. Others who would be interested in the step-by-step activities of a UST release site investigation and the field tools available, include tank owners and operators, consulting engineers, contractors, and trade associations. By September, the general public will be able to purchase this publication from the U.S. Government Printing Office. Contact your EPA Regional UST Program Manager or State UST Coordinator for ordering information.

"If You Have a Leaking Tank and Do Not Report It..."

Newspaper Ad Part of Landmark Mass. DEQE/Mobil Settlement

When it comes to compliance and enforcement, tank regulation provides fertile ground for creative, innovative persuasion. The Massachusetts Department of Environmental Quality Engineering (DEQE) got creative this spring by imposing a consent order whereby Mobil Oil Corporation agreed to take out \$50,000 in newspaper advertising, urging other gasoline retailers to comply with environmental laws and replace aging USTs. Mobil was required to place the quarter-page advertisement twice in 13 major Massachusetts newspapers - which they did.

The ad was part of an administrative penalty against Mobil for failure to notify DEQE of a UST leak at a service station that the company owns and operates on Cape Cod. Under the settlement, Mobil also agreed to pay a \$300,000 administrative penalty, clean up the leaked gasoline, and replace USTs at some 75 gas stations it owns and operates in the State by the end of 1991. (In Massachusetts, this means double-walled tanks and piping for tanks greater than 1,100 gallons.) In addition, the company must supply DEQE with quarterly reports on their efforts to replace aging tanks, and conduct periodic tank and line tightness tests at all locations until the tanks are removed.

Compliance will cost Mobil an estimated \$11 million. If the company

fails to comply in any way, it will be liable for penalties of \$1,000 a day for each and every violation.

The announcement of the Mobil settlement came with a publicized push to get tough on violators of the State's environmental laws and regulations. There are an estimated 75,000-100,000 USTs storing oil, gasoline, chemicals and hazardous waste in Massachusetts.

If your state or locality has gotten into creative UST regulation, please let us know here at LUSTLine. ■

Text of the advertisement Mobil placed in 13 daily newspapers in Massachusetts

Attention: Owners of Underground Storage Tanks for Oil or Gasoline

Studies have confirmed that these tanks may leak. Maintain the tanks properly. Have them pressure tested regularly and replace them at the end of their useful life.

Leaking storage tanks may cause serious environmental problems. The Commonwealth of Massachusetts advises that at least 65% of the confirmed hazardous materials sites in the Commonwealth were caused by leaking USTs.

In order to reduce the threat of future leaks, we will have eliminated [unprotected] steel USTs at 90% of the service stations that we own in Massachusetts by this time next year. We will test regularly any tanks that remain, until they too are replaced on an accelerated schedule. We urge other tank owners to adopt similar aggressive programs.

If you suspect that your tank leaks, the law requires that you report it to the Massachusetts DEQE immediately and work with that agency so cleanup can begin.

If you have a leaking tank and do not report it to DEQE immediately, you will have broken the law and will be severely penalized.

MOBIL OIL CORPORATION

The Perfect Project Gone **SOUR**

A Mortgage Banker's Perspective on LUSTs

By Casimir R. Groblewski

In the fall of 1986, following an extensive search, a Boston-based development group found "the perfect project", a twenty year old manufacturing facility which could be nicely rehabilitated into 50,000 square feet of first class office space. The location was excellent - high visibility in a thriving suburb of Boston. The timing was optimal - the demand for office space was going strong. The economy was booming - financing would be a piece of cake. With the purchase and sale agreement consummated, the closing was scheduled for early in 1987.

As part of the loan closing and due diligence process, the lender required an environmental site assessment report, which is mandated by the State's Chapter 21E superlien law. The clouds began moving in on the project

when test borings from the site assessment revealed that a 10,000 gallon underground fuel oil tank had been leaking for what appeared to be many years, contaminating an unknown quantity of soil.

Since a town well field was one-quarter mile off and a brook crossed the development site, caution flags went up. In response, the tank and large amounts of soil were removed and disposed of, and the problem, everyone thought, had been resolved. To be sure, the lender asked for one additional set of tests; new borings were made, including several underneath the actual building slab. The results disclosed a major crisis; oil had seeped underneath the building and had spread over a large area, aided by a high water table.

The lender withdrew its financing commitment. The seller, based out-of-

state and not knowing the full extent of the problem, was forced to take remedial action. The buyer saw the economy disintegrate and the rental market weaken. The site engineer and the cleanup firm spent eighteen months and \$1,500,000 attempting to solve the problem.

Meanwhile, the State passed and put into effect more stringent cleanup and long-term liability regulations (the Massachusetts Contingency Plan). The solution to the pollution was to break up the floor of the building and to remove as much of the contaminated soil as possible from within the foundation perimeter. However, with traces of oil still appearing in monitoring wells, the project has yet to move forward, since lenders are not comfortable advancing money without some sort of sign off from the appropriate environmental agency, an action that the agency is not yet prepared to do.

(Continued on Page 9)

Perfect Project, *continued*

Reflecting Back

There are a number of lessons real estate professionals and lenders can learn from a case like this. The most important one is there are no shortcut solutions to environmental problems. Time and money must be spent as needed. Environmental problems are difficult to define and quantify, especially when hidden underground. This makes preliminary remediation cost estimates difficult, at best. In the case presented above, the property's sellers have seen their potential profit eliminated because of immediate cleanup costs. Long term costs, such as installation and maintenance of passive recovery or filtration systems, loom ahead indefinitely.

Underground environmental problems also tend to get caught up in regulatory quagmires. Many state environmental agencies are staffed by capable individuals, but not enough of them, who have been given a broad political mandate to clean up their state's environment. The general desire of the public to solve pollution problems does not seem to be backed up with sufficient resources.

Nationwide, our industry often experiences the frustration of wasting time and money because of indecisiveness on the part of regulatory authorities. We are often forced to cope with unclear and badly defined standards and requirements which further complicate the remediation process. Once a problem is cleaned up, as in the case at hand, the governmental bureaucracy is hesitant to state that nothing more can or should be done. In other words, the responsibility will forever be on the shoulders of the property owners/occupants, even if they did not cause the problems.

Across the country, property owners, developers, brokers and lenders must ultimately concern themselves with all aspects of environmental problems, from initial assessment procedures to remediation, from tank removal to ongoing monitoring, from local to state to federal regulations. It would help if the public sector promulgated clearly written laws and regulations. A cooperative spirit between all parties would more efficiently solve environmental problems as well as reduce unnecessary waste of time and money where real estate development is concerned.■

Cas Groblewski is Vice President at Spectrum Financial Corporation, a mortgage banking firm serving New England-based developers and corporations.

Granddaddy of Installer Certification Programs Lookin' Good

Believe it or not, it's been over three years since the State of Maine held its first written exam for UST installers. With that kind of mileage under its belt, the Maine Board of Underground Storage Tank Installers (BUSTI) has become the seasoned veteran, the past master of installer certification, having certified over 250 installers, so far. But, deference to BUSTI is not simply a matter of maturity (though Maine's is the first such program in the country); more significantly, the board has effectively administered the State's Installer Certification Program and has continued to make progress with new program developments each year.

This is the bottom line of a recent EPA funded evaluation, a *Summary & Assessment of Maine's Underground Storage Tank Installer*, by Woodard & Curran, Inc. The report documents and evaluates the development and operation of the certification program and, for such would-be or fledgling programs throughout the country, it includes a checklist of issues to be considered. The assessment includes recommendations in the areas of policy-making, support staff, program interactions, certification procedures, recertification and continuing education, enforcement and disciplinary action, and apprenticeship.

One major recommendation of the assessment led the Board to propose and obtain a legislative amendment to replace on-site exams with a three-tiered certification installer classification system and an apprenticeship program. Under the classification system, Class 1 can install all types of USTs except field constructed tanks; Class 2 can install any type of UST except field constructed tanks, heavy oil storage tanks, or impressed current cathodically protected tanks; and Class 3 can only install #2 heating oil USTs that are not field constructed or equipped with an impressed current cathodic protection system.

To be eligible to become certified, an applicant will be required to:

- pass a written exam for the classification desired;
- complete 6 or 12 installations (depending on installer class) under the supervision of the appropriate level certified installer; and
- pass a final written exam specific to the classification.

By instituting an apprenticeship program the need for an on-site exam is eliminated, applicants are experienced prior to becoming certified, and because BUSTI is not conducting on-site exams, the support staff is more available to spend more time on enforcement, education and training, and program development. The apprenticeship program will operate under the assumption that existing installers who are training the apprentices are knowledgeable and ethical.

An apprenticeship program would be difficult to implement at the start-up of an installer certification program, since a large number of certified installers would have to be available to provide supervision.

Other recommendations resulting from the program assessment are to:

- Maintain a diverse mix of members on the Board
- Increase opportunities for communication between Board members, staff and installers
- Maintain recertification training requirements and incorporate mandatory training in the areas of legal liability and ethical practice
- Identify the enforcement goals of the program and provide the necessary staffing to achieve those goals

It is important to add that certification or licensing programs can also provide some control over the ongoing performance a licensee; licenses can be revoked or not renewed, through statutory procedure, if work is not up to snuff. In Maine, the Board would be more apt to go the route of not recertifying when a 2 year certification expired. Pulling the certification would involve taking the case to Administrative Court, which is complicated and time consuming.

Regional UST coordinators have provided all states with copies of the evaluation. For more information contact Jim Hynson, Maine DEP at 207/289-2651.■

In addition to Maine, the states of Nebraska, Oregon, New Mexico, Florida, Montana, and Idaho currently have installer certification or licensing programs in place. Texas, Oklahoma, Illinois, Michigan are getting close. Many states are working toward certification for installers, tank testers, removers, etc. California is now licensing tank testers.

L U S T L e t t e r s.....

Holes in Tanks From Sandblasting

We received a letter from John W. Cox, Vice President of TERA, Inc., Houston, Texas in response to our Bulletin #9 article on Tank Lining. In that article, Bruce Sharp, President of Armor Shield, Inc., stated, "Tanks will often have tiny holes that you may not see until the tank is sandblasted." Using this as a point of departure, John Cox delved further into the question of holes from sandblasting. We asked Bruce Sharp to respond to this inquiry....which he didpoint by point:

Cox: Our observations of older, corroded tanks, is that sandblast cleaning can be the cause of holes in the tank shell - some not so small, depending on the state of corrosion.

Sharp: True, many older corroded tanks are not leaking and the sandblasting causes holes. The holes result from:

- Removal of rust plugs; and/or
- Removal of extremely thin metal.

Sandblasting will blow away (tear apart) thin metal because the tensile strength is not strong enough to hold the metal together when the sand impacts the metal.

Sandblasting does remove extremely thin metal from deep internal and/or external localized or point corrosion pits. When sandblasting on thicker metal surfaces, the amount of metal loss is only about 1 1/2 mils, yet sand impact will tear through thin metal, such as 10 mils of steel.

Cox: This (sandblasting) is a dilemma for the tank owner. If he prepares for lining by sandblast, holes can be created where there were none. If he tries anything less violent, such as chemical cleaning, there are few, if any, linings which will work.

Sharp: No, sandblasting is not a dilemma for the tank owner. Sandblasting can be a cost effective way to establish if there are very thin metal areas from localized pitting. An owner would certainly want to know if his tank was about to leak in the near future and, thereby, be able to prevent the leak. Also, it would be extremely unwise, in my opinion, to attempt to retrofit cathodic protection to such a tank.

Furthermore, the EPA UST Preamble, Section IV(B)(3) requires tanks to be structurally sound, including assessment of the tank through internal inspection for:

- Plugged corrosion holes (rust plugs)
- Severe external pitting
- Internal corrosion

Indeed, in cases of rust plugs or extremely thin metal, sandblasting will cause holes. My position is that sandblasting at 100 psi with a coarse abrasive material does have value in assessing the severity of corrosion to a tank. The National Leak Prevention Association (NLPA) standard 631 has established procedures, which include sandblasting, for performing "Internal Inspection for Retrofit Cathodic Protection Without Lining" to comply with the Federal requirements under 40 CRF part 280.21(b)(2)(i). The tank owner should want the sandblasting to be intense!

Cox: The question for tank owners and permitting authorities, then, is if holes are created by sandblasting in an otherwise sound shell, is tank usefulness terminated?

Sharp: No, the operational structural life of a tank has little to do with a hole or the age of tanks. Corrosion leaks are the result of point corrosion and have no bearing on the overall loss of steel that affects the structural life of a tank. If a tank were to have 90 to 1001/2 holes in a 3 square foot area of a tank wall, the tank may be approaching the limits of its structural life. For more detailed information on this issue, see NLPA Standard 631 "Spill Prevention, Minimum 10-year Life Extension of Existing Steel USTs by Lining Without the Addition of Cathodic Protection." [However, some states do not allow lining of any tank with a hole, which can be a dilemma if sandblasting creates a hole in the process of lining.]

Cox: This leads to an obvious question concerning whether lining materials can: (1) bridge these small holes structurally; and, (2) remain reliable with exposure to the adhering surface via the hole.

Sharp: Yes, linings meeting the requirements of NLPA 631 can bridge small holes structurally. It has been established through testing that repaired holes take 800 to 1200

psi externally to rupture the lining. The testing was performed on 3 samples using a 3 inch jumbo plug through a hole in 1/4 inch thick steel plate. After the area around the plug had been repaired and lined, the steel pin was removed from the jumbo plug. The result was that the only seal and structural support to stop leakage through the hole was the lining material. When external hydraulic pressure was applied to the hole from the external side of the steel, the failure range was between 800 and 1200 psi on the jumbo plug before the plug was forced through the lining. In other words, the ability of linings to bridge holes structurally is more than adequate, especially when the normal underground pressure exerted on a tank does not exceed an external pressure of 5 psi.

Yes, the lining can also remain reliable, adhering to the surface around holes. This was demonstrated to the EPA during the public comment period for the UST regulations. The lining industry, it's customer base, API's survey, Dames & Moore's survey of European regulations, and numerous EPA supported surveys have established historically that lining does prevent leaks.■

Note: It is important to check local or state regulations if you plan to line your tank.

To Our Readers:
We welcome your comments and suggestions on any of our articles. Call or write Ellen Frye at NEIWPCC

Continued from Page 3 Ticketing Tanks,

hydrocarbon product in it, and the monitoring wells are constructed properly.

"The facility looks as if it's in compliance with our requirements, except, of course, the problem with your recordkeeping - this is one of the problems that needs to be corrected. By the next inspection you will be expected to be keeping proper records.

"Here is a handout, which explains the proper method of recordkeeping. If you want, we can go over it to be sure you understand the proper method of keeping records. If you have any other questions regarding state or federal regulations, please don't hesitate to ask.

"If these deficiencies are not corrected within 20 days, we will have to cite you for a violation, which will result in your being fined \$100.00 initially. If you do not comply, you can expect further enforcement action."

We thank you for your cooperation.

EPA has been working with the pilot states and counties already expediting or planning to expedite to develop training materials for conducting these inspection/citation actions. These materials will focus on all aspects of the inspection, drawing on inspector training documents already prepared by EPA, plus information on when it is appropriate to use ticketing enforcement methods, how to decide when to go with expedited versus traditional enforcement, and how to fill out a ticket properly so it stands up in court, if appealed.

Most states will have to evaluate existing statutory authorities for establishing expedited enforcement procedures. While relatively few states have the ideal statutory basis for rapid adoption of such procedures, many have some of the essential authorities to move in the direction of enhancing UST compliance. ■

Field Notes

from Robert N. Renkes, Executive Vice President, Petroleum Equipment Institute

Are ASTs The Answer to USTs?

"The cost of complying with the federal technical and financial responsibility regulations is pretty steep," conclude some oil marketers. "Isn't a quick and easy solution to the problem," they wonder, "simply to put the storage tanks aboveground?"

Over the last several years, an increasing number of service station owners have considered removing their underground tanks and replacing them with aboveground storage tanks (ASTs). At first blush, the aboveground tank alternative seems to make a lot of sense. As marketers take a closer look, however, they may find that ASTs are not the panacea they were thought to be.

The greatest obstacle facing oil marketers will probably come from the fire service. Both national fire codes, NFPA 30A and UFC Article 79, expressly prohibit aboveground tanks at service stations. Long-standing concerns about fire and explosion hazards, vandalism, leaks and spills, damage from vehicles and storms, etc., have prompted the code-making bodies to shy away from drafting regulations permitting ASTs at service stations. It is worth noting, however, that a slowly growing trend to permit ASTs at service stations is occurring at the state level. States like North Dakota, Iowa, South Carolina and Texas have passed legislation this year allowing aboveground storage at service stations.

If a state or local government should pass a law requiring that the fire marshal draft regulations for ASTs at service stations, what may be required? The rules will likely only permit listed equipment to be used. Maybe anti-syphon systems will be mandated. Capacity is likely to be limited. Some means of containing leaks and spills will have to be provided. Tanks will probably have to be a certain minimum distance from property lines, other buildings, roads and other tanks. And any fire code will surely include some provisions for the physical protection of the tanks by providing for fencing and limited access.

How will insurance companies react to ASTs at service stations? How will they be rated? What additional safeguards will underwriters require? Will insurers refuse to cover some stations - inside a city or town for instance - because the potential liability (actual or perceived) is too great?

An oil marketer would be well advised to do his homework prior to making a decision to put his storage aboveground. Get approval from the fire authority before beginning any work. Determine how much money will be required to satisfy the fire regulations. Find out how much your insurance company will charge for liability - and yes, pollution - insurance. It may be that aboveground tanks are not as attractive an alternative to USTs as they initially appeared. ■

Questions and Answers



Q. Is an owner or operator who discovers a release at the site of an UST system which was closed prior to the effective date of the federal technical standards (December 22, 1988) subject to the corrective action requirements found in Subpart F of the technical standards?

A. Yes, according to EPA, the owner and operator of the UST system must comply with the corrective action requirements of Subpart F of the regulations. This should not be confused with Section 280.73, which exempts previously closed UST systems from the necessity of closing according to the requirements of Subpart G, unless directed by the implementing agency. Thus, while owners and operators of previously closed UST systems are not required to check their tanks for releases, should they discover a release, even in the absence of a specific directive from the implementing agency, they must follow the corrective requirements of 280.60-280.67.

TANK TALK

Comments Requested for NFPA 329 Revision

The 1987 edition of NFPA 329 is being revised by the Technical Committee on Tank Leakage and Repair Safeguards of the National Fire Protection Association (NFPA). The document provides guidance for the safe handling of flammable and combustible liquids when they are found unconfined and unwanted. NFPA 329 includes procedures for ventilating and securing any underground location that may be affected, tracing the source of the unwanted liquid and confirming the suspected source. The document also contains recommended procedures for conducting a precision test on a storage system.

Persons interested in the national standard are invited to submit proposed revisions as soon as possible to NFPA 329, c/o Secretary, Standards Council, NFPA, Batterymarch Park, Quincy, MA 02269.

A form and instructions for submitting proposals are included at the end of the document.

API Updates Guide to Assessment and Remediation of UST Petroleum Releases

The American Petroleum Institute (API) has published an updated version of Publication 1628, A Guide to the Assessment and Remediation of Underground Petroleum Releases. The document provides an instructive review of the fundamental technical concepts involved in cleaning up contamination from USTs.

The information presented in the booklet is general enough to accommodate state-specific requirements and guidelines. Topics covered include controlling petroleum migration; determining the extent of contamination at a site; and evaluating remediation options for free product, vapors, and dissolved contaminants.

To order copies of the publication, write to the Publications and Distribution Section, API, 1220 L St., N.W., Washington, D.C. 20005, or call (202) 682-8375.

Petroleum Contaminated Soils Conference At U Mass in September

The fourth national conference on Petroleum Contaminated Soils: Analysis, Fate, Environmental & Public Health Effects, and Remediation will be held September 25, 26, 27, & 28 at the University of Massachusetts, Amherst. For information, contact Paul T. Kos-tecki at (413)545-4269.

O/C Tanks Recommends Use of Air/Soap Pressure Test

O/C Tanks Corporation reports that prior to placing USTs in the excavation or backfilling, tanks should always be air/soap pressure tested for leaks. According to an O/C Tanks study, Sensitivity of Leak detection Methods: Vacuum and Soap Bubble testing Prior to Installation, a typical 30-minute air/soap test can detect leaks over 400 times smaller than a 30-minute vacuum test. They conclude that "the most accurate and precision pre-

installation tank test is the air/soap test method. The cavity vacuum test is not considered an effective pre-installation tank test method because of its relative inaccuracy and inability to detect even large leaks." These conclusions are based on lab analysis and study of thousands of O/C tanks which were subjected to both air/soap pressure testing and vacuum leak testing.

Some manufacturers of double-walled tanks place a factory applied vacuum on the cavity between the inner and outer tank as a preliminary check to detect large leaks from accidental shipping and handling damage. However, to ensure that this vacuum test is not misinterpreted as an integrity test of the outer wall, O/C Tanks is discontinuing the cavity vacuum on all tank shipments.

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