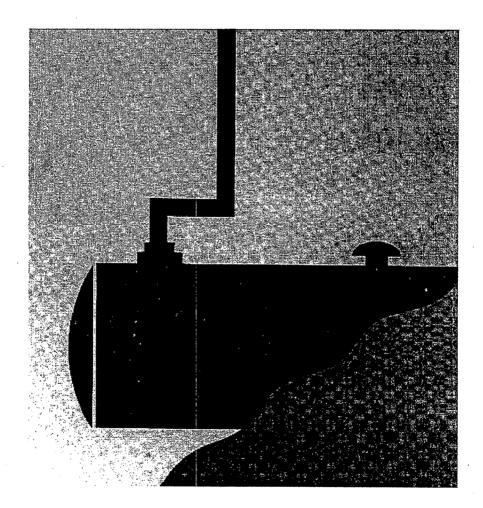


Controlling UST Cleanup Costs: Fact Sheets



Free Publications About UST Requirements

The U.S. Environmental Protection Agency (EPA) has developed a series of free publications about federal requirements for underground storage tanks (USTs). For a list of titles, and to read or order publications online, visit EPA's UST Web site at http://www.epa.gov/OUST/. You can also call EPA's toll-free RCRA/Superfund Hotline at 800 424-9346 and order up to 30 free copies of any title. Finally, you can order directly from the National Center for Environmental Publications and Information (NCEPI), EPA's publications warehouse, by calling them toll-free number at 800 490-9198 or by faxing your request to 513 891-6685.

NEW since the publication of Controlling UST Cleanup Costs...

"Pay-for-Performance:" A new approach to managing underground storage tank cleanups

A pay-for-performance agreement is a type of fixed-price contract. (See Fact Sheet 2: Negotiating The Contract.) Under pay-for-performance cleanup agreements, tank owners or operators pay contractors a fixed price as measurable environmental goals are reached. Pay-for-performance contracts reward contractors for quickly and efficiently reaching cleanup goals, enable state staff to focus their attention on environmental results instead of on auditing contractors' internal costs, and minimize paperwork and administrative costs and delays. To learn more about pay-for-performance, order a free copy of Pay-For-Performance Cleanups: Effectively Managing Underground Storage Tank Cleanups (EPA 510-B-96-002) by calling the National Center for Environmental Publications and Information toll-free at 1-800-490-9198. You can download this booklet from our World Wide Web site at http://www.epa.gov/OUST/.

New technologies for cleaning up releases from USTs

An Overview Of Underground Storage Tank Remediation Options (EPA 510-F-93-029). This series of 13 fact sheets describes, in plain language, technologies for cleaning up groundwater and soil. Remediation technologies discussed include: Air sparging, bioventing, bioremediation, soil vapor extractions, and off-site treatment. Order a free copy of the fact sheets by calling the National Center for Environmental Publications and Information toll-free at 1-800-490-9198.

How To Evaluate Alternative Cleanup Technologies For Underground Storage Tank Sites: A Guide For Corrective Action Plan Reviewers is a more technical manual that EPA developed to help state regulators who review corrective action plans understand new remediation technologies and evaluate their appropriateness. For information on ordering the 420-page Guide, call the RCRA/Superfund Hotline at 800 424-9346

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Controlling UST Cleanup Costs

Fact Sheet 1: Hiring A Contractor

Facing the Situation

When you're talking about success in business, you're talking about solid, common sense. The same is true when you're facing a petroleum or hazardous substance spill. You need to trust that common sense, gather some background information, and find the people to do the best job of cleaning it up.

Learn your State Underground Storage Tank (UST) program regulations to make sure you abide by your State's laws about cleaning up leaks from USTs.

from the phone book. Or finding one that offers a low price. As with other vendors you deal with, the contractor offering the lowest-price for a site assessment and cleanup doesn't always provide the best service.

Knowing the Jobs

Contractors often put in bids for the following two types of jobs:

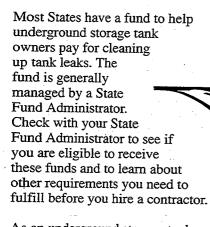
• Site Assessment Jobs, in which the contractor determines the extent of the contamination, and

 Cleanup Management Jobs, in which the contractor actually cleans up the spill.

Once your contractor has completed a site assessment, you will have sufficient data to obtain bids for the cleanup. You can have the same contractor do both jobs or separate contractors for each job. Either way, you want to be sure that you are paying appropriate fees for adequate services.

Knowing the Players

In these fact sheets, the term
"contractor" refers to contractors
and consultants. Consultants



As an underground storage tank owner who needs a spill cleaned up, you need to have a business plan that includes finding contractors to diagnose and complete the work. It involves more than picking a company often give expert advice but may not be involved in day-to-day field work. Contractors usually fall into one of two categories — full-service contractors and specialty contractors.

Full-service contractors have the capability to perform site assessment and cleanup work without obtaining the services of another contractor. Specialty contractors are qualified to perform only certain aspects of a site assessment or cleanup. A specialty contractor generally works on limited activities, like installing wells or designing a cleanup plan. Subcontractors are either full-service or specialty contractors that perform services at a site under the direction of another contractor — the prime contractor. As an owner or operator, you would probably interact only with the prime contractor.

Hiring The Best People

Keep the following tips in mind when you're shopping around for a contractor to provide the most effective and economical site assessment and cleanup available.

- Ask Around: It's worth your while to ask other owners and operators, or your local association, about contractors they've hired. Check with your State UST program to see if there is a list of certified contractors you can choose from.
- Get Written Bids: Have at least three contractors write estimates, also called bids. In their bids, contractors must list the tasks they will perform and how they will perform them. Request the same information from all contractors so you can compare bids.
- List Charges: Get an explanation of the rates charged. Know what you're paying for. Get a description of the tasks and a list of the junior-, mid-, and senior-level staff that will be performing each task. This is a good way to match rates to services. If you're not comfortable with any match-ups, ask the contractor for an explanation.
- Compare Answers: Weigh the strengths and weaknesses of each contractor against the others; decide on one, or if you don't think any of them can do your job, widen your search. You need to hire someone who will meet your needs.
- Define Roles: Ask that the bid include the qualifications and experience of the people who will be doing the work on your site. Whether you need to hire someone to assess your site or to clean up the spill, this information will help you determine the company's qualifications.
- Look Closely: Evaluate the contractor's credentials and experience. Does the company's experience match your needs? Is the contractor qualified to do the job? Have they

done this work before? How often? Are they planning on using subcontractors? How do they justify their rates?

- Count Heads: Know in advance any planned use of subcontractors. Make sure the contract bid includes all subcontractor fees.
- Ask Questions: Clear understanding about even the most minor details is crucial to precise negotiations.
- Get References: Have them include a list of references, especially those from State contracts, and ask the State about their performance on these contracts. Are they familiar with State UST regulations and criteria for payment from the State Fund?
- Read Fine Print: Understand the payment terms, including interest charges on outstanding bills.
- **Sign Carefully:** Don't get locked into an overestimated bid. And don't automatically choose the lowest bidder.

Double-Check

Before you commit to any contracts, have a clear understanding of the required work. Understand how long it will take and how much it will cost. Double-check, in writing, the following items with the contractor:

- Price
- Project timetable
- · Terms and conditions of payment
- Cited contractor's experience/capability
- · Explanation and purpose of technical work

And Remember: The sooner a spill is cleaned up, the better. The longer you wait, the more the damage will spread and the more the cleanup will cost.

Fact Sheet 1 was developed by the Environmental Protection Agency's Office of Underground Storage Tanks in conjunction with State Fund Administrators. It is one of a series; the others are: Negotiating the Contract, Interpreting the Bill, Managing the Process, and Understanding Contractor Code Words. For copies of these fact sheets or more information, contact your State Fund Administrator for USTs and/or your State Underground Storage Tank program.

Controlling UST Cleanup Costs

Fact Sheet 2: Negotiating The Contract

Build Trust

As a business person, you know that in business agreements there is almost always room for bargaining. Like the other contracts you've worked out, site assessment and cleanup contract negotiations start as a series of questions. Remember, contractors want to work with you, and answering your questions is part of getting the job.

The contract serves as a blueprint for the site assessment and cleanup, and it shows both you and the contractor where you've agreed to spend your money. Remember, you can use the same or different contractors for the site assessment and cleanup jobs. Understanding and evaluating the bids from all contractors is your responsibility.

Get It in Writing

Most contracts will have a scope of work; that scope of work should include four kinds of basic information:

- Details of the tasks to be performed (for example, the number of wells to be drilled)
- Specifics on the training of staff required to perform those tasks
- Schedule of when the tasks are to be performed
- Costs of each of the tasks to be performed

Make sure you understand all of the components.

Control the Project

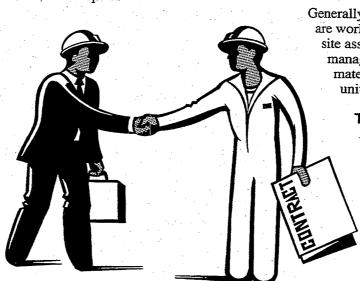
- Know Regulations: Before you hire a contractor, learn your State's Underground Storage Tank (UST) program regulations. Most States have a fund to help UST owners pay for cleaning up tank leaks. The fund is generally managed by a State Fund Administrator. Check with your State Fund Administrator to see if you're eligible to receive the funds and to learn about other requirements (for example, invoices) you need to understand before you hire a contractor. Make sure the contractor follows these requirements.
- Take Charge: Manage the contractor; don't let the contractor manage you. Make certain that the contractor answers to you. Remember, the State holds you responsible for the cleanup of your spill.

Three Types of Contracts

Generally, three types of contracts are worked out for site assessment and cleanup management: time-and-materials, fixed-price, and unit-price.

Time-and-Materials Contract

• Charged Hourly:
This contract buys
you hours of service, not a completed cleanup.
Though not as
common as the
fixed-price
contract, this
type of



deal is negotiated if you're uncertain of the type of work needed. Time-and-materials contracts involve loaded rates, which typically include the contractor's salary, fringe benefits, and overhead. (See Fact Sheet 3 on billing for a more detailed discussion of loaded rates.)

Fixed-Price Contract

• One Price: In a fixed-price contract, one price covers the whole site assessment or cleanup from beginning to end. This includes person hours, equipment hours, and all fees and services. You control costs by letting the contractor know that you will not pay for work beyond the scope of work unless you specifically agree to it. You need to be careful that contractors don't take shortcuts in completing work.

Unit-Price Contract

- Charged by Specific Task: In a unit-price contract, a project is divided into specific tasks called work units, and a price is attributed to each. Examples of work units are:
- Taking soil borings (per foot or other unit)
- Sampling and analyzing groundwater from a monitoring well
- Excavating contaminated soil (per cubic yard or other unit)

The unit price includes labor (salary, fringe benefits, and overhead) and materials necessary to properly complete the task. Profit is included in the unit price. An advantage to the unit-price contract is that you are not required to pay for uncompleted tasks or inefficiencies on the part of the contractor. As with fixed-price contracts, you need to be careful that contractors don't take short cuts in completing work.

Cost-Cutting Tips

- Check Bargains: Don't let the lowest bidder fool you. The lowest bid may appear cheapest, but you might end up paying for expensive mistakes or redoing work that wasn't done right the first time. Select an experienced contractor who provides high-quality work.
- Hire Experience: Contact your State UST program about their experience with contractors. You're better off with a contractor with a lot of State experience and good reviews on cost-effectiveness and timeliness. Make sure the contractor has insurance and access to the proper equipment.

- Monitor Budget: Show cost limits for specific tasks in the contract. Require the contractor to tell you when he/she has reached certain points (for example, 25 percent of tasks and costs, 50 percent, 75 percent). Make sure your contractor sticks to a schedule and informs you when he/she cannot.
- Condition Payments: Connect payment for services to the satisfactory completion of necessary work. Stipulate a policy on payment for idle time. (For example, delays in obtaining equipment caused by the contractor's poor planning should not be charged to you.)
- Watch Closely: Negotiate a price ceiling into the contract and monitor charges and performance. Make notification of any changes in the scope of work mandatory for payment. Be sure that you are paying for completed work, not projected work. Make sure that you preapprove all overtime.
- **Promote Quality:** Make it clear that you will not pay for substandard work.
- Stay Home: Encourage on-site treatment of soils. Onsite treatment is often cheaper than hauling the soil to a landfill or treating it at an off-site facility. Check with your State UST program to see if this is an acceptable practice.

And Remember: The sooner a spill is cleaned up, the better. The longer you wait, the more the damage will spread and the more the cleanup will cost.

Fact Sheet 2 was developed by the Environmental Protection Agency's Office of Underground Storage Tanks in conjunction with State Fund Administrators. It is one of a series; the others are: Hiring a Contractor, Interpreting the Bill, Managing the Process, and Understanding Contractor Code Words. For copies of these fact sheets or more information, contact your State Fund Administrator for USTs and/or your State Underground Storage Tank program.

Controlling UST Cleanup Costs

Fact Sheet 3: Interpreting The Bill

Figuring the Figures

Competition among gasoline stations may keep the prices at your pump just about the same as the prices at the station down the street or across town. These prices may vary a few cents from week to week, but not by much. In contrast, site assessment and cleanup costs can vary tremendously.

Your day-to-day operations tell you there are almost as many ways to be charged for vendor services as there are vendors. In the cleanup business, charges for similar services or items may be worlds apart. That's because of the different rates contractors can charge you. And the ways that they bill you.

Matching the Items

Understanding your bill — what the charges are and how they are determined — is essential to keeping down the cost of the cleanup. Your bill needs to match the contract and provide top-to-bottom detail. That means you need to

carefully examine your first bill. Then sit down with your contractor and ask questions about charges you think are too high. Verify that charges are legitimate, correct, and timely.

And establish a billing schedule. Tell your contractor you need bills at regular intervals, and examine each one carefully.

Knowing State Limits

Most States have a fund to help underground storage tank (UST) owners pay for cleaning up tank leaks. The fund is generally managed by a State Fund Administrator. Check with your State Fund Administrator to see if you're eligible to receive these funds and to learn about other requirements (for example, invoices).

Remember that good cost management is one of your strengths as a business owner. Though you may be eligible for payment for certain tasks or services, don't depend on the State Fund to pay for your cleanup. Review each of your costs carefully to be sure you weren't charged unfairly. It's your responsibility.

Straight Rates and Loaded Rates

Contractors may list labor, overhead costs, other business expenses, and profits as separate cost elements (straight

rates) or group them into fewer charges (loaded rates). The method of billing depends on the agreement in the contract. Whatever the agreement, be sure it is followed in the field and in billing. For your own financial well being, you need a clear understanding of



every step of the process. For example, one contractor's labor rate for a senior engineer may be \$50 per hour while another may charge \$100 per hour. You should check to see whether the second contractor is quoting a loaded rate (that is, a rate that includes salary, fringe benefits, and overhead).

Fact Sheet 2, Negotiating the Contract, gives details on time-and-materials, fixed-price, and unit-price contracts. For fixed-price contracts, you negotiate the scope of the work and a fixed dollar amount to be paid for the completion of the work. For time-and-materials contracts, you pay for labor by the hour, not for the completed job. For unit-price contracts, you pay for individual work units.

Sorting Cost Elements

In order to understand the differences in billing procedures, you need to know what and how the contractor charges you. Most contractors calculate costs with the following charges in mind:

- Direct Labor: Employee salaries, not including benefits.
- Fringe (Employee) Benefits: Vacation, sick, and holiday time and sometimes insurance and retirement benefits. This cost is calculated as a percentage of direct labor.
- Other Direct Costs (ODCs): Equipment, supplies, travel, soil disposal, and other costs associated directly with the site assessment or cleanup. Refer to the contract to see if these expenses are included.
- Overhead: Rent, utilities, and phone bills associated with the operation of the facility where the contractor works. This cost is calculated as a percentage or a multiple of direct labor.
- General Administrative (G&A) Costs: Expenses associated with tasks necessary to run a business that are not billable directly to customers. For example, paying bills, preparing internal reports, and holding meetings. Sometimes these costs are included in overhead. G&A costs are often calculated as a percentage of direct labor, overhead, or other direct costs.
- Subcontractor Costs (When Appropriate): Costs for contractors who provide specific services under the direction of the main (prime) contractor. They include the subcontractor's general and administrative costs and profit percentage.

Using subcontractors always means added expense because the prime contractor increases his/her rates to cover the expense of hiring and managing a subcontractor. For example, your general contractor, hired to clean up a spill at your station, hires another group to remove the tank or haul soil from the site. Your bill for the removal from the general contractor will include charges for the contractor's finding and managing a subcontractor.

- Fee/Profit: Earnings from the contract to help the contractor recover the costs of investing in equipment. Typically figured as a percentage of all contractor costs, this charge may be negotiated to your advantage when working out the contract. For example, a contractor may be willing to reduce the fee for a big job or for one that requires only equipment they already have.
- Reported Costs: The total expenses incurred by the contractor, often reported as summary (loaded) costs. The extent of detail of the reported costs depends on how much detail you want the contractor to include. To help the State Fund Administrator understand and pay your claim, make sure reported costs are as detailed as your State Fund demands.
- Loaded Rates: The number calculated by adding together costs, such as salary, fringe benefits, and overhead. One contractor's loaded rates may include all three of these; another's may include these plus fees.

And Remember: The sooner a spill is cleaned up, the better. The longer you wait, the more the damage will spread and the more the cleanup will cost.

Fact Sheet 3 was developed by the Environmental Protection Agency's Office of Underground Storage Tanks in conjunction with State Fund Administrators. It is one of a series; the others are: Hiring a Contractor, Negotiating the Contract, Managing the Process, and Understanding Contractor Code Words. For copies of these fact sheets or more information, contact your State Fund Administrator for USTs and/or your State Underground Storage Tank program.

Controlling UST Cleanup Costs

Fact Sheet 4: Managing The Process

Playing Your Part

You are both a supervisor and a customer when managing a site assessment or cleanup. As a supervisor, you need to know how to get the best cleanup for your money. You can find this out by studying a copy of your State's regulations on Underground Storage Tank (UST) cleanups, which are available from your State UST program. Most States have a fund to help UST owners pay for cleaning up tank leaks. The fund is generally managed by the State Fund Administrator. Check with your State Fund Administrator to see if you're eligible to receive these funds and to learn about other requirements (for example, invoices).

As the supervisor, you manage the contractor; don't let the contractor manage you. Your contractors should have demonstrated their understanding of State UST regulations during the bidding process. But by knowing the regulations yourself, you can ensure that your cleanup will meet State standards and increase your chances of payment from the State Fund. You can help yourself even more by reminding the contractor to stick to the scope of work and by inspecting the site while work is being done as often as possible.

completed for the agreed upon price or some reasonable approximation of that price. Pay more attention to what's being done than to the rates being charged. Paying high rates for necessary work is more valuable than paying low rates for unnecessary work.

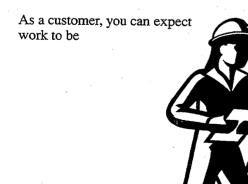
Keep an eye on tasks that contractors tend to overdo. Check with your State Fund or UST program to see if they limit the following activities:

- · Excavating and hauling soil
- · Sending soil and water samples to the lab for testing
- · Installing monitoring wells

Controlling Costs

As a supervisor and as a customer, you are responsible for keeping costs in line. When weighing the numbers:

• Know: What the State Fund for USTs will or will not pay for. Question the contractor on the need to perform certain tasks and on the prices for tasks.



- Check: With your State UST program to see if it has a schedule of reasonable rates for standard site assessment and cleanup procedures.
- Require: Contractors to get your written permission to perform tasks not included in the scope of work.
- Visit: The site regularly and question the need for onsite personnel and equipment, especially if they are not working. Make some unannounced visits.
- Investigate: New methods of treating soil on-site as opposed to hauling soil off-site for treatment or disposal. Your State UST program may have requirements about this.
- Account For: All costs and services and get dates on all invoices. Your State Fund Administrator may need dated forms and invoices to process your request for payment.
- Scrutinize: Your bill with your contractor. Compare the prices for projected work to the charges for completed work; make sure everything is justified.
- Make Sure: Expensive senior staff aren't doing work that less experienced staff could perform, for example, soil sampling. Ensure that staff with the necessary skills are carrying out the work.

Documentation

Ask the contractor to keep a daily log of activities that can be inspected upon request. This protects you from being overcharged, and it provides information for the State Fund Administrator should questions arise about your claims for payment.

Require invoices on a regular basis. Sit down with your contractor and go over the first invoice to make sure you both understand what is required. Feel free to ask your contractor to justify questionable charges. The need for good detailed invoices can't be overstated.

And Remember: The sooner a spill is cleaned up, the better. The longer you wait, the more the damage will spread and the more the cleanup will cost.

Fact Sheet 4 was developed by the Environmental Protection Agency's Office of Underground Storage Tanks in conjunction with State Fund Administrators. It is one of a series; the others are: Hiring a Contractor, Negotiating the Contract, Interpreting the Bill, and Understanding Contractor Code Words. For copies of these fact sheets or more information, contact your State Fund Administrator for USTs and/or your State Underground Storage Tank program.

Controlling UST Cleanup Costs

Fact Sheet 5: Understanding Contractor Code Words

Here are a limited number of definitions that are often used by contractors when they are cleaning up leaking underground storage tank sites. The definitions focus on cleanup technologies and terms associated with the chemical components of gasoline. The list does not currently include types of site investigation or cleanup equipment.

Activated Carbon Adsorption is a widely used method of cleaning groundwater. In it, particles of carbon are used to remove chemical compounds from water.

Air Sparging is a method of removing VOCs (see definition) from groundwater. Compressed air is forced through a well screen placed in the aquifer causing a bubbling effect in the groundwater. Contaminants in the groundwater are forced into the soils above the aquifer. These contaminants can then be removed by soil vapor extraction. Air sparging can enhance bioremediation.

Air Stripping is a method in which groundwater contaminated with petroleum is mixed with air. The mixing process removes the dissolved petroleum from the water by transferring it into the air. Local air pollution rules may prohibit using this method.

Aquifer is a water-bearing stratum (layer) of permeable rock, sand, or gravel.

Bioremediation is the natural process in which microorganisms (that is, bacteria) break down petroleum products in the soil. Enhanced bioremediation refers to the addition of microorganisms or chemicals to speed up the natural rate of breakdown of petroleum products in the soil.

BTEX is the abbreviation for Benzene, Toluene, Ethylbenzene, and Xylene, which are all chemical compounds in gasoline. Site investigations often measure the amount of these compounds in soil and groundwater; as such, they are often called indicator chemicals.

Free Product is the petroleum product that resides in the spaces between the soil particles or floats on top of the groundwater and is generally more accessible for removal or treatment.

Groundwater is the water within the earth that supplies wells and springs.

Incineration is the process of burning soils or sludges at a high temperature to destroy contaminants. Air pollution control devices are usually needed to comply with local or State regulations.

In-Situ means within place and is often used to refer to the location of activities (that is, in-situ soil treatment).

Land Farming is a method of removing petroleum compounds from soils. Contaminated soils are removed from the ground, spread over a given area, and periodically tilled to speed up the release of VOCs and breakdown of the contaminants.

Monitoring Well (Observation Well) is a hollow, perforated cylinder inserted into a special hole or boring in the ground for the purpose of obtaining ground-water samples.

MTBE is the abbreviation for Methyl Tertiary Butyl Ether, which is a blending agent added to gasoline.

Permeability is the quality or the state of being permeable (that is, of having pores or openings that permit liquids or gases to pass through). Sandy soils are permeable.

Plume is often used to describe the shape of the contaminated area, which is usually elongated. Delineating the plume refers to the act of determining the boundaries of the plume.

Recovery Well is a well installed for the purpose of pumping contaminated water or free product from an aquifer for treatment. Recovery wells are generally larger in diameter than monitoring wells.

Remediation is the process of cleaning up contamination.

Site Investigation is the process of confirming that a release of petroleum product has occurred; it can involve determining the extent of soil and ground-water contamination caused by that release.

Soil Borings are holes drilled in the ground to determine soil structure and/or to monitor for the presence of contaminants in the soil.

Soil Vapor Extraction draws (with a vacuum pump) fresh air into the ground and brings toxic contaminants up to the surface where they can be treated and safely discharged.

Soil Vapor Survey is a method used to collect and analyze volatile petroleum hydrocarbons from subsurface soils. Vapor samples are collected from a borehole using a hand or vacuum pump and analyzed in the field.

Soil Venting is a method used to remove gasoline vapors from soils without excavation. This method can be performed passively with vents that are open to the atmosphere or actively with the use of pressure or vacuum pumps.

TPH is the abbreviation for Total Petroleum Hydrocarbons. The level of TPH can be used to determine the amount of contamination at a site.

VOCs, Volatile Organic Compounds, are carboncontaining compounds that readily vaporize (that is, change from a liquid to a gas) at normal temperatures and pressures.

Fact Sheet 5 was developed by the Environmental Protection Agency's Office of Underground Storage Tanks in conjunction with State Fund Administrators. It is one of a series; the others are: *Hiring a Contractor, Negotiating the Contract, Interpreting the Bill,* and *Managing the Process.* For copies of these fact sheets or more information, contact your State Fund Administrator for USTs and/or your State Underground Storage Tank program.

For The Address And Telephone Number Of Your State UST Program Office

Visit EPA's Underground Storage Tank Web site at http://www.epa.gov/OUST/ and find it online. Or, call EPA's toll-free RCRA/Superfund Hotline at 800-424-9346.



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