TANK BULLETIN

Division of Spills Management

Issue Number 17
Summer 1996

Customer Service -

What To Expect When You Contact DEC

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Although most tank owners recognize the importance of bringing tanks into compliance and the need to avoid costly spills, the path to compliance can be a rocky road. Requirements may be difficult to understand. Deadlines may be forgotten. The cost of leak detection and tank upgrading may come at inopportune times. For DEC's Spills Management staff, assisting you - our customer - is a high priority.

As a DEC customer and an important partner for environmental protection, what kind of assistance and service should you expect?

DEC has nine regional offices and agreements with Nassau, Suffolk, Rockland and Cortland counties to help answer your phoned in questions and to meet with you to discuss specific compliance problems. DSM staff members are trained to answer your questions about the federal underground tank regulations, State chemical and petroleum regulations and major oil storage licensing. We have technical guidance and newsletters that we can mail you, including a list of tank testing methods, contractors and insurance providers.

The phone number and address of each regional office is listed in the back of this newsletter. Office hours are from 8:30 a.m. to 4:45 p.m. If a staff expert is not in the office to answer your question, we will return your call, usually the next day.

Field inspections to determine whether your tanks are in compliance with state and EPA tank regulations are performed by each regional office. If you are interested, call the regional spills management staff for an appointment. Our goal is to visit your facility within two weeks of the date the request was made.

If you would like to register or update the registration for a chemical or petroleum storage tank, this can be done by mail. You do not need to visit the DEC office to complete this transaction. Registration forms for petroleum tanks can be sent to the regional office where the tank is located. For chemical tanks, registration forms should be sent NYSDEC, 50 Wolf Road - Rm 360, Albany, New York 12233-3750. For mail service, DEC's goal is to complete the registration transaction within two weeks.

Let's talk frankly about enforcement. Most people are honest and want to comply with laws and regulations. But a small percent of the tank owners fail to comply and DEC is faced with taking enforcement action. To do otherwise would be unfair to those who voluntarily comply and would violate DEC's responsibility under the State Environmental Conservation Law. Because enforcement can mean

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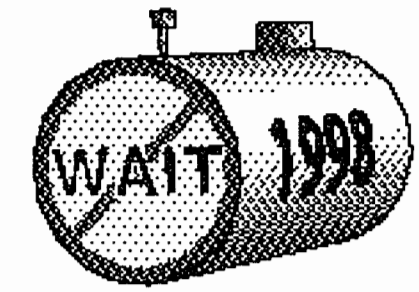
fines, penalties and hardship, it is not a pleasant task and is the least favored duty of our staff. Enforcement is the last resort, taken only after making a sincere effort to notify you of regulatory requirements.

Ignoring a DEC compliance request places your business on a list for formal enforcement leading to fines and penalties. If you find that DEC has issued you a notice-of-violation or other legal notice, you can expect it to be issued in a polite and professional manner. Violations will be specific and fully explained. You will be counselled on how you may respond and be advised on the process and penalties that might follow.

As a customer and partner in our efforts to prevent future costly spills and leaks, we are dedicated to provide these services to you. We hope that they are consistent with what you expect of us. We welcome your comments at any time and would like to hear from you with any suggestions for improvement.



NOW IS THE TIME TO UPGRADE YOUR UST

TRENCHING, SHORING, AND UST's

OSHA's Excavations Standards Must Be Met During Underground Storage Tank Excavation Work

In the springtime, while a young man's fancy may turn to love, a contractor's thoughts are about the construction season ahead. An integral part of this must be job safety, especially the dangerous job of installing, replacing and removing underground storage tanks (USTs).

Each of these activities involves the excavation of soil and working in trenches, which is inherently dangerous and complex. Besides having technical competence, the prudent contractor is fully versed in the applicable OSHA safety standards, making sure that work crews receive period safety training, and have the proper safety equipment. The responsible site supervisor will assure that crews work under safe conditions, violations of safe practices are reported and corrected immediately, and that no corners are cut that would jeopardize worker or site safety.

In this article we will explore the OSHA standards that are applicable to UST work.

After a four-man crew had removed an underground filter tank at a car-wash construction site, they entered the 9-foot deep, 6-foot by 14-foot excavation to hand-grade the bottom. The sides of the excavation were neither shored nor sloped. A wall of the trench collapsed, killing one worker and seriously injuring another. The employer was in clear violation of the OSHA standards that cover excavations (29 CFR Subpart P, section 650-652).

High groundwater can make working in an excavation quite dangerous.

EXCAVATION CAVE-INS ARE REAL hazards that happen all too often, and UST installation and removal operations are no exception. Bureau of Labor Statistics (BLS) for 1993 state that 138 workers were killed by collapsing materials. That figure represents two percent of all work-related fatalities that were caused by injury in that year.

Yet, there is no shortage of stories about employers who go to great lengths to avoid having to comply with these important OSHA requirements, which clearly saves lives. The safety requirements for excavations are not unduly burdensome regulations that have no real life impact on workers; these requirements save lives... everyday.

Are these requirements that tough to meet? Just imagine if you'd been the foreman on the car-wash job described above, and you had to inform the worker's spouse and children that their loved one was crushed to death at work today. And more often than not, the loved one does have dependent children - BLS reports that 66 percent of workers killed on the job are less than 45 years of age. Considering these potentially tragic consequences, compliance with the OSHA requirements seems the smart thing to do.

OSHA Requirements For Excavations

The 29 CFR 1926.651 *General Requirements for excavations* are laid out in paragraph form and include the following subsections:

(a) Surface encumbrances

According to the standard. "All surface encumbrances that are located so as to create a hazard to employees shall be removed or supported, as necessary, to safeguard employees." When trenches are dug alongside of buildings or fixed objects, the weight of the building on the side of the trench may cause the trench wall to collapse. This type of situation can be especially true in the tight areas associated with remediations.

For example: *During a pipe laying*

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operation, a tree adjacent to the excavation was undercut at the roots, three feet below ground level. The tree fell and when it did, it pinned a worker against the pipe that was being laid at the bottom of the trench.

(b) Underground installations

According to the standard, "The estimated location of utility installations - such as sewer, telephone, fuel electric, or water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work - shall be determined prior to opening an excavation."

Clearly, the potential of striking an underground electrical or fuel line needs to be addressed before an excavation is begun. Usually, utilities companies can be contacted directly and are very responsive to requests for review of a planned excavation. Potential hazard also lurks in a situation where a trench intersects an area of previously disturbed soils. Many fatalities associated with trenching accidents have occurred at the intersection of a trench and a previously filled trench (e.g., a utility conduit).

For example: *A trench, 10.5 feet long, had been dug in preparation for laying a sewer pipe. A gas main was located four feet to the east of the trench. As the worker was grading the bottom of the trench, the east wall collapsed. The worker was crushed to death. The section that fell consisted of fill material from the previous installation of the gas main.*

(c) Access and egress

This paragraph requires that adequate consideration be given to access and egress into and out of the trench which can be quite hazardous. The very act of scaling a vertical wall can cause it to collapse. Consequently, OSHA requires that either ramps and runways, designed by a "competent person", or stairways or ladders be included in all excavations. A **competent person** is defined by OSHA as an individual who is "capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate or control these hazards and conditions." (Note: OSHA published an "intent" of its definition of a competent person in the 10/31/89 *Federal Register*. It states that a competent person must have specific training in and be knowledgeable about soil analysis, the use of protective systems, and the requirements of the standards.) A means of egress is also required for all excavations greater that 4 feet deep and must be placed in such a manner so as to require no more than 25 feet of lateral travel distance for employees.

(d) Exposure to vehicular traffic

UST operations often take place at gas stations, where vehicular traffic can be a real hazard. In 1993, 361 workers died as a result of being struck by vehicles - six percent of occupational fatalities for that year. Because trenching operations often take place adjacent to or in roadways, OSHA requires that workers exposed to vehicular traffic be provided with warning vests or other suitable garments marked with or made of reflective or high visibility material.

(e) Exposure to falling loads

There are many examples of workers in trenches being crushed by falling loads. Workers must not be permitted underneath loads that are being handled by lifting or digging equipment. For example, when a tank is being lifted out of an excavation, workers must be restricted from entering the tank excavation or drop zone.

(f) Warning system for mobile equipment

Because construction equipment operators are often unable to see everything that is going on to their rear during operations, a general practice of construction safety is to equip all heavy equipment that is used on site with backup alarms. When working from the surface into an excavation, these operators are also very limited in terms of what they can see in the excavation. Consequently, where mobile equipment is used adjacent to an excavation where the operator does not have a clear and direct view of the edge of the trench, OSHA requires a warning system, such as barricades, hand or mechanical signals, or stop logs, to be utilized.

For example: *A sewer pipe was being laid in an eight-foot deep trench. One end of the trench was being backfilled by a front end loader. A worker, new to the job, entered the area of the trench that was being backfilled and was crushed to death when a load of fill was dropped on him. The other workers in the area did not realize the worker was missing until several minutes had passed. Only after searching did they determine that their coworker must have been buried in the backfilled area. The operator of the front end loader, who's view of the excavation was obscured, had no idea that he had buried his coworker.*

(g) Hazardous atmospheres

Hazardous atmospheres can be a problem in trenches. Because of the nature of a trench (i.e., because a trench is a narrow depression in the earth) hazardous gases may accumulate as they are released from the soil or groundwater.

This potential for concentrations of gases is particularly true at hazardous waste sites and may pose a problem at UST remediation sites where the tank has leaked. If there is the potential for a hazardous atmosphere to exist in a trench greater than four feet deep, OSHA requires atmospheric testing of the trench before employees are allowed to enter -- oxygen levels must be greater than 19.5 percent, the atmosphere must not exceed 20 percent of any lower explosion limit (LEL), and toxics below the permissible exposure limit (PEL). Hazardous atmospheres and entry into confined spaces, such as trenches greater than four feet, can be extremely hazardous. For this reason, if an UST removal operation is being performed in contaminated soil where the potential exists for hazardous atmospheres, a competent safety professional should be consulted.

For example: An UST was removed from an excavation approximately 6.5 feet wide and 6 feet deep. There was approximately one foot of water at the

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bottom of the excavation. In preparation for installation of the new tank, two workers entered the excavation to splice two pipes. The entrants did not know that propane gas had leaked from an underwater joint on the pressurized side of the pipe being spliced. Both workers were killed by asphyxiation.

(h) Protection from hazards associated with water accumulation

OSHA requires employers to adequately protect workers from the hazards associated with water accumulation in an excavation. OSHA outlines three strategies for doing so, including shield systems, removal of accumulated water, or use of a safety harness and life line. Heavy rainfall or water accumulation from groundwater seepage is often associated with trench collapse. Particular care should be taken when inspecting trenches with water accumulation.

(i) Stability of adjacent structures

This paragraph of the standard requires that proper precautions be taken when the stability of an adjacent structure is jeopardized by the excavation. Support systems must be designed by a competent person, or a professional engineer must certify that the structure is sufficiently removed from the excavation so as to be unaffected by the excavation activity. The standard also states that if sidewalks and pavements will be undermined, there must be an appropriate support system to protect employees from the possible collapse of such structures.

(j) Protection of employees from loose rock or soil

OSHA requires that employees be afforded adequate protection from the hazard of loose rock or soil falling or rolling from the face of an excavation. Specifically, OSHA requires that all materials and equipment be kept at least two feet from the edge of an excavation.

(k) Inspections

OSHA requires that daily inspections be performed to identify evidence of situations that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, and other hazardous conditions. These inspections must be performed by a "competent person."

(l) Fall protection

Where a falling hazard exists, an employer must mitigate the hazard. Because trenches and excavations may pose a fall hazard, employers are required to provide physical barriers to prevent inadvertent entry. The standard requires:

Walkways or bridges with standard guardrails where employees or equipment have to cross over an excavation.

"Adequate barrier physical protection" at all remotely located excavations. Wells, pits, shafts, etc. must be barricaded or covered. Temporary wells, pits, shafts, etc. must be backfilled upon completion of exploration operations.

OSHA Requirements For Sloping And Shoring

The following section. 29 CFR 1926.652. *Requirements for protective systems,* describes how employees who must enter excavations are to be protected. There are essentially two options to ensure the safety of workers who enter excavations: Sloping or shoring.

Proper sloping of trenches is described in paragraph (b) design of sloping and benching systems. Employers have four options for proper compliance:

- **Option 1** - requires a slope of 1 and 1/2 horizontal to 1 vertical for a slope of 34 degrees measured from the horizontal. This requires that the slope be cut back 1 and 1/2 foot from the trench for every foot of depth. A six-foot trench, therefore, would require a slope nine feet out from the base of the slope.
- **Option 2** - allows for steeper slopes, based on the type of soil in which the excavation will be dug. For an in-depth discussion of soil types and requires slopes see 29 CFR 1926.652 Appendix A, *Soil Classification,* and Appendix B, *Sloping and Benching.* There are essentially four types of soils: Stable rock, type A, type B, and type C. The angle of sloping in Option 1 assumes a type C soil. by definition, UST remediation work cannot possibly be done in type A soil, because type A soil, as defined by the standard, must never have been previously disturbed. Soil around a tank removal operation has obviously been previously disturbed (i.e., when the tank was installed). Type B soil requires a slope of one horizontal unit to one vertical for a slope of 45 degrees. It is probably easiest to simply dispense with the process of classifying soil and to assume it is type C, which requires a slope of 1.5 to 1.
- **Option 3** - requires the use of tabulate data approved by a registered professional engineer.
- **Option 4** - requires sloping systems designed and approved by a registered professional engineer.

The requirements for shoring systems are found in paragraph *(c) Design of support systems, shield systems and other protective systems.* As with sloping, there are several options for using acceptable shoring devices, including systems which meet the requirements of Appendices A, C, and D of the standard: systems which are used in accordance with the specifications, limitations, and recommendations issued or made by the manufacturer: systems based on tabulated data approved by a registered professional engineer: or systems designed by a professional engineer. Protective systems which meet the intent of the standard are discussed in some detail in Appendix C, *Timber Shoring for Trenches,* and Appendix D, *Aluminum Hydraulic Shoring for Trenches.*

Staying Out of Harm's Way

In 1985 OSHA prepared a report entitled, *Selected Occupational Fatalities Related to Trenching and Excavation as Found in OSHA Fatality/Catastrophe Investigations,* which was a review of some 206 trenching and shoring fatalities.

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Trenching, Shoring and USTs, *(Continued)*

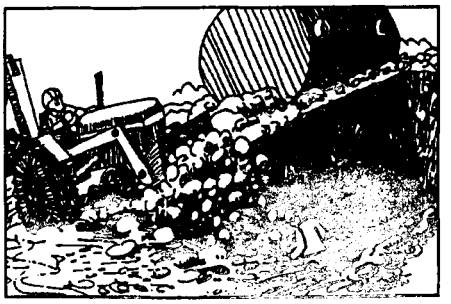
The conclusion listed several recurrent problem areas, including:

- Failure to provide adequate support systems(shoring):
- Failure to set excavated material back an adequate distance (required two-foot minimum) from the edge of the excavation;
- Inadequate sloping of trench walls;
- Causing equipment and vehicles to come into contact with sources of electrical current;
- Operating equipment and vehicles too close to the edge of the excavation;
- Failure of workers to communicate in such a way as to prevent coworkers from being struck by equipment; and
- Failure to properly brace standing walls adjacent to trenches.

OSHA went on to list secondary causes of fatal accidents. These included:

- Inexperienced workers or workers new to a particular job;
- Employees taking unnecessary personal risks;
- Dangerous work practices (e.g., shortcuts that increase the likelihood of an accident);
- Failure to coordinate work in small areas; and health problems relating to the physical condition of workers (e.g., alcohol). OSHA concludes the report by listing several sets of measures which can be taken to prevent the complex events that are a function of human, machine, and environmental interactions that too often result in fatal trenching accidents. These preventative measures include:
- Establishing and strictly enforcing trenching and excavation safety measures, such as shoring, sloping, and removal of spoil from the edge of the excavation;
- Increasing training and education for work safety procedures and activities; and
- Improving supervision over required safety measures.

Excavations associated with UST installation and remediation are by their nature dangerous, and no worker should be expected to enter a trench without the proper protection. Yet as hazardous as such work may be, there are some very effective strategies for protecting workers. A good place to start is by complying with the OSHA regulations.



What's wrong with this picture?

References:

OSHA, 29 CFR Part 1926, Occupational Safety and Health Standards-Excavations; Final Rule. *Federal Register,* Tuesday October 31, 1989. *OSHA, Selected Occupational Fatalities Related to Trenching and Excavation as Found in OSHA Fatality/Catastrophe Investigations.* July 1985. *OSHA, Accident Report* - Fatal Facts Number 52. Bureau of Labor Statistics. *National Census of Fatal Occupational Injuries.* August 1994.

Matthew Fitzgerald, DrPH, CIH, Senior Industrial hygienist with SCIENTECH Inc. in Rockville, MD. This article was adapted from Bulletin 22 of Lustline, June, 1995.

EPA Policy on Self Discovery and Disclosure

Tank owners should be aware that they are subject to EPA enforcement for failing to comply with the 1993 leak detection deadline, and will be subject to enforcement once the 1998 upgrading deadline has passed.

As a tool to encourage voluntary compliance, EPA has issued a policy of reducing or entirely forgiving civil and criminal penalties when all of the following condition have been met. To qualify, the tank owner must:

- ★ self-discover the violation,
- ★ voluntarily disclose it in writing,
- ★ correct the violation within 60 days,
- ★ remediate imminent danger to health or the environment,
- ★ remediate environmental harm,
- ★ have avoided spills and other recurring violations, and
- ★ cooperate fully with DEC and EPA.

Complete forgiveness of penalty can be granted where the tank owner has not gained a significant economic benefit.

The final EPA policy statement appeared in the Federal Register dated December 22, 1995, pages 66707 - 66712. A copy can be obtained by calling (202) 260-7548 and requesting a copy of the index to the docket #C-94-01, and faxing document request to (202) 260-4400. Additional information can be obtained by calling Robert Fentress or Brain Riedel at (202) 564-4187.

Deadline For Chemical Storage Report Approaches

Two years ago, in response to a growing problem of real estate contamination and groundwater pollution, the Department of Environmental Conservation passed regulations requiring owners of storage tanks to develop plans for preventing and responding to chemical spills. The regulations, which are called the Chemical Bulk Storage (CBS) Regulations, gave owners or operators of storage tanks with a capacity of 185 gallons or more until August 11, 1996 to develop a 10-point Spill Prevention Report. A Spill Prevention Report (SPR) must contain the following:

1. a copy of the registration application and certificate issued by DEC;
2. approval of the report by the company's executive officer;
3. an up-to-date site map of sufficient detail to identify tanks, transfer stations and connecting pipes;
4. the signature and license number of the Professional Engineer or other qualified person who prepared the plan;
5. a description of releases for the past five years. This must address the magnitude and impact of such releases;
6. an assessment of causes of historical spills at the facility;
7. a status report on compliance with the standards set forth in DEC's Chemical Bulk Storage Regulations;
8. an appendage or index of supporting records;
9. evidence of financial responsibility (only when required by DEC);
10. a plan for spill response, including a map showing areas impacted by a potentially spill, a list of equipment and materials to contain a spill, name and phone number for emergency contacts and clean-up contractors, spill reporting procedures, plans for annual drills and other information consistent with general accepted spill prevention control and countermeasure practices.

Once prepared, the report must be kept up-to-date and maintained on the premises. It does not need to be filed with the department.

Many major chemical users already have an up-to-date spill prevention report and others are in the final stages of preparing a report. DEC will be inspecting facilities to see that proper reports have been prepared and are on-premises. Owners or operators who fail to develop the report by August 11 are subject to enforcement including fines and penalties.

For details on Spill Prevention Report regulations, see 6NYCRR 598.1(k). If you need a copy of the regulations covering these requirements, please contact Mary Ellen Cowan on our helpline at (518) 457-4351. The report must be prepared by an individual familiar with chemical storage, handling and spill response technology. For technical assistance on preparing a report, you should contact an engineering consultant or other individual with expertise with chemical storage and handling.

Spill Cleanup Program Approved for Homeowners

The New York State Insurance Department has approved an innovative insurance program which covers the costs of clean-up, property damage, and fuel oil tank repair or replacement caused by the accidental release of fuel oil from a homeowner's heating system. The insurance is called the Homeowner's Environmental Loss Protection (HELP) insurance and became operational in the beginning of April 1996.

HELP insurance will also cover clean-up of fuel oil accidentally released onto a neighbor's property, provided the neighbor does not restrict the insurer's access to such property. These types of events are generally excluded from traditional homeowners' insurance policies. The program however, will not provide liability protection.

The program is available to customers of participating fuel oil dealers. The participation of the dealers is necessary since their inspection and maintenance of the fuel system, and monitoring of the insured's fuel consumption through automatic delivery are essential risk management components. Currently, about 60 dealers are participating covering approximately 15,000 homeowners in New York City, Long Island and Westchester. These policies are expected to grow significantly in number and to be available in other areas of the state.

The basic annual cost for $100,000 of coverage for customers on an "automatic fill" program is $40 per tank in the five boroughs of New York City, $60 per tank on Long Island and $55 per tank elsewhere in New York State. (Customers not on an automatic fill program will pay $125 per tank statewide.) Surcharges are added to the basic cost of the policy based on the age of the fuel oil system, the tank construction characteristics and any previous claim activity. The basic policy has a $500 deductible. The program is also available to commercial insureds as long as the maximum capacity of the fuel oil tank does not exceed 2,000 gallons.

To find out more about the HELP program, contact your fuel oil supplier.

DEC Issues Petroleum Spill Reporting Guidance

Do I have to report small petroleum spills to paved areas?

What is the reporting threshold for petroleum?

When do I have to report a petroleum spill?

These questions are now addressed in DEC's new petroleum spill reporting guidance. For a copy of this guidance, call Kathy Carpenter at 518-457-3891.

Guidance At-A-Glance

Petroleum spill must be reported to DEC unless they meet all of the following criteria:

- The spill is known to be less than five (5) gallons;
- The spill is contained and under the control of the spiller;
- The spill has not and will not reach the State's water or any land; and
- The spill is cleaned up within two (2) hours of discovery.

All reportable petroleum spills and most hazardous materials spill must be reported to the DEC hotline (1-800-457-7362) within New York State; and (1-518-457-7362) from outside New York State. For spill not deemed reportable, it is strongly recommended that the facts concerning the incident be documented by the spilled and a record maintained for one year.

Other federal and local agencies may need to be notified including the National Response Center (1-800-424-8802) and your local fire and emergency response corps.

EPA Approves Continued Use of State Oil Spill Fund

In April 1996, EPA approved the continued use of the State Oil Spill Fund as an financial assurance mechanism for category 3 & 4 tank owners. Category 3 covers petroleum marketers with 13 to 99 underground storage tanks (USTs); and category 4 includes petroleum marketers with 1 to 12 USTs, nonmarketers with net worth of less than $20 million, and local governments.

The fund covers first-party and third-party cleanup costs and third-party property damage claims. Third-party bodily injury claims are not covered.

DEC will continue to require responsible parties to pay for spill clean up. The fund will only be used when the responsible party is unknown, unable or unwilling to perform the clean up in a timely manner. If fund money is expended to remediate a site, the state will attempt to recoup the costs from the responsible party.

If you have any questions about the use of the State Oil Spill Fund as a financial responsibility mechanism or financial responsibility in general, call Bulk Storage Helpline at (518) 457-4351 and ask to speak with Dick Cowan.

Finding Insurance For Spill Cleanup

The organization Professional Insurance Agents (PIA), provides a service to its members that helps them find a suitable market for hard-to-place risks including pollution liability and underground storage tank insurance. New York insurance agents wanting to find out more about these services and the PIA MarketBase™ computerized system, should call PIA of New York at 1-800-742-6369 or (518) 434-3111.

How to Select a Remediation Firm

by John Patterson*

You've recently settled on a new location for your growing business. "Eureka!" you think. I'll use current property as collateral and rental income, and purchase the new property based on the new business.

Your joy is short-lived, though, when site assessment testing of your current property reveals contamination of both soil and groundwater. The situation is further complicated because the groundwater feeds into an underground stream flowing into the municipality's public water supply. What first seemed the ideal solution to your growing pains has become an instant nightmare. Even worse, you are informed that you need to clean up the problem before the bank will loan additional funds, because the property is now a liability instead of an asset.

Contaminated property is not uncommon. The practical solution is to engage the services of a legitimate remediation company, eliminate the problem and get on with your business plans. Recently, lending institutions have begun to show a willingness to help finance remediation efforts that can be done within a prescribed budget and time frame.

Should you find yourself in this predicament, here are some suggestions for selecting a remediation firm.

Where to Begin

You begin or continue with either an environmental consultant, or go directly to a remediation firm. Which course you choose depends on the nature of your environmental problem and to some extent your knowledge of environmental problems and solutions. A consultant will (1) evaluate the situation, (2) propose a scope of work for the initial evaluation including the steps necessary to fully define the extent of the problem, (3) offer one or more possible solutions, and (4) recommend one or more remediation firms to offer proposals for correcting the problems. If you retain a consultant, ask for several recommendations of remediation solutions, and the names of several different firms that can perform the work. This avoids potential conflicts of interest and provides you with additional options. The various remediation companies will in turn offer different methods and a program plan to fit your short- and long-term goals and cash flow requirements.

Some individual owners choose remediation firms on the recommendation of other business owners or their bank. Another source available is the group of trade journals that discuss remediation problems. Other reference sources include the local phone book and purchasing guides available at the local library. There is no shortage of companies willing to provide remediation services.

What to Ask?

Once you have secured the names of several remediation firms, you can begin to narrow the process. It is important to remember that technology is constantly changing and being upgraded. As a general rule, it is preferable to recycle, rather than dispose. Ask each remediation firm about recycling options that can be part of the cleanup process.

With contaminated soil, for example, some remediation companies remove the affected soil and truck it to a landfill that accepts such material (there are fewer and fewer landfills available). Others clean the soil and find another use for it. Some technologies combine the contaminated soil with a fixation material and use the recycled material as the paving base for roads and parking lots. The material never needs to leave the site.

Select a firm which has knowledge and hands-on experience of your particular type of environmental situation. If your problem is groundwater contamination, select a firm with experience in that form of remediation. Ask about specific technologies that will be employed, and the company's range of experience. Ask, also, for specific references of finished projects for this type of remediation. Call the references; even consider a visit to the site to view, firsthand, the quality of work done by the remediation firm. Generally, clients who have used the services of a remediation company willingly share their experiences with you.

Ask about specific permitting required for your project and whether the firm you are considering has that in place. Remember, remediation is an emerging technology, and the rules in many cases are still being written. One of your objectives is to move through this process as quickly and effortlessly as possible.

Ask about fee structures upfront. Does the company offer a fixed price guarantee? Some firms provide flat-rate guarantee of their price, regardless of what the project entails. Also inquire about guarantees for work performed, and what after-the-fact consultation or remediation services will be provided should they be required.

Last, arrange to visit the firms facility. Speak with the personnel who will be involved with your case. And don't be afraid to ask questions as the project gets underway.

When choosing a remediation firm, exercise the same caution you would use in selecting a physician or attorney, or any professional in whom you entrust your care. Be armed with as much information as possible in making the choice. With today's technology and the right firm, you will soon be "back on track" in your business venture.

John Patterson is CEO for Continental Remediation systems, Natick, MA. This article is reprinted with permission from the January/February 1996 issue of PETROLEUM MARKETER *magazine.*

DEC Brownfield Policy

DEC encourages prospective buyers of contaminated property to enquire about the voluntary cleanup policy called the "Brownfield Policy". By entering into an agreement with DEC to undertake a specified level of remedial work, DEC will release the buyer from any further remedial obligation for which the buyer was not responsible. Call (518) 457-4351 to request a copy of Issue #14 of the *Tank Bulletin* which contains a review of this policy.

When to Look for a Remediation Contractor

If a spill occurs at your facility, the one luxury not available to you is time, as pressure to take action will start immediately. The longer you wait on a spill, the more costly it is to cleanup, moreover DEC will ask you to address the spill as soon as possible. The local/state health department may be directly involved if there is a threat to drinking water supplies or public health.

At this point, there is not enough time to investigate contractors, follow up on references and obtain a good price quote. If your risk of having a spill is high, you owe it to yourself to complete these activities beforehand without the pressures and emotions hat accompany a spill incident.

Source of Municipal Closure and Remediation Funding

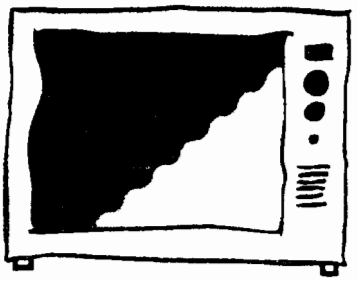
The State Revolving Fund (SRF) administered by the NYS Environmental Facilities Corporation (EFC). EFC has low interest loans for municipalities needing money for tank closure and site remediation. In order to be eligible for a loan, the municipality should apply to EFC to have the project listed on the annual funding plan called the Intended Use Plan.

All costs related to a tank closure could be eligible for financing, but low interest loans for new tank or associated equipment such as lines and pumps has been ruled ineligible. Examples of projects that could be financed by a SRF loan include:

- testing of soils and sludges to characterize wastes for proper disposal;
- removal and disposal of the leaking or deteriorated tanks and piping;
- in-place tank closure;
- disposal of sludges and remediation of contaminated soils;
- backfill of excavation with clean soils; and
- pumping and treatment of contaminated groundwater.

For assistance with project listing or for information on the SRF program, please contact Mr. David Morseman at EFC's toll-free information line (800) 882-9721 (within New York State only) or (518) 457-3833.

See Your Way to Compliance...



...All you need to know about meeting the 1998 deadline for upgrading steel underground storage tanks is included in a series of video tapes produced by the U.S. Environmental Protection Agency.

The videos show the important steps you need to take to be in compliance. For information or to order these videos, call the numbers below.

•For videos on installation, piping, spill and overfill equipment, leak detection, contamination, and safe fuel delivery, call

Environmental Media Center *
(800) 522-0362 or
(301) 654-7142

•For videos on safe tank closure, site assessment at closure, and underground storage tank facility compliance inspections, call

New England Interstate Environmental Training Center
(207) 767-2539

EPA

Risk Based Corrective Action (RBCA) Update

DEC is one 40 state agencies developing a Risk Based Corrective Action (RBCA) guidance on the cleanup of petroleum releases. The RBCA which will enable DEC to direct cleanup effort on the basis of risk, will be based upon ASTM Standard E 1739-95.

The RBCA concept was "tested" with 20 demonstration spill projects over the winter and will be reviewed by a "stakeholders group" to gain additional insights starting June 1996. We hope to have a draft guidance document ready for public comment this Fall.

The ASTM is giving a series of generic courses on RBCA. If you are interested, you can call Kristina Falkenstein with ASTM at (610) 832-9686 or visit their WEB SITE at: http://www.astm.org.

Getting Out From Under, *Underground Storage Tank Alternatives for Small Towns*

The National Association of Towns and Townships (NATaT) has prepared a guidebook and video to help municipalities find cost-effective ways of achieving compliance with the federal underground storage tank (UST) upgrading requirements for 1998. It was written for small towns and townships, but it is just as relevant to other or larger governmental entities. Any county, municipal, state, school district, or other official responsible for managing and maintaining underground storage tanks will find the guidebook a useful source of information and ideas. For more information, write or call: NATaT, 1522 K Street, N.W., Suite 600, Washington, D.C. 20005-1202, or (202) 737-5200.

Tank Owners Plagued with Petroleum and Chemical Spills

Dozens of spills are reported to DEC each day. In 1995, almost 17,000 spills were reported on DEC's Spill Hotline.

While many spills occur at storage depots where large amounts of petroleum or chemicals are handled, homeowners and small businesses with heating oil and gasoline tanks are increasingly being troubled with spills and leaks. The following cases are typical of the spills reported throughout the State.

Heating Oil Spills

Winter always brings an increase in residential heating oil spills.

In January, DEC's Region 8 staff were involved with five reportable oil spills from residential tanks. In one case, snow melt flooded a basement of an unoccupied church building causing the fuel oil tank to shift and covering the floor with two inches of oil. Water was pumped into to the basement to keep the oil floating above the floor until it could be pumped out by a remediation contractor hired by the church.

One gallon of petroleum can contaminate one million gallons of drinking water

In another incident, over 100 gallons of #2 fuel oil leaked from a 275-gallon residential fuel oil tank, entering the basement. A contractor was hired to remove the free product and install a vapor extraction system in an attempt to lower the level of fuel oil vapors in the residence. The New York State Health Department advised the family to move out until the vapors reach a safe level.

In three other incidents, residential fuel oil tanks were damaged by falling ice and snow resulting from unseasonably warm weather and heavy rains. The spills ranged from 5 to 50 gallons. In each case the contaminated soils were excavated with two of the residences requiring venting to reduce the level of fuel oil vapors.

During the same month, a 300-gallon aboveground gasoline tank outside a private residence sprang a leak where it lay on rotting boards. Gasoline vapors traveled 60 feet under the half of the house with a concrete floor, but surfaced where the earthen floor began. Residing in the house were a mother, three children and an invalid grandmother. The vapor level was measure at 3 to 4 ppm in the living quarters. Using the State Oil Spill Fund, the Region 8 staff installed of a soil vapor extraction system when the contractor hired by the family failed to show up.

Bill Blain, a spill responder in Region 4 (Albany area), says that a good deal of his time is spent responding to releases from residential fuel oil tanks. In his opinion, with regular tank inspections and a little preventative maintenance, most of these spills could have been prevented. For more information on the inspection of residential fuel oil tanks, see issue #16 of the *Tank Bulletin* for the Self Inspection Checklist for homeowner fuel oil tanks.

Diking Prevents Environmental Damage From Acid Spills

Chemical spills continue to be a concern for tank owners. When a pipe union failed at an asphalt plant in the Town of Tonawanda, diking prevented the spillage of 2,000 galllons of muriatic acid.

The dike successfully contained the spill. Furthermore, the dike was lined with limestone which helped neutralize the acid. The company further neutralized the acid which was finally treated at their wastewater treatment plant.

In August 1995, a chemical storage area at the plant caught fire. Fire fighting runoff was contaminated by the chemicals and had a pH of 1.0. The runoff flowed to the adjacent Niagara River through storm sewers and wastewater treatment plant. A fishkill occurred in the river. The company rapidly responded to contain and cleanup the site. The following steps were taken:

1. sealed all drains from the plant;
2. removed and disposed of a considerable amount of contaminated soil;
3. disposed of contaminated water;
4. removed the remains of the burnt building; and
5. restored the affected area with new sidewalks, lawns, and pavement.

The Insurance Emergence

According to EPA, obtaining pollution liability insurance to cover the federal financial responsibility requirements is now affordable for most owners of underground storage tanks (USTs). Policies are being written to cover the full financial responsibility requirements and also for that portion not covered by the New York State Oil Spill Fund - third-party bodily injury. (See *Tank Bulletin* #12, Spring '94 for more information about the use of the State Oil Spill Fund.) DEC has done some checking and found the following insurance companies are writing policies in New York:

Zurich-American Insurance company
1 Liberty Plaza, 53rd Floor
New York, NY 10006
Bill MacElroy
(212) 748-2330

American International Corporation
70 Pine Street, 11th Floor
New York, NY 10270
Joe Valenza
(212) 770-5130

Rates to meet the full financial responsibility requirements vary widely. For new double-walled tanks and piping with leak detection, the cost is $300 to $500 per tank, annually. When determining your premium, the factors that are considered by insurance companies are:

- tank construction and age,
- leak detection,
- liability (prior loss), and
- management of the site.

Site management can often be determined intuitively by the savvy insurance underwriter. The better your facility score, the lower will be your insurance premiums.

To get up-to-date information on insurance companies that provide pollution liability insurance for petroleum bulk storage, or to determine if a company is eligible to write such policies in New York, you can call one of the following numbers:

Important Insurance Phone Numbers

N.Y. State Insurance Dept. Hotline - 1-800-522-4370

Independent Ins. Agents Assoc. of NY - 1-800-962-7950

Professional Insurance Agents - 1-800-742-6369

Periodically, DEC gets updated information on companies that are writing policies to satisfy the federal financial responsibly requirements. If you are interested in obtaining this information, please call Dick Cowan at (518) 457-4351.

Spills and Overfills During Deliveries

Some petroleum distributors deliver product with trucks equipped with hoses **without tightfill connectors** which attach to the UST fill pipe. Without a tightfill connector, a routine petroleum delivery can easily result in a disastrous spill of petroleum around the fill pipe requiring immediate cleanup efforts. Recently, gas stations equipped with **ball float prevention valves** on the tanks have had large spill during deliveries without tightfill connectors. When the tank became full, and the ball float prevention valve closed, petroleum rushed out of the fill pipe onto the surface.

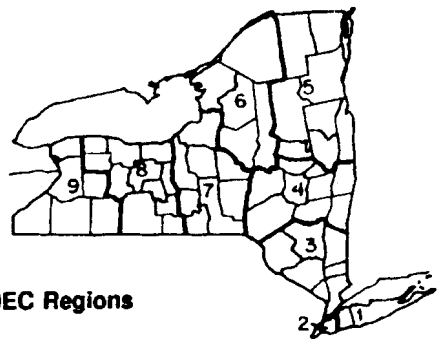
Such spills are actually a **violation of state and federal UST regulation** which require that owners and operators ensure the release due to spilling and overfilling do not occur. US EPA is currently taking enforcement action against a company that failed to prevent such releases and is seeking a penalty of $3,000 for those violations.

Overfill Prevention - *Vent Line Ball-Float Valve or Drop Tube Flap Valves?*

Some petroleum distributors use trucks which pump product to USTs under pressure. Pumping results in faster delivery times, clearing the truck from the station sooner and increasing the number of deliveries in each day. However, the use of this equipment poses dangers for USTs equipped with ball float valves installed on the tank vent line. When a tank equipped with a ball float becomes full, the valve closes, which stops the venting and flow of product to the tank. This may result in an increase in pressure and damage to the tank.

For faster delivery times, a drop tube flap valve can be used. This valve will stop the flow of product without increasing the pressure in the tank.

DEC Regions: Map/Addresses/Phone Numbers



DEC Regions

REGION 1

SUNY Campus
Building 40
Stony Brook, NY 11790-2356
(516) 444-0320

Nassau*, Suffolk*

* PBS program delegated to County Health Department

REGION 2

Hunters Point Plaza
2nd Floor
47-40 21st Street
L.I. City, NY 11101-5407
(718) 482-4933

Bronx, Kings, New York, Queens, Richmond

REGION 3

200 White Plains Road, 5th Floor
Tarrytown, NY 10591-5805
(914) 332-1835, Ext. 363

Dutchess, Orange, Putnam, Rockland*, Sullivan, Ulster, Westchester

REGION 4

1150 North Westcott Road
Schenectady, NY 12306
(518) 357-2045

Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady, Schoharie

REGION 5

Route 86, P. O. Box 296
Raybrook, NY 12977-0296
(518) 897-1200

Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren, Washington

REGION 6

State Office Building
207 Genesee Street
Utica, NY 13501
(315) 793-2554

Herkimer, Jefferson, Lewis, Oneida, St. Lawrence

REGION 7

615 Erie Blvd. W.
Syracuse, NY 13204-2400
(315) 426-7519

Broome, Cayuga, Chenango, Cortland*, Madison, Onondaga, Oswego, Tioga, Tompkins

REGION 8

6274 E. Avon-Lima Rd.
Avon, NY 14414-9519
(716) 226-2466

Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne, Yates

REGION 9

270 Michigan Ave.
Buffalo, NY 14203-2999
(716) 851-7220

Allegany, Cattaraugus, Chautauqua, Erie, Niagara, Wyoming

For general information about bulk storage, call the ***Bulk Storage Help-Line:*** ***(518) 457-4351*** *or write to: 50 Wolf Road, Room 360, Albany, NY 12233-3750.*

New York State DEC
Bulk Storage Program
50 Wolf Road
Albany, New York 12233-3750

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