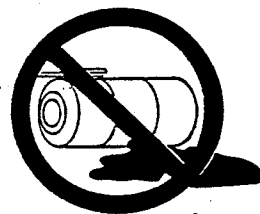


L.U.S.T. LINE



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

Here a Tank, There a Tank, Everywhere a . . . *Tank Removal and Abandonment.*

Time has laid fallow many an underground storage tank. It is probably because they are buried, that tanks are often forgotten when folks move on to the next thing. Although these abandoned tanks are all over the place, often the question is . . . exactly where? The interment of the nation's UST's is not well documented, in fact, the further back you go, the sparser tank records become. No wonder it's a tank mine field out there! There's no tellin' when and where one of those steely hulks is likely to turn up. In a Vermont town, the road construction crew turned up a tank right in the middle of Main Street.

To the local history buff, the surprise tank may present an alluring link to the past—a cause to break out old maps and records and back track through time in search of the tank's "reason to be", and the responsible party. For example, in Lincoln, Nebraska, a construction crew discovered leaked product while digging a sewer line. The leak was traced to some 40 year old tanks in a bank basement. After examining city records, maps and aerial photos, investigators traced the tanks back to a Trix Oil gas station that had once been on the same site. Apparently, it never occurred to anyone to remove the tanks before the bank was built.

Because of Federal, state and local initiatives and because of liability for cleanup costs and personal damages, it has become good business to weed out older and/or unnecessary tanks. Needless to say, the tank removal

business has picked up considerably and, in this dawning age of UST enlightenment, these tank digs can provide us with rich tank-related archeological and anthropological insight. We are provided the opportunity, for example, to glean tips on tank installation—why did the tank leak or why it didn't it leak?

Tank removers are uniquely privy to the history and somewhat idiosyncratic nature of underground tank installation. Contemporary and, shall we say, technically "correct", UST installations will lack the personality and individuality of some of their predecessors. Up until recently, the lack of proper direction or guidance allowed installer creativity to take over, procedural myths to be perpetuated, and the old "get the damn thing in the ground" attitude to flourish. A definitive history on UST installation would almost certainly be riddled with words like "makeshift" and "improvisation".

Many installers were like do-it-yourself plumbers. Underground piping networks could be free form and, unlike the plumbing profession, there was no official code to follow even if you wanted to do the job right (installers now know to check PEI and API Recommended Practices).

But it wasn't just the installer who added personality to the underground storage system, the tank owner had his own ideas on tank management. One Massachusetts tank remover described a job where an intricate patchwork of tankery

was uncovered. The pattern had evolved as the owner dealt with successive leakers. When product loss became painfully apparent in a tank, the owner simply squeezed-in another tank next to it. This squeezed-in approach called for the installation of tanks with a variety of shapes and sizes to accommodate limited space. This variation added richness and texture to the overall motif.

Anthropologically, it might fascinate some folks to learn that tank installers also have a long tradition of tossing pop bottles and lunch wrappings into the tank excavation . . . the practice may be somewhat ritualistic. (This practice we know now is absolutely a backfilling faux pas!) One removal contractor has a collection of old excavated bottles in his basement. He says older urban areas are bountiful in this respect.

This Tank Must Go!

To UST regulators, relic tanks are of interest primarily because they are older and made of bare steel which is prone towards corrosion. These relics will sooner or later spill their contents into the environment. Even if a tank has been pumped "dry", there is still the sludge, there is still the safety concern . . . there is still this big two ton potential liability. No wonder many UST regulators and fire inspectors feel the sooner abandoned tanks are dismantled, the better.

Continued on next page

Tank Removal *continued*

Chief Fire Inspector Jerry McGinn and the City of Lincoln, Nebraska have adopted an aggressive tank removal policy; if an UST has been out of service for more than 90 days to a year, it should come out of the ground. McGinn became a believer when he considered the numbers of abandoned tanks he suspected were buried throughout the city. "We were discovering a lot of 'surprise' tanks . . . and who knew what kinds of surprises were inside the tanks . . . oil, gasoline, chemicals. I pictured a lot of potential problems buried out there."

McGinn recalls the day Lincoln's former Mayor Roland Luedtke became convinced that out-of-service tanks had to go. "He was driving through the City on his way to a meeting. As he rode along, it struck him that tanks were being removed all over the place. He called me to find out what was going on. As it turned out, he was quite pleased that we were getting the tanks out, because he had gotten a good look at the condition of some of them."

We can tightness test UST's, we can monitor for soil gases and signs of product in the groundwater, we can bring in analysts and sing incantations over the burial site, but can we be absolutely sure the tank hasn't leaked unless it is removed from the ground? In property transfer situations many banks and insurance companies are questioning this before they approve mortgages or title insurance. Furthermore, do we

want to pass these buried tanks onto future generations?

Or Leave it in the Ground?

Many state and local authorities insist that tanks be removed, and will allow abandonment in-place only if a tank is in or near a building and removal would cause structural damage to the building. EPA's proposed regulations do allow for abandonment in-place. To do this, the tank should be emptied, cleaned, and filled with an inert material. (In the past, some tanks were closed in place and filled with trichloroethylene (TCE), an inert material now known to be an environmental hazard.) First and foremost, the tank owner/operator must be able to show there has been no environmental damage.

How does one make certain that no leaks have occurred while the tank remains in the ground? Here are some possibilities: 1) Check any existing records on the tank—has it been "emptied"? What was stored in it? Has it been tested?; 2) Have the tank tested. Tank tests are bound to catch the bigger leaks, but what about the very small leaks that can persist for a long period of time? . . . how can we be sure?; 3) Place a few observation wells around the tank to check for the presence of free product or dissolved product in the groundwater; 4) Take soil samples from underneath the tank—that sounds like a lot of fun!

If everybody who is anybody is convinced that the tank never leaked, there is one more very important task that ought to be completed before the tank is filled: to prevent any future problems, clean out the sludge! To do this, the tank should be pumped of all product; it should be vapor-freed to remove all possibility of fire or explosion; and, for lack of any more clever procedures, a manway should carefully be cut (with the approval and supervision of the local authorities) so that man, respirator, and mop can enter the tank and do the deed.

Sludge Counts

We alluded to sludge a few times in this article . . . so let's take a minute to talk tank sludge. Sludge needs to be taken more seriously than it is by many people today! For every abandoned tank merely emptied of product, there is probably sludge . . . residue . . . gunk—lurking in the bottom. Sludge can ooze out of a corroded tank, it can contaminate soil and water, and it can be a safety hazard if it is combustible.

Here's a sludge story. In November, a fisherman in Cohasset, Massachusetts noticed a greasy sheen on some of the vegetation in Lily Pond, the town's drinking water reservoir. The town quickly shut down the water pumps and tapped a contingency water supply while the sheen was investigated. It turned out a 500 gallon tank believed to be at least forty years old was the culprit . . . three to five gallons of diesel sludge had leaked from it. The town-owned tank was located adjacent to the reservoir at an abandoned turn of the century water pumping station.

Fortunately, because the leak was caught early and contamination was not widespread, the leak had no detectable impact on the water quality and normal water service was resumed in a few days. Ironically, the town had recently enacted a bylaw dealing with storage of hazardous material and protection of the watershed. The diesel tank was slated for removal—that has now happened.

Sludge counts! No self respecting tank yard will accept a tank unless it has been thoroughly cleaned, or unless they have the wherewithal to do the cleaning and dispose of the sludge themselves. Scrapdealers know and fear words like "superfund" and "liability" (see LUSTLine Bulletin 4). They don't want to mess with sludge.

Sludge is also the sticky wicket in tank removal and cleaning. Gasoline sludge, in particular, is a marvelous vapor generator. From a safety standpoint, it is not a good idea to diddle with the tank until it is vapor-freed. Whether a tank is cleaned on-site or off-site, the combustible properties of sludge should always be kept in mind.

A Postscript— the Yanked Tank

More and more, UST inspectors are attending tank removals. The primary reason why environmental or health departments poke their noses into tank removal is to be sure that environmental damage has not occurred and/or that human health will not be affected by any contamination from either leaked or spilled product or from accumulated vapors. Otherwise, tank removal falls squarely into the jurisdiction of the public safety/fire protection folks.

No question about it; safety is a big issue in tank removal. While there are many conscientious tank removal contractors, there are also a lot of death-defying free spirits who are recklessly yanking tanks

LUSTLINE

Editor, Ellen Frye

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Helga Butler, EPA Project Officer
Jennie Bridge, NEIWPPC Project Officer

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The New England Interstate Water Pollution Control Commission was established by an Act of Congress in 1947 and remains the oldest agency in the Northeast United States concerned with coordination of the multimedia environmental activities of the States of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont.

NEIWPPC

85 Merrimac Street, Boston, MA 02114
Telephone: (617)367-8522

Layout/Typesetting:
LMY Studio, Inc., Winchester MA

EPA Requests Comments On Six New Issues

EPA is requesting comments on six issues not previously raised in the April 17 proposed UST regulations. The issues are: 1) the use of "static inventory control" as a leak detection alternative for used oil tanks; 2) a new specific list of substances that would be subject to petroleum UST regulations; 3) alternatives to leak detection for piping and protected tanks; 4) the use of federal objectives to determine whether state requirements are "no less stringent" than federal requirements; 5) providing additional decision making authority and flexibility to state implementing agencies; and 6) changing wording in the definition of "flow through process tanks."

OUST is publishing this *Notice of Request for Comments* in the *Federal Register* because the agency has received new information that may shift the emphasis of the technical requirements somewhat. OUST has continued to gather information on issues that were left unresolved in the proposed rule, this Notice presents discussion of this new information and the questions it raises.

On the first issue, OUST is considering allowing "static inventory control", or sticking the tank, to monitor used oil UST systems. This could apply to all used oil tanks, or, perhaps, to smaller tanks only. This leak detection approach would entail taking measurements of product level at the beginning and the end of a 24 to 36 hour period. The key to the success of this approach is that no new oil could be added to the tank during the inventory period.

The second issue presents a list of petroleum substances that would be subject to regulation. The list is based on the statutory definition of petroleum and includes the products of crude oil fractions. Any UST containing a substance under CERCLA, would be regulated as a

hazardous substance. This means the 50-percent rule in the proposed UST regulations, which dealt with relative concentrations of petroleum and hazardous substances, would be dropped.

The discussion on leak detection alternatives has three subsections, all of which stem from information gleaned from an EPA report, *Causes of Releases*, which was completed this summer. The report confirmed OUST's analysis that two common sources or releases are piping and unprotected tanks. The first subsection suggests the possibility of allowing release detection variances which would permit less frequent or alternative approaches to release detection on protected tanks in "low risk areas" (e.g. areas with deep groundwater or with impervious soil conditions.)

The second section questions how often release detection need be applied to protected tanks were the release variance approach not adopted. The agency is convinced that properly installed protected tanks have a longer life than unprotected tanks. More information is needed on protected tank performance to determine whether proposed requirements on release detection and tank retirement could be relaxed.

However, in the third section of the third issue, OUST questions whether more stringent leak detection should be required for piping. Failed piping is caused by such factors as corrosion, improper installation, accidents and environmental conditions.

On the fourth issue, in the *Notice of Requests For Comments*, almost half of the states have developed and begun to implement their own comprehensive UST programs. EPA would like to see the states continue to have the flexibility to develop and carry out "homegrown" initiatives. The question is, are federal objec-

tives—the bottom line of the regulations—an appropriate method of determining whether state requirements are "no less stringent" than the federal requirements? Federal objectives have been developed for the seven elements of the technical requirements and for financial responsibility.

The fifth issue asks a question about providing additional decision-making authority and flexibility to the implementing agency. EPA is considering adding "wiggle words" to the technical requirements to increase state administrative flexibility. For example, to a section that states "report . . . in 24 hours", EPA would consider adding "or in another reasonable time period established by the implementing agency." The idea is to get the job done.

The final issue asks for more comment on the definition of a "flow through process tank." The definition in the proposed regulations says it is "a tank that forms an integral part of an industrial or commercial process through which there is a steady or uninterrupted flow of materials during the operation of a process." Because of public comments, OUST would like to change the words "industrial or commercial" to "production."

The Comment Period for this Request for Comments is 30 days after the date of publication in the *Federal Register* which is expected around the end of December. The Final Rule, planned for completion in May 1988, should not be delayed by this Notice. Any comments on this Notice will be carefully considered by EPA. ■

Gwenn Gebhard 202/475-9724

Yanked Tank *continued*

somewhere in the USA at this very moment. While the UST inspector's job is to inspect the soil and any groundwater present in the excavation, and the condition of the tank, there is inherent danger in UST's which have held flammable or combustible liquids.

For this reason, the inspector should be familiar with the potential hazards and be knowledgeable about the appropriate health and safety measures needed for a safe

work environment. For example, the tank removal site should be free of all potential sources of ignition and discharges of static electricity. Care should be taken to prevent the build up of vapors at ground level. If the inspector observes that precautions such as these are not being taken, he should notify the fire department (unless he is the fire department.)

One inspector commented that if tank removers were certified or licensed, then licenses could be re-

voked if the contractor violated safe procedure. The Florida legislature amended its installer licensing program to include tank removal. Starting next October removals will have to be done by a "pollutant storage specialty contractor".

With a grant from EPA, NEIWPCC is now preparing a video and booklet for UST inspectors on tank closure. Based on our experience with this effort, we will discuss the subject in more depth in the next issue of LUSTLine. ■

Insurance Unavailability Hampers Financial Responsibility Timetable

If you are a tank owner in search of some kind of pollution liability assurance, August 1988 may loom in your psyche like a wailing banshee. According to EPA's proposed regulations on financial responsibility, sometime around August 1988, tank owners are supposed to be able to demonstrate that they can cover the financial responsibility associated with cleaning up contamination—including third party damages—should a leak occur at their facility. But, buying pollution liability insurance is not like buying a car or a VCR. Right now, with this kind of insurance, you can't pick and choose among a selection of models and options—in many cases insurance is simply not available—and no salesmen are breathing down your neck—they stand way back and "risk assess" you first.

If EPA had hoped the states would come to the rescue of their distressed tank owning citizenry, by now they realize that an August '88 rescue would take a miracle. So far, only Virginia, Illinois, Minnesota, and Florida have developed programs that approach that goal—four other states are chewing on the idea. Many states are reluctant to assure against third party liability, and some states might not be willing to establish any assurance or funding mechanism at all.

Congress mandated that before a state UST program can be approved by EPA, it must have the authority and regulations for financial assurance which are no less stringent than EPA's regulations. This financial responsibility requirement may delay state program approval... even for states that already have UST programs in place.

House Subcommittee Holds Hearing on FR

On November 18, a concerned subcommittee in the House of Representatives held hearings on UST financial responsibility. Among those who testified at the hearing was Ron Brand, Director of EPA's Office of Underground Storage Tanks (OUST). Brand explained that three main factors affect the availability of pollution liability insurance: 1) Insurance companies don't want to insure tanks that are already leaking. The universe of two million underground storage tanks contains

many leakers, but which of these are leaking is unknown; 2) Insurers find it difficult to estimate the risk from existing tanks for purposes of setting realistic premiums, because they don't know how many systems are leaking and how badly; and 3) Insurers are concerned about recent judicial decisions which render their liability limitless, despite agreed-upon contract language.

Brand explained that EPA's regulatory program should help provide answers to the first two factors through leak detection and upgrading requirements. However, since much of this activity will have to be phased-in, insurers may choose to wait it out. In the meantime, EPA had hoped that states would provide some interim coverage through such efforts as developing programs to assist citizens in cleaning up old leaks; providing low cost loans (especially to small businesses) for the replacement of old tanks; and providing some type of insurance program until commercial insurance becomes more readily available.

There was general agreement at the hearing that insurance availability is a serious problem, and that the \$1 million dollar coverage requirement mandated by Congress and the aggregate levels for numerous tanks may need to be re-examined. Potential solutions discussed included:

- extend the effective date of financial responsibility requirements by at least one year;
- lower the \$1 million coverage requirement to \$500,000;
- put a cap on liability;
- limit aggregate levels to \$2 million;
- use the LUST Trust Fund as a reinsurance pool to serve as a back up for insurance policies.

Some of these solutions lie within EPA's authority, some do not. The Subcommittee seemed interested in looking at the various recommendations from a legislative point of view.

Interest Growing in Insurance Industry

Clearly the insurance industry is showing interest in the events in the tank world. EPA has received numerous inquiries from insurance companies who want to learn more about UST's. "I see interest and a willingness to invest time in trying to look at the situation," says Sammy Ng of EPA's OUST. "The in-

dustry is gaining expertise and underwriters who understand the risk. There is also interest in forming risk retention groups, but someone has to get their feet wet first. It is difficult to invest in these unknowns."

For many tank owner/operators pollution liability insurance coverage will be a new ballgame with a high price tag. They are joining a host of other businesses in the United States that are faced with serious cases of "sticker shock": the owner/operator accustomed to paying \$100 a year for insurance is now faced with, perhaps, a \$2,000 per year premium. Furthermore, the insurer will come along with tank testing and upgrading requirements which will reflect the regulatory situation, but without the Federal phase-in period. Pollution liability insurance is a risk assessment business, and the tank owner will have to show that his facility is not a bad risk.

Congress didn't mandate that tank owners have financial assurance as an act of malice. There had been, and continues to be, enough hapless leak incidents throughout the country to inspire Congressional concern... the high cost of cleanup and third party liability have wiped out some tank owners' businesses and assets. The financial responsibility requirements, among other things, are meant to help owner/operators avoid the high cost of cleanup when a leak occurs.

The insurance rates that tank owners will be asked to pay are generally set by state insurance commissions that require insurance companies to justify those rates. The rates are supposed to reflect real world pollution incidents and cleanup costs. Claims data from two current UST insurers suggest that the number of leaks being reported and the average dollar costs of the cleanups are increasing. (EPA estimates that the average cost to clean up an UST leak ranges from \$50,000 to \$100,000.)

Because more and more unprotected UST's are being pulled out of the ground, it is hard to determine future costs. However, continued tank ungrading and removal should eventually reduce the risks and, hopefully, the insurance rates. Also, since EPA, members of the insurance industry, and Congress are paying considerable attention to the assurance problem, some help may be on the way. ■

Spill Prevention . . . The Other Side Of The Coin

Tanks and piping must be conscientiously selected, installed, maintained and monitored. Over the past year, tank owners have been learning that these practices are key to underground storage system leak prevention. But there is another side to the release prevention coin which could do with a bit more attention; it is the importance of spill prevention. Contaminated soil may not necessarily be the result of a leaking UST. Product transfer spills and tank overfills can penetrate the soil and contaminate groundwater in the same manner as a leak from a UST.

Spills can occur in a variety of ways . . . when a tank is mistakenly or carelessly overfilled; when product remaining in the truck hose is emptied onto the ground after the tank has been filled; or, occasionally, when a delivery is accidentally dispensed into an observation well. Many spills result from human error or from inadequate labelling of fill pipes.

Tank owners need to be aware of how spills can happen. They should also realize that there are ways to prevent spills. The first order of prevention is to implement conscientious operating practices at the underground storage facility. Operating guidelines can be found in the National Fire Protection Association's (NFPA) publication 385, "Tank Vehicles for Flammable and Combustible Liquids 1985"; the American Petroleum Institute's (API) publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets"; and the New York State Department of Environmental Conservation's "Recommended Practices for Underground Storage of Petroleum" and "Technology for the Storage of Hazardous Liquids." (For New York publications call (518)457-4114.).

Spill Prevention Techniques/Devices

Spill prevention practices, at the very least, include labelling and color coding pipes and fill ports so that information on product type and tank capacity is easily accessible (see article on API fill port color code). The operator and delivery person should be aware of available capacity in the tank by reading gages and/or dip sticking the tank. (Gas gages, which are useful means of determining available capacity, are standard equipment in cars but not in bulk storage tanks.)

Tank overfill protection is accomplished by measuring and controlling the product level in the tank such that the quantity of product placed in the tank never exceeds its capacity. There are a number of spill prevention techniques and devices on the market which can be used to minimize product delivery and tank overfill spillage. These include: tank level sensors, high level alarms, au-

tomatic shutoff valves, and spill containment manholes.

No matter what kind of spill prevention system is in use, the operator/attendant should see to it that the truck driver delivering the product stays with the truck so that he is not next door at the coffee shop when the tank is nearly full or the hose becomes disconnected.

Continued on page 8

New API Fill Port Color Code Available

The American Petroleum Institute (API) has accepted a new **Equipment Marking Color-Symbol System** which will replace the current API color code. The change was prompted by the rapid proliferation of new motor fuels combined with the limited number of readily identifiable colors. Under this system, petroleum products are assigned color and symbol codes which are applied to appropriate fill ports to make tank contents easily identifiable. The goal of this practice is to minimize product spills and losses caused by delivery to the wrong tank.

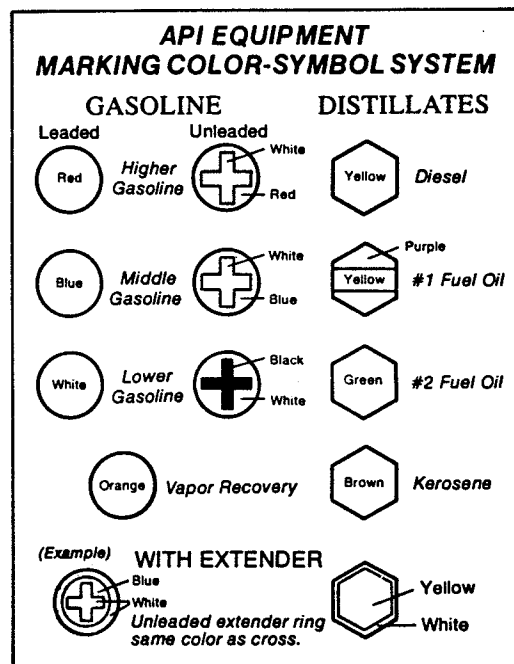
Many petroleum storage facilities have already adopted the current API color code and will change over to the new system. While under serious consideration in Arizona, the States of New York and Delaware now require use of the new system as a spill prevention measure and to encourage uniform code recognition.

Uniformity can be a virtue where petroleum delivery is concerned. Businesses which use their own fill port codes and symbols may, inadvertently, be contributing to code confusion on the delivery end.

The symbol for gasoline is a circle. A red circle indicates the higher octane, blue - medium octane, and white - lower octane. A cross, black on white or white on red or blue, inside the circle indicates the gasoline is unleaded.

A product containing an extender such as alcohol is designated by the addition of a border around the symbol - black around white and white around other colors. A hexagon symbolizes a distillate fuel, with yellow indicating diesel, green - fuel oil, and brown - kerosene.

API is about to publish Bulletin 1637 which will explain in detail how the system is applied and where. It will be available from API - Publication Department, 1220 L St. NW, Washington, D.C. 20005.



It might be a good idea to place a sticker in a conspicuous spot on all tank trucks for ready reference.

Regulatory Progress

OUST is operating on a very tight schedule for developing proposed standards for existing and new tanks (storing petroleum and chemical substances), as well as for corrective action . . . all to be published in the February 1987 Federal Register.

The regulatory requirements currently under consideration fall into the following range of choices:

- For new tanks:
 - Secondary containment tanks with interstitial monitoring (double-walled protected tanks or single-walled protected tanks with a liner).
 - Single-walled tanks and piping with corrosion protection and leak detection.
 - A class approach with the objective of greater stringency in vulnerable groundwater areas.
- For existing tanks:
 - Leak detection phased in over 3-6 years.
 - Upgrading or replacing substandard tanks (i.e. unprotected single-walled tanks) over some extended period of time.
 - Gradual upgrading or replacement of all tanks without secondary containment.
 - Rapid replacement of tanks without secondary containment.
- For corrective action:
 - Fixed national numeric standards for cleanup levels.
 - Site-by-site risk assessments and cleanups as necessary to protect human health and the environment.

The office of Underground Storage Tanks' recommendation, at this point, is to focus the Agency's regulatory efforts for proposal in February on the following approaches:

- New petroleum tanks: single-walled protected tanks with frequent to continuous leak detection.
- Existing petroleum tanks: retire or upgrade tanks in ten years. Phase in periodic tank testing or other leak detection in the interim.
- New chemical tanks: secondary containment with variances based on leak detection capability.
- Existing chemical tanks: phase in periodic tank testing or other leak detection, but if leak detection is not available for the substance stored, replace with secondary containment within 5 years. In addition, within 10 years, require frequent to continuous leak detection combined with an upgrade to single-walled protected tanks or replace with secondary containment.

The Administrator has endorsed this approach, but the current focus is not considered to be "cast in concrete", in fact, the other regulatory options will also be discussed in some detail in the proposed rules preamble.

OUST is also working intensively on developing recommendations for a sensible process to approve State UST programs. In addition, the work on financial responsibility requirements to be placed on tank owners and operators is continuing, but will, obviously, be considerably influenced by any LUST Trust Fund (Superfund) legislation enacted by Congress this fall. Recommended approaches for both these areas are slated to be proposed also in February '87.

New Names At OUST

The OUST office has recently added new staff personnel who will be focusing, for the next several months, on the following specific aspects of the program: **Joe Italiano** (202/382-5875) is assigned to the Exempted Tanks Study. **Kim Green** (202/475-9379) will work on Interim Prohibition, **Ellie McCann** (382-7601) is on State Programs, and **Betty Arnold** (382-4756) is Management Analyst. **Louise Wise** (382-7601) is now Acting Standards Branch Chief. **Helga Butler** (382-4756), Special Assistant to the Director, is now in charge of the Office's Communication & Outreach efforts, full time. **Ed Morrison** (382-5628) is a law student working part time on Definitions. ■

Study of European UST Programs

OUST has initiated a new research project - one that examines and assesses the European experience with underground storage tank use. The focus of the project is to gather statistical data that illustrates the performance of UST technologies over time. This project has been undertaken because such information is not available in this country. As a result of this project, EPA will gain insight into UST practices and technologies that may or may not have worked well.

The project is well underway. During the past few months, UST programs in Belgium, France, West Germany, the Netherlands, Sweden, Switzerland, and the United Kingdom have been analyzed. Interviews have been conducted with regulatory officials, industry representatives from testing institutes. Information has been obtained concerning statutory and regulatory authorities, tank designs, leak detection, inspections, and monitoring. In addition, contacts have provided performance data and information on corrective action for tank releases.

A report of findings will be issued shortly. Information on this will be provided in the next issue of LUSTline. ■

Ginny Cummings (202) 382-7925

EPA Release Incident Study Now Available

Over the past year, EPA has gathered information from State files on releases from underground storage tanks. By April of this year, EPA collected information on 12,500 release incidents. This information was compiled into a report that identified and evaluated the major causes and effects of tank system failures. It is important to realize that this is not a statistically valid survey, but merely a compilation of information from State files. (The findings in this report were discussed in LUSTline Bulletin No. 3 published in May, 1986.) The report is now available to the public free of charge.

Copies can be obtained from:
June Taylor
Outreach Coordinator -
Office of UST's
U.S. Environmental Protection
Agency
401 M Street, S.W.
Washington, D.C. 20460
(202) 382-5628

UST Studies And Reports To Be Published In The Next 3-6 Months

1. Retrofitting Corrosion Control on Existing Tanks
2. Overfill and Spills Control
3. Closure Practices and Regulations
4. A Release Incident Follow-up on the Local Level

Follow-up Study of Release Incidents From Underground Storage Tanks

EPA has begun a follow-up study on release incidents from UST's. Information on release incidents is being collected from key counties and municipalities. The purpose of this study is to supplement information gathered from state offices. Specifically, the Agency is seeking more data on impacts to ground water and soils as well as costs for clean ups. A second purpose for this study is to determine trends between location-specific release information and local regulatory approaches or environmental conditions.

A preliminary report has already been issued. This report contains information from 20 localities on nearly 1,000 release incidents (only 10 percent of these incidents were identified in the previous state study). The county results confirm that the number of releases that are reported is increasing substantially each year and that tank size has no bearing on the probability of release. The county results also indicate a mean tank system age of 19.5 years at the time of the report which compares to a mean age of 17.0 years for the state data.

The most commonly reported cause of release was corrosion. This could be due to the fact that most county release incidents occurred in areas of shallow ground water which would enhance corrosion.

Other findings of the report show that:

- Only 10% of the county leaking tanks were reported to be constructed of fiberglass, compared to 19% at the state level.
- Integrity tests and product inventory were more commonly reported as the initial means of detection at the county level than at the state level.
- Nearly 80% of the release incidents resulted in soil contamination of 0.05 acres or less; about 90% impacted 10 acres or less.
- About half of the release incidents reporting ground water contamination impacted 0.05 acres or less of the aquifer; 90% impacted 10 acres or less.
- More than half of the incidents involving ground water contamination impacted the aquifer to a depth of no more than 20 feet. ■

Questions and Answers

EPA receives numerous UST questions on the Hotline. Here are some of the most frequently asked questions in the past 3 months.

Q. Does metal connecting pipe attached to an underground storage tank have to be cathodically protected against corrosion?

A. Yes. Subtitle I regulates tank systems, which include the tanks and all appurtenances such as distribution lines, fill pipes, vent lines, manifold lines, filters, and pumps. The pipes and line should be cathodically protected using any of the various protection methods. In addition, connecting appurtenances should be electrically isolated from tanks by placing nylon bushings at connecting joints.

Q. A tank owner has bare steel tanks in good condition that are presently not in service and out of the ground. He now wants to bury them and store petroleum in them. Can he put them in the ground as they are? If not, what must he do?

A. No, he can not put an unprotected bare steel tank back in the ground. At a minimum, the tank must be protected against corrosion. To do that, a bare steel tank can be installed with an impressed current corrosion protection system. Or, an epoxy or fiberglass coating can be added along with sufficient anodes to protect it from corrosion. A corrosion engineer should be consulted so that corrosion protection is effectively designed to suit the underground soil environment and to take into account stray current conditions.

In 1985, the National Association of Corrosion Engineers (NACE) published its "Recommended Practice for Control of Corrosion on Metallic Buried, Partially Buried or Submerged Liquid Storage Systems", RP 02-85, which presents state-of-the-art technology for corrosion prevention on buried tanks and piping (for ordering information call 713/492-0535, ask for order department).

Be aware that while outside tank conditions may appear good, internal corrosion or excessive wear beneath the fill pipe may have taken place. Therefore, the tank should first be visually inspected on the inside. This may require the installation of a manway. Secondly, a tank should be air-pressure tested for tightness before installation in the ground. Thirdly, after installation the full system should be tested using one of the many volumetric or non-volumetric test methods.

Q. Tank owners notified their state agency about their tanks. When the land on which the tanks are buried is sold or leased to another party, is the new owner or lessee required to submit a second notification because of his/her acquisition of the property?

A. No. Only one notification is required. It is not necessary to re-notify each time the property on which tanks are buried is transferred (sold or rented) to a different individual.

Q. An underground storage tank is imbedded in concrete. Does this practice satisfy the requirements for the Interim Prohibition (RCRA Subtitle I Section 9003 (g))?

A. No. Concrete is not a non-corrosive material. Some types of concrete can be quite corrosive to steel. In addition, the concrete is not an effective barrier to any leaked substance because it is an inherently porous material which can crack.

Q. Is there one central inventory database of UST's?

A. No. State coordinating agencies are in the process of compiling a database for their respective UST programs. These are in various stages of completion. The States were given the option of using EPA's or developing their own system. To date 29 States have implemented the EPA system and 18 States are using their own. ■

REGIONAL UPDATE

This Regional Update focuses on Region IV and is written by Mike Williams, Region IV's UST Coordinator (404/347-3866)

UST Regulation in the Southeast

Region IV includes the eight Southeastern States of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee. These States have a variety of tank programs ranging from the State of Georgia which is not participating in the Federal program to the States of Florida and South Carolina which have very comprehensive programs.

Much has been written about Florida's program, including an article on the "State Underground Petroleum Response Act of 1986" which appeared in the May issue of LUSTline. Several counties in Florida also have active UST programs.

South Carolina's regulations were signed into law by the Governor on May 22, 1985. Among other things, the regulations call for the establishment of a tank permitting program effective January 1, 1986. A "permit to construct" must be obtained prior to installation of a new tank. The State Department of Health & Environmental Control (SCDHEC) spot checks installations to verify that the Department's minimum installation and tank testing standards are satisfied. The regulations also include requirements for cathodic protection, secondary containment (if tanks are to be installed within 300' of an existing water supply), and strict requirements for leak reporting and cleanup.

North Carolina is currently developing UST regulations which should be out for public comment this fall. Alabama, Mississippi and Tennessee are reviewing their existing State laws to determine what, if any, additional legislative action will be required for them to operate a UST program. For example, the State of Kentucky was able to issue a notification regulation without any additional legislative action. Because Georgia is not participating in the Federal tank program, Region IV is operating their program. The State Fire Marshal has an active program which has helped a great deal on the interim prohibition requirements of the RCRA Act.

The Atlanta Regional Office is focusing much of its attention on assisting the States in establishing pro-

grams. All States but Georgia have received FY '86 UST grants of approximately \$120,000 to assist them in their efforts.

Notification Results

The federal notification deadline of May 8, 1986 has now passed. Notification forms have been received identifying approximately 350,000 tanks regionwide; about 500,000 forms were distributed. Some States estimate they have received notifications for only 60% of the tanks, other report as much as 90%. Forms continue to arrive in all States. One State was notified of a 62 year old tank which is still in use and not leaking.

UST Issue Presentations at 2-Day Seminar

In an effort to keep States advised of the current technology of the tank industry, Region IV sponsored an Underground Storage Tank Seminar on July 23-24, 1986 in Atlanta, Georgia. All of the grant funded States in Region IV were represented, as well as a Regional UST Coordinator.

The opening presentation on Cathodic Protection was given by Kevin Garrity of Harco Corporation. Dr. Rudy White, American Petroleum Institute, volunteered API's cooperation to work with all of us. Ed Nieshoff, Owens-Corning, described the proper installation and usage of fiberglass tanks. Dr. Austin Snow with Dupont presented the use of liners as secondary containment. Reid Van Cleave with Ameron discussed FRP piping. John Sowers, Bethlehem Steel Corporation, presented the installation and usage of Buffalo Tanks. John Gammage with Metal Products Company discussed the installation and usage of St-P3 Tanks. William Greer, Watkins Service Company, discussed proper installation of tanks and how to perform inspections. George Lomax, Health Petrotite, discussed testing methods. B.C. Spigner, Soil and Material Engineers, Inc., discussed the investigation and recovery procedures.

Program Flexibility

The eight Region IV States are quite distinctive in their geographic, economic, political and environmental philosophy. Program implementation methods that will work

in the fast growth areas of Florida will not work as well in the less populated States such as Mississippi or Kentucky. The Region is attempting to provide flexibility to its States, but also maintain basic guidelines. We are encouraging the States to talk to one another to find out what pitfalls they have encountered and, equally important, what successes they are having. Through communication we hope the regulations can also draw on the practical experience of the regulated community. This will, perhaps, make the regulations more practical and implementable.

Region IV is actively pursuing violations of the Interim Prohibition requirements. We are requesting assistance from the States in our pursuit of the enforcement actions. We are also encouraging local fire departments and county governments to become involved with the underground storage tank program. ■

Spill Prevention Continued

Also, the driver should know whether the tank is big enough to hold the contents of his truck.

Product transfer spills can be minimized through the use of disconnect couplings on the transfer hose. Disconnect couplings can reduce spillage from the hose at the delivery end, but product remaining in the line must still be drained. However, if the spill prevention system is such that the delivery never goes above 95% full, then the remaining product in the hose can always be drained into the tank. This would render the disconnect couplings moot.

The placement of spill traps (containment manholes) around the fill pipes helps contain spills which occur at the fill pipe. Spill traps are constructed of impervious materials which surround the fill pipe. But, product or water in the manhole must still be dealt with. Some trap designs retain the product and allow any precipitation to drain into the ground. (Runoff from gas stations, as a whole, is not addressed at all in this country. European stations must have the drainage sloped so that all liquid runoff flows through an oil/water separator.) ■

Alachua County, Florida: A Local Perspective On UST Regulation

Alachua County, Florida has become the first county in Florida to apply for State approval to enact a local underground storage tank ordinance. Florida State law preempts local governments from enacting regulations more stringent than State guidelines without State approval. Two other Florida counties which have tank ordinances, Dade and Broward (Miami and Ft. Lauderdale), were grandfathered, since their ordinances were in effect prior to the enactment of the State preemption. It is interesting to note that Florida law does not allow cities to regulate underground tanks in spite of the fact that a large number of Florida cities operate and need to protect their own municipal well fields and water supply systems.

In response to a number of serious leaks that occurred at underground storage facilities that complied with State standards for monitoring and corrosion protection, Alachua County has adopted an aggressive ordinance. Documented leak incidents include leaks from broken single-walled fiberglass pipe, a ruptured fiberglass tank, and a leaking leak-detector system. Poor installation practices and inadequate monitoring have been the primary factors in most of the serious groundwater contamination incidents in the County, rather than corrosion. Hydrogeologic conditions in the County are such that groundwater is extremely vulnerable to contamination. The feasibility of successful remedial action is often impossible or extremely limited.

Alachua County's Storage Tank Facilities Code requires secondary containment and leak detection for new underground petroleum storage tanks on a county-wide basis. Existing tank facilities are required to retrofit with secondary containment according to an eight year compliance schedule. The compliance schedule considers proximity to water supply wells, hydrogeologic setting, facility age, materials of construction, and history of leaks.

The Code also requires installation of a leak detection system consisting of tank and line leak detectors and monitoring wells. Both vadose zone and groundwater monitoring may be required depending on local conditions. In cases where shallow water table conditions do not exist, vadose zone monitoring allows early leak detection and reduces the risk

of breaching a confining layer during monitoring well installation.

Although the Florida Department of Environmental Regulation (FDER) is close to approving the ordinance, the petroleum industry is vigorously in opposition. In response to a court injunction prohibiting the County from enforcing the ordinance until final approval is obtained from the State, the County has passed a moratorium banning all construction activities associated with UST's. Variances are allowed only for repair or replacement activities associated with a tank leak and to allow the installation of leak detection equipment. The moratorium will be lifted once the ordinance receives approval by the State.

It is the county's position that secondary containment, on a county-wide basis, is the most effective method of preventing and detecting leaks from underground tanks. It is the County's opinion that the State tank regulations provide "floor" as opposed to "ceiling" standards, and that the sensitive conditions of local groundwater mandate additional controls to protect public interest. ■

Chris Bird, Alachua County Environmental Engineer 904/373-8509

TANK TALK

The American Petroleum Institute has released a new publication entitled **Safe Operation of Vacuum Trucks in Petroleum Service**. Copies of publication 2219 are available from API at 1220 L Street Northwest, Washington, D.C. 20005 (202)682-8000.

The Steel Tank Institute (STI) has introduced a new standard that puts all six piping connections in one place inside a manhole on top of the tank. Brian Donovan, Executive Vice President at STI, says this standard does away with 6 possible leaks across the top of the tank, and makes any leaks that do occur immediately visible and accessible through the manhole. Compliance with this STI '86 standard is voluntary. The change will add about 15% to a tank's purchase price. However, Donovan claims that installation cost will be cut by 10%.

Tank Talk Continued

The Pennsylvania Department of Environmental Resources (DER) has released a report, **Investigations of Releases from Underground Storage Systems . . . A One Year Survey**. This report summarizes and presents a statistical evaluation of 173 UST release investigations conducted by the DER from September, 1984, through August, 1985.

Among other things, the study shows that nearly all the released material was petroleum product from uncathodically protected underground storage systems. Half the piping releases occurred in the first 10 years after installation in contrast to buried tanks with 53% of their releases occurring after 15 years. Corrosion was the most significant cause of release. While inventory records were maintained at 69% of the sources, only a small percentage of leaks were discovered through this means. However, notification resulted from 92% of the release sites that were precision tested. Complaints and notifications requiring investigation tended to support the fact that pollution dispersion is directly related to groundwater mobility.

For copies of PaDER Publication, number 210, write to Charles Swokel, Bureau of Water Quality Management, PA Dept. of Environmental Resources, P.O. Box 2063, Harrisburg, PA 17120.

As promised in the last issue of LUSTline, Marcel Moreau has written a summary report, **Some European Perspectives on Prevention of Leaks From Underground Petroleum Storage Systems**. The report is available (no charge) by writing Marcel at the Board of Underground Oil Storage Tank Installers, Maine DEP, Station #17, Augusta, ME 04333. Sometime soon Marcel will release a full report and a videotape of his European UST Survey slide show . . . for a charge. For more information contact Marcel at (207)289-2651.

The Buffalo Tank Division of Bethlehem Steel has been purchased by the newly formed Buffalo Tank Corporation. Buffalo Tank, which markets Buffhide tanks, also markets an FRP clad tank which has been associated with Buffalo Tank's BT10 coating. This coating will now be dropped and replaced with the sti-P3 coating.

Tank Upgrading Programs Underway For Many Multi-Facility Tank Owners

What do the U.S. Postal Service (USPS), The Hertz Corporation and the Army Corps of Engineers have in common? UST upgrading programs with double-walled tank specifications. Besides many of the major oil companies, many other multi-facility tank owners are moving ahead with aggressive tank upgrading programs. While single-walled tanks with leak detection are the more common UST systems replacement practices, a surprising number of programs specify double-walled tanks with continuous monitoring. Many companies have developed unique approaches for analyzing and upgrading their tank systems. Some of these efforts may ultimately lend more insight toward leak prevention, in general.

The USPS tank systems guidelines, issued June 1986, specify steel or fiberglass 360° double-walled tanks designed to have minimum 30-year life. They state that the "annular or interstitial space must be monitored by a positive means to detect any breakdown in the inner and/or outer tank walls by either a vacuum system, positive displacement (using a liquid such as propylene glycol), or a positive pressure system." The list of requirements goes on and includes stringent tank testing instructions, and specifications for piping (double-walled) and installation . . . effective immediately.

The Army Corps also requires, at a minimum, double-walled tanks and piping with leak detection systems. Steel tanks are to be cathodically protected. The Corps initiated its upgrade program in FY-86. All installations in FY-87 will be double-walled with cathodic protection.

In the past year, The Hertz Corporation began replacing its steel UST's with fiberglass double-walled tanks, leak detection systems, and automated inventory monitoring systems. Priority has been given to the replacement of the 15 to 20 year old tanks first.

The Amoco Oil Company has taken a slightly different tank upgrading approach from some of the other majors. They chose retrofitting rather than replacement as their primary method of upgrading a predominantly conventional steel tank system. According to Dennis Strock, coordinator for Amoco's underground equipment technical matters, internal lining and sacrificial anode corrosion protection became the back-

bone of the program. (Whenever local regulations preclude lining, the tanks are replaced.)

Generally they have replaced tanks under 4,000 gallons and waste oil and heating oil tanks. When installing new tanks, Amoco uses, predominantly, pre-engineered anode protected steel tanks. Of course, all tanks are tested for leaks before they are retrofitted.

Amoco's underground lines have been handled similarly to the tanks. If tanks are replaced, so are the lines. All steel lines are equipped with anodes. If they are pressurized system lines, they are also equipped with pressure actuated leak detectors. Both tanks and piping are electrically isolated from each other and surrounding currents.

To avoid possible product releases during delivery, Amoco has developed a 40 gallon capacity "overflow-spill unit", which automatically returns any intercepted product to the UST, either immediately or as space becomes available.

Finally, the company is installing a set of at least 4 groundwater observation wells around each location's tank field whenever the water table is within 50 feet of the surface.

Strock explains that this program is directed toward minimizing risks, "it is not a replacement program, per se." He stresses, "maintaining and monitoring the system is the key."

On The Chemical Tank Front

Many chemical tanks are above ground already and are not currently regulated under Subtitle I of RCRA. Many of these above ground tanks are regulated under Subtitle C of RCRA. Some of the large chemical manufacturers such as Dow Chemical have developed strategies for avoiding underground storage wherever it is safe and practical to do so. Dow's approach is to remove existing UST's where it is safe and practical, then consolidate to reduce numbers of tanks or replace with above ground tanks. Over the past two years they have removed many tanks that would have been regulated.

IBM, which has a large number of chemical storage tanks, established an environmental protection program in 1979 to prevent the release of chemicals, fuels and waste

materials into the environment. An important element of this program has been the placement of new liquid chemical supply systems above ground or in accessible enclosures. In both situations, the liquid handling system has secondary containment. This approach allows for more effective inspection and early detection of problems, and facilitates maintenance. On-line leak detection devices are also typically provided for portions of those systems that are not readily accessible.

As a result of this on-going program, most of IBM's newer liquid chemical supply systems are located above ground. A high percentage of both the indoor and outdoor piping is also located overhead or placed within trenches that have chemical resistant linings.

EPA is currently studying chemical storage. Clearly, the varieties of chemicals, their uses and chemical processing techniques make regulation more complicated.■

NEIWPCC has a growing loan library of UST public information and technical training materials.

Let us know of any new materials (written or audio visual) we can add to this collection.

(617) 367-8522

Clarification of Drawings in PEI Tank Installation Manual

The Petroleum Equipment Institute manual, **Recommended Practices for Installation of Underground Liquid Storage Systems** (PEI/RP100-86), has received considerable acclaim for its authoritative guidance on UST installation. The NFPA Flammable Liquids Committee has tentatively accepted the document for inclusion by reference in the next edition of NFPA Code 30; the Southern Building Code's Standard Fire Prevention Code has cited the book by reference; the Petroleum Marketers of Iowa have recommended that the manual be adopted by the State's Water, Air and Waste Management Agency; and the State of Maine uses the document as basic reference for its new tank installer licensing program.

In its September 11, 1986 issue of the **TULSALETTER**, PEI pointed out two schematic drawings in the book which might be misleading. These drawings will be altered when a revised edition of the manual is issued. Meanwhile, you may want to make note of these points.

Preinstallation Tank Testing—Section 2.5 describes procedures for air-testing of tanks prior to installation. The final paragraph of the section says this: "(e) A pressure relief device is recommended for over-pressurization. The device should have sufficient capacity to relieve the total output of the air source and at a pressure of not more than six psig."

There is no problem with that statement. However, Figure 6 does not indicate the presence of the recommended pressure relief valve described in paragraph (e).

Impressed Current Systems—Section 9.6 of the manual describes procedures for installation of impressed current systems where metal tanks are to be cathodically protected. Figure 36, which accompanies this section, is intended to show the general scheme of an impressed current system. In the diagram, a connecting wire leads from the rectifier to the tank which is to be protected. The positioning of this connection in the drawing, however, implies that the connection should be made to the positive side of the rectifier. In fact, however, the connection should be made to the negative side. ■

Office of Underground Storage Tanks General Information Materials

Code No. Publication Name

UST 15	Draft Development Plan (March 1985)
UST 11	Draft Model Legislation On USTs
UST 5	EPA Form For Notification (EPA Form 7530-1(11-85))
UST 3	Federal Register, Nov. 8, 1985, Final Rule on Notification Requirements for Owners of Underground Storage Tanks
UST 4	Correction Sheet for Federal Register of Nov. 8, 1985
UST 12	Guidance Document for Installing UST's under Interim Prohibition
UST 14	Handbook for Local Officials on UST's (National League of Cities)
UST 7	Hazardous Substance List
UST 17	Interpretive Rule on Interim Prohibition (Federal Register 6/4/86)
UST 10	LUSTline Bulletin 3, May 86 (#2 is still available)
UST 8	Leaking Underground Storage Tanks Containing Motor Fuels: A Chemical Advisory
UST 6	List of Agencies Designated to Receive Notifications
UST 16	List of UST Definitions and Exemptions (OSWER Dir. 9610.3)
UST 9	More About Leaking Underground Storage Tanks
UST 2	Notification Requirements for Owners of Underground Storage Tanks
UST 18A	OTS Development Study (for National Survey)
UST 18B	OTS Report - Volume II - Appendices
UST 18	OTS Report - Volume I - Underground Motor Fuel Storage Tanks: A National Survey.
UST 21	Subtitle I.
UST 22	Summary of State Reports on Releases from Underground Storage Tanks (aka: State Release Incident Survey)
UST 1	Underground Storage Tanks (UST): The New Federal Law
UST 20	Underground Storage Tanks: A Fire Dept Guide to EPA Requirements
UST 19	Underground Storage Tanks: An Implementation Handbook
UST 13	Underground Tank Leak Detection Methods: A State-of-the-Art Review

For copies, write Office of Underground Storage Tanks, U.S. EPA, WH562A Sub-basement 401 M. St. SW Washington, D.C. 20460

New LUST Videos

Leaking Underground Storage Tanks, Little Time Bombs Ticking—a 25 minute (VHS format) video produced by the State of Connecticut. Discusses UST problems, solutions and regulatory controls. Available for purchase, \$16.00, or rental, \$9.00 for 14 day period. Postage and handling is \$4.00 for purchases. Make check payable to DEP Publications, Local Assistance/LUST Video, 165 Capitol Ave., Hartford, CT 06106.

Effective Management of Underground Petroleum Storage Systems—a 27 minute (½" VHS, ¾", or Beta formats) presented by the American Petroleum Institute. Hands-on information is presented on release prevention, detection, investigation and corrective action. Available for purchase from API Publications Dept., 1220 L. St., N.W., Washington, D.C. 20005. The tape is available for rental from the Petroleum Marketing Education Foundation, \$35.00 for 3 days, at 101 North Alfred St., Suite 200, Alexandria, VA 22314 (703)684-0000.

Volatile Organic Contamination Monitoring and Cleanup Techniques—Appropriate Technology for Groundwater Protection—a series of 6 two-hour (½" VHS) tapes of a May 1986 EPA-NEIWPCC UST/Groundwater Protection Symposium. Presentations are on soil gas analysis and on-site cleanup and remediation technology, plus comments and presentations by a panel of internationally recognized experts.

Videotaping was funded by a grant from EPA so that this state-of-the-art site assessment and cleanup technology could be shared with a broader audience of state and federal staff, consultants, UST owners, water supply utilities, etc.

Tapes are available for loan, both separately and as a set (at a prepaid charge of \$5.00 per set) from the New England Wastewater Institute, 2 Fort Rd., South Portland, ME 04106 (202)767-2649. The show can be purchased at a prepaid cost of \$250.00 (payable to NEIWPCC) from the NEIWPCC, 85 Merimac St., Boston, MA 02114 (617)367-8522.

A detailed log of the videotape contents is available from both NERWI and NEIWPCC.

Here Lies The Problem, Leaking Underground Storage Systems—a 25 minute slide/tape show produced in 1985 by the NEIWPCC. Explains the LUST problem, why tanks and piping leak, the costs of inaction, and the range of leak prevention alternatives. Available for loan (at a prepaid charge of \$5.00) or for purchase (prepaid cost of \$75.00). See the above video ad for ordering details. Free copies of a companion brochure are also available from NERWI or NEIWPCC.

The "Interim Prohibition: Guidance For Design & Installation Of Underground Storage Tanks" Manual Now Available

The EPA OUST Office has published the *Interim Prohibition: Guidance for Design & Installation of Underground Storage Tanks* manual to provide guidance for acceptable designs and installation practices for UST's. Tank owners and operators must comply with the Interim Prohibition, and can now do so more easily by installing the types of tanks and using the specified methods described in the document.

Besides sending the manual to all EPA Regional and State UST offices, EPA has mailed copies to 10,000 large, professional fire departments throughout the country. The Agency is also sending a brochure describing the document to 20,000 small, volunteer fire departments.

The document addresses corrosion protection, secondary containment systems, installation, compatibility, and tank lining. Appendices include a list of recommended publications and a list of regulated substances.

Copies are available from the Office of Underground Storage Tanks, U.S. EPA, WH562A, 401 M St. SW, Washington, D.C. 20460, Attention "Informatics"

If Lustline Is Not Covering UST Issues You Need To Know About, It's Your Fault!

We are pleased to report that EPA has extended LUSTline's tenure for four more issues. We appreciate the many words of encouragement we have received from our readers. However, we also wish to remind you that communication is a two way street. We use our eyes, ears, and crystal ball as much as possible in deciding what to write about, but we need your suggestions. This is

your newsletter. Hello, out there in Montana! How are things in Sacramento? Do tanks leak in Cincinnati?

You can write to Ellen Frye, LUSTline Editor, at NEIWPCC, 85 Merrimac St., Boston, MA 02114, or call (617)367-8522. If you no longer wish to receive LUSTline, please write and ask us to drop your name. Thanks! ■

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