



Leaking Underground Storage Tank Program

1999 Annual Report

Welcome

Risk-based cleanup objectives and a healthy UST Fund mean more tank owners and operators are remediating their sites and earning releases from liability. This year, the LUST Program issued 1,022 No Further Remediation letters to tank owners and operators -- a 26 percent increase from 1998 -- and paid reimbursement claims totaling \$36.3 million, up 29 percent from last year.

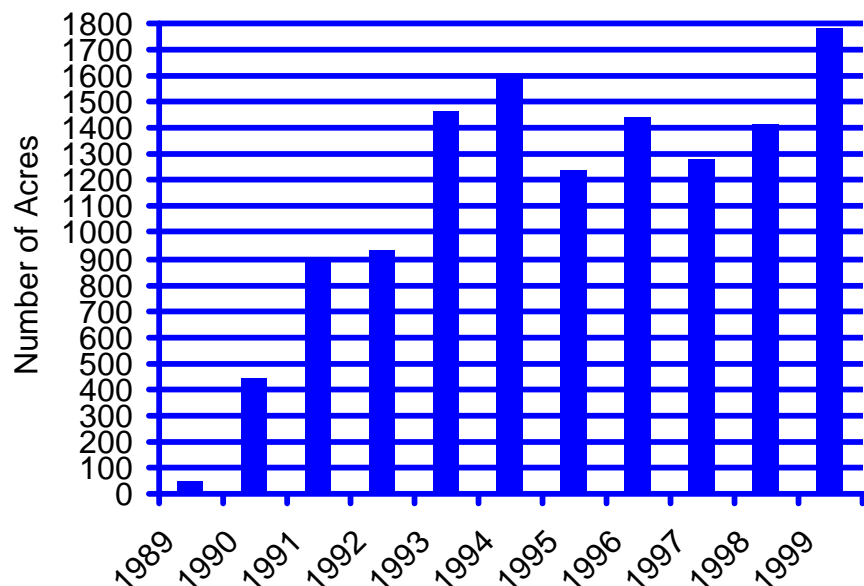
We are picking up the pace with information technology improvements as well. Most notably, we added the LUST database to our website so now anyone with access to the Internet can explore our database of reported tank leaks to find out the status of each investigation and cleanup.

Also in 1999, the LUST Program celebrated its tenth anniversary. In the past decade, tank owners and operators have reported over 19,000 tank leaks and spills, remediated over 8,000 LUST sites, and received more than \$325 million from the UST Fund to help pay cleanup costs. Who back in 1989 could have imagined such numbers?

I am delighted with the progress we have made and hope you'll share in our enthusiasm about the work ahead.

Thomas V. Skinner
Director, Illinois EPA

Number of Acres Remediated
Through the LUST Program
Per Year 1989-1999



The LUST Section measures its progress and effectiveness by calculating acres remediated. Since 1997, the total number of acres remediated has been on an increasing trend. The period from 1998 to 1999 not only maintained this trend, but shows a significant increase as compared to the previous two years.

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Workers drill a boring to collect soil samples.

Acronyms

BOL	Bureau of Land
EPA	Environmental Protection Agency
FOIA	Freedom of Information Act
HAA	Highway Authority Agreement
HP	High Priority
IAC	Illinois Administrative Code
IEMA	Illinois Emergency Management Agency
IEPA	Illinois Environmental Protection Agency
IPCB	Illinois Pollution Control Board
LCU	LUST Claims Unit
LP	Low Priority
LPC	Land Pollution Control
LUST	Leaking Underground Storage Tank
MOU	Memorandum of Understanding
MTBE	Methyl Tertiary-Butyl Ether
NFA	No Further Action
NFR	No Further Remediation
OBA	Office of Brownfields Assistance
OCS	Office of Chemical Safety
OSFM	Office of the State Fire Marshal
PE	Professional Engineer
TACO	Tiered Approach to Corrective Action Objectives
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank



Soil from a boring is ready for field screening.

Underground Storage Tank Program

Illinois has entered into a cooperative agreement with U.S. EPA in which the Illinois EPA and the Illinois Office of the State Fire Marshal (OSFM) administer a comprehensive underground storage tank program at the state level. The Illinois EPA administers the remedial investigation and corrective action portion of the state program and the state UST Fund reimbursements, while the OSFM administers the preventive side of the program. The Illinois EPA LUST Section staff review the technical adequacy of site classification plans and budgets as well as corrective action plans and completion reports. This includes the development of the appropriate remediation objectives for each site. Once the site has met its remediation objectives and program requirements, the Illinois EPA issues a “No Further Remediation” (NFR) letter for the LUST incident. LUST staff perform site visits as needed. Illinois EPA staff also review and process claims for reimbursement from the UST Fund for corrective action costs.

In most cases, the OSFM is already involved with a site when a release is reported to the Illinois Emergency Management Agency (IEMA). The OSFM regulates daily operation and maintenance of UST systems, including oversight for tank removals. The OSFM may provide helpful information to the LUST Section when questions arise concerning suspected releases, potential threats to human health and the environment, and site conditions upon tank removal.

Federal rules required owners and operators of existing tanks (installed before December 22, 1988) to have spill protection, overfill protection, and corrosion protection by December 22, 1998. Tank owners and operators could either choose to add spill, overfill and corrosion protection or to properly remove, abandon, or replace the existing UST by December 22, 1998. The OSFM administers the UST upgrade requirements in Illinois, where approximately 30,000 known existing tanks are subject to the regulations. In addition to issuing permits, conducting UST system inspections, and supervising tank removals, the OSFM determines UST Fund eligibility and deductibility for tank owners and operators. Since the regulations tend to overlap between the OSFM and the Illinois EPA, continued communication between the two agencies is crucial for effective implementation of the state program.



UST contractors remove a tank.

Organization

Located within the Illinois EPA's Bureau of Land, the LUST Section is one of three sections in the bureau's Division of Remediation Management. Currently, the section is composed of thirty-eight project managers, who are grouped into five units. Each unit is lead by a manager who, in turn, reports to the section manager.

LUST Section project managers are assigned projects on a rotating basis. This means not all LUST sites have an Illinois EPA project manager assigned to them; project managers are assigned as reports are received.

Assigning LUST sites on a rotating basis gives project managers a broad-based knowledge of every region of the state. The regions vary, for example, in different geologic and hydrogeologic conditions.

For Your Information

The LUST Section places a project manager on call every day to answer questions about the LUST program and LUST sites. The number to call is 1-217-782-6762 or toll free 1-888-299-9533.

The LUST Section's Incident Database is now available on the Illinois EPA's website for information about the status of LUST sites. The Internet address is: <http://ust.epa.state.il.us/search.asp>.

Statutory and Regulatory Authority) Program

In 1984, Subtitle I of the Federal Resource Conservation and Recovery Act (RCRA) called for the development and implementation of a regulatory program for 1) underground storage tanks containing regulated substances and petroleum, and 2) releases of these substances into the environment. In 1986, Congress amended Subtitle I to incorporate a federally funded underground storage tank program to address releases from petroleum underground storage tanks. In 1987, the Illinois General Assembly enacted a law developing a state program to meet the objectives of the proposed federal underground storage tank program.

The LUST program obtains its statutory authority from the 415 Illinois Compiled Statutes 5/57, more commonly known as Title XVI: Petroleum Underground Storage Tanks of the Environmental Protection Act. The LUST program's regulatory authority comes from 35 Illinois Administrative Code Parts 731, 732, and 742. The Part 731 regulations have been in effect since 1989. Title XVI was signed into law on September 13, 1993; the Part 732 regulations were adopted on September 23, 1994, and amended on July 1, 1997. Illinois rules and regulations meet the minimum requirements of the federal LUST rules and regulations. Part 742, a Tiered Approach to Corrective Action Objectives (TACO), was adopted on July 1, 1997. TACO is a risk-based method to develop cleanup objectives for contaminated soil and groundwater.

Owners and operators who report a release from a hazardous substance UST must comply with the Part 731 regulations. Owners and operators who report a petroleum UST release before September 13, 1993 may continue to follow the Part 731 regulations ("old law") or may choose to comply with Title XVI and the Part 732 regulations ("new law") by informing the Illinois EPA in writing of their choice. Owners and operators who report a petroleum UST release on or after September 13, 1993 must comply with Title XVI and the Part 732 regulations. Owners and operators of leaking USTs are encouraged to use TACO regardless of when they reported the tank release.



The proximity of the white brick building has complicated tank removal.

Tank Owner and Operator Requirements Program

Owners and operators who report new petroleum UST releases to IEMA must meet the requirements of 35 Illinois Administrative Code Part 732: Petroleum Underground Storage Tanks. Once notified of the release by the IEMA, the LUST Section sends a technical forms packet to assist owners and operators in complying with the reporting requirements. By law, LUST Section Project Managers have 120 days to review and approve, modify, or deny all plans, budgets, and reports (except 20 and 45 Day Reports, for which there is no deadline for review). Below is a chronological explanation of the required reports, plans, and certifications.

20 Day Report: This is a one-page certification form specifically provided in the technical forms packet. The owner and operator must certify that the listed items on the form are true, then submit the form to the LUST Section within 20 days of the reported release. This certification is to assure that all immediate threats to human health have been mitigated.

45 Day Report: Required to be submitted within 45 days of the reported release date, the 45 Day Report must contain information about the site and the nature of the release, including information gained during initial abatement measures.

Free Product Removal Report: When conditions at a site indicate the presence of free product (free product means petroleum not dissolved in water), the owner or operator are required to remove as much free product as possible and to submit a report within 45 days of confirming the presence of free product. This report documents actions taken to remove free product and must be submitted for each occurrence of free product.

Site Classification Plan/Budget¹: A proposal for activities to classify a site in accordance with the Part 732 regulations must be submitted to the LUST Section for approval. Owners and operators must classify the UST release into one of three categories: No Further Action, Low Priority, or High Priority. The site classification determines the type of corrective action, if any, that will be necessary.

Site Classification Completion Report: Upon completion of site classification activities, this report and a Professional Engineer Certification must be submitted for the site to be classified. Upon approval of a No Further Action classification, the owner and operator will receive a “No Further Remediation” letter. For Low Priority and High Priority classifications, additional plans and reports are required.

Low Priority Groundwater Monitoring Plan/Budget¹ or High Priority Corrective Action Plan/Budget¹: Depending on the site classification, the owner and operator must submit a plan for additional action. The Low Priority Groundwater Monitoring Plan will propose a plan to monitor the groundwater at the site for a period of three years. The High Priority Corrective Action Plan will propose some type of corrective action to remediate the site.

Groundwater Monitoring Report: For Low Priority sites only, an annual report must be submitted documenting groundwater monitoring activities.

Corrective Action Completion Report and Professional Engineer Certification: This report describes the corrective action performed, contains sampling results, and must be accompanied by a Professional Engineer Certification. An owner and operator may request an NFR letter upon completion of groundwater monitoring for a Low Priority classification, the completion of the required remediation for a High Priority classification, or after completing remediation without classification².

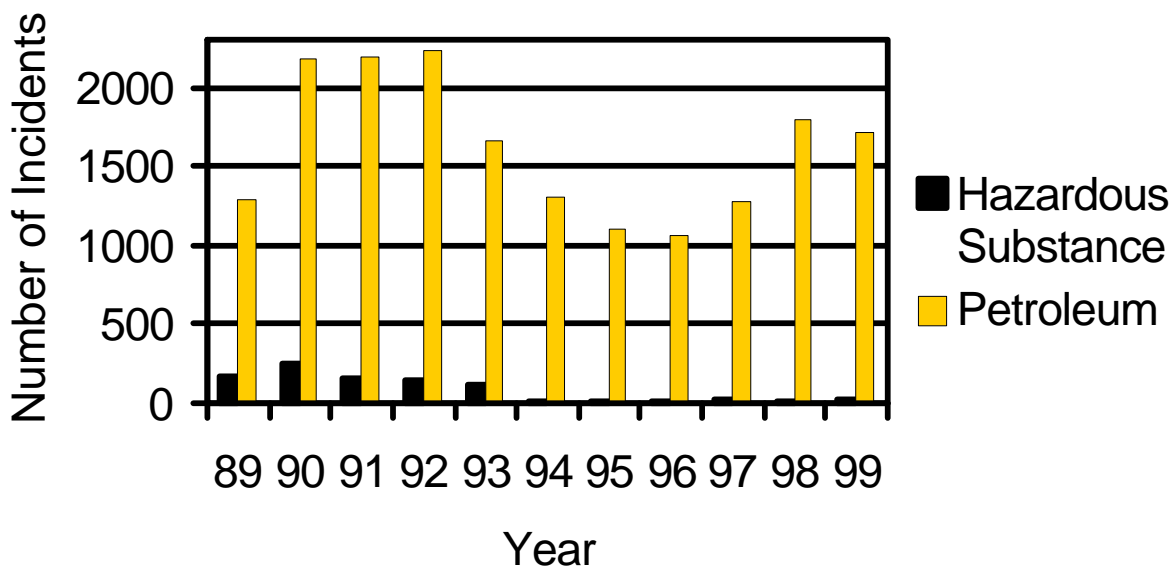
¹A budget is not required if the owner or operator does not intend to seek reimbursement.

²Pursuant to 35 Illinois Administrative Code 732.300(b)(1), an owner or operator may choose to remediate soil and groundwater in accordance with the remediation objectives in 35 Illinois Administrative Code Section 732.408 without conducting site classification. However, if site classification is not conducted in accordance with the procedures established in 35 Illinois Administrative Code Part 732 and Title XVI of the Act, the owner or operator may not be entitled to full payment or reimbursement from the UST Fund, if a request for reimbursement is submitted.



The plastic bailer on the right shows free product floating on top of contaminated groundwater. Bailers are used to collect groundwater samples from monitoring wells.

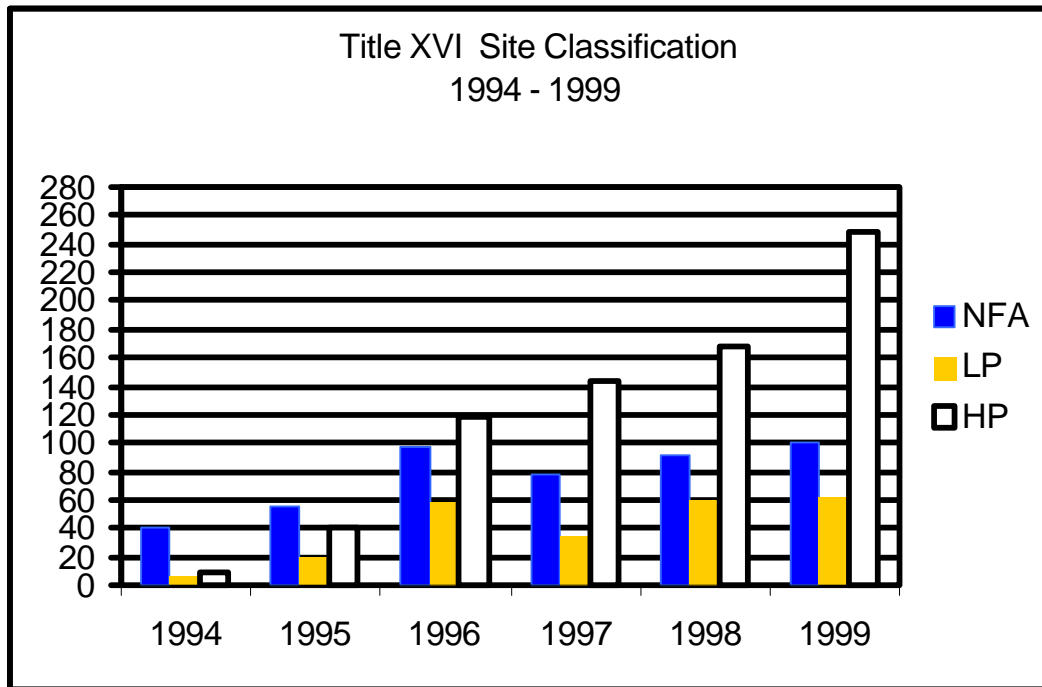
Petroleum & Hazardous Substance LUST Incidents Per Year 1989 - 1999



LUST sites are properties where petroleum or hazardous substances have leaked from underground storage tanks and the tank owners and operators have notified the Illinois Emergency Management Agency. After reaching a five-year high in 1998, the number of incidents decreased slightly in 1999.



This excavated tank shows how a few small leaks can cause a big problem.



NFA: No Further Action. Sites not required to do additional corrective action beyond early action activities.

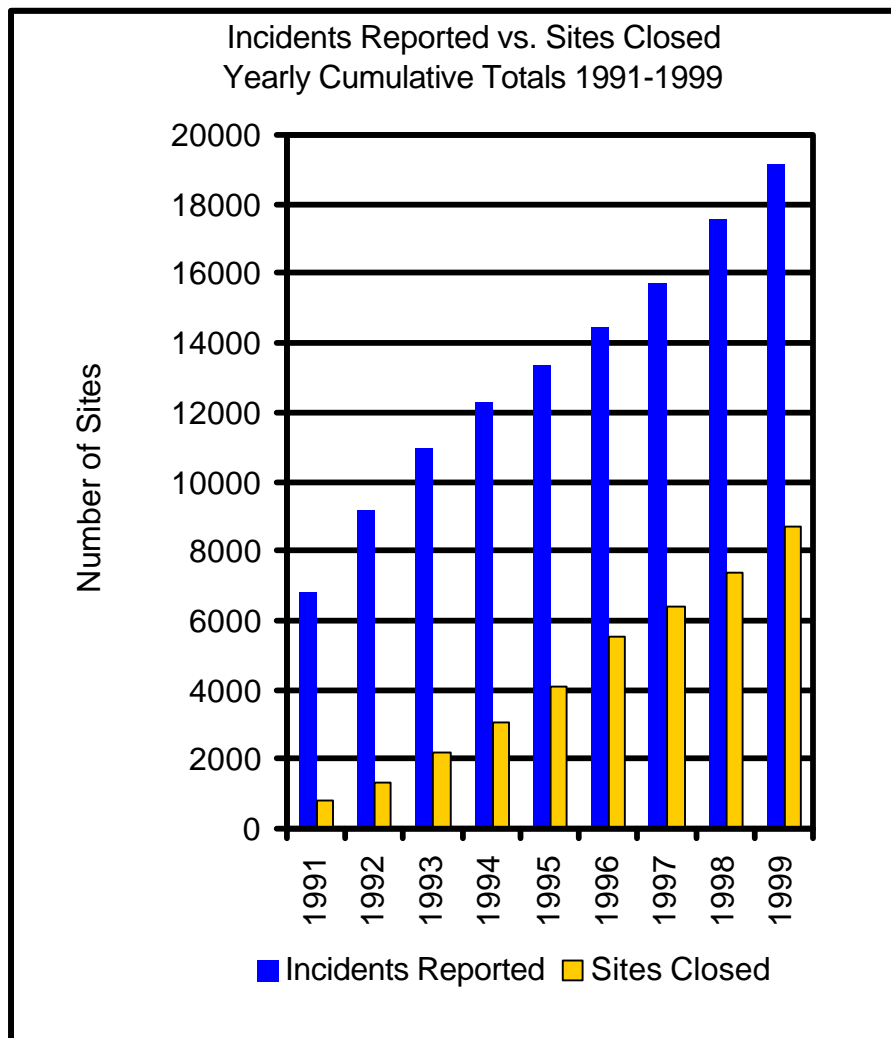
LP: Low Priority. Sites failing NFA status due to geology only, and consequently required to monitor the groundwater for three years.

HP: High Priority. Sites failing NFA and LP status due to an existing high risk condition that consequently requires remediation.

The number of HP sites have steadily increased compared to NFA and LP classifications. The introduction of Classification by Exposure Pathway Exclusion (Method 3) to the Part 732 regulations in 1997 helped link LUST classification activities to TACO. The use of Method 3, which results in either an NFA or HP classification, may explain the 21 percent and 47 percent HP increases from 1997 to 1998 and 1998 to 1999, respectively.



Groundwater in this tank excavation pit shows a petroleum sheen.



The cumulative total of sites closed includes those issued NFR letters, sites transferred to other remediation programs, and sites determined to be not regulated by the LUST program.

The UST Fund

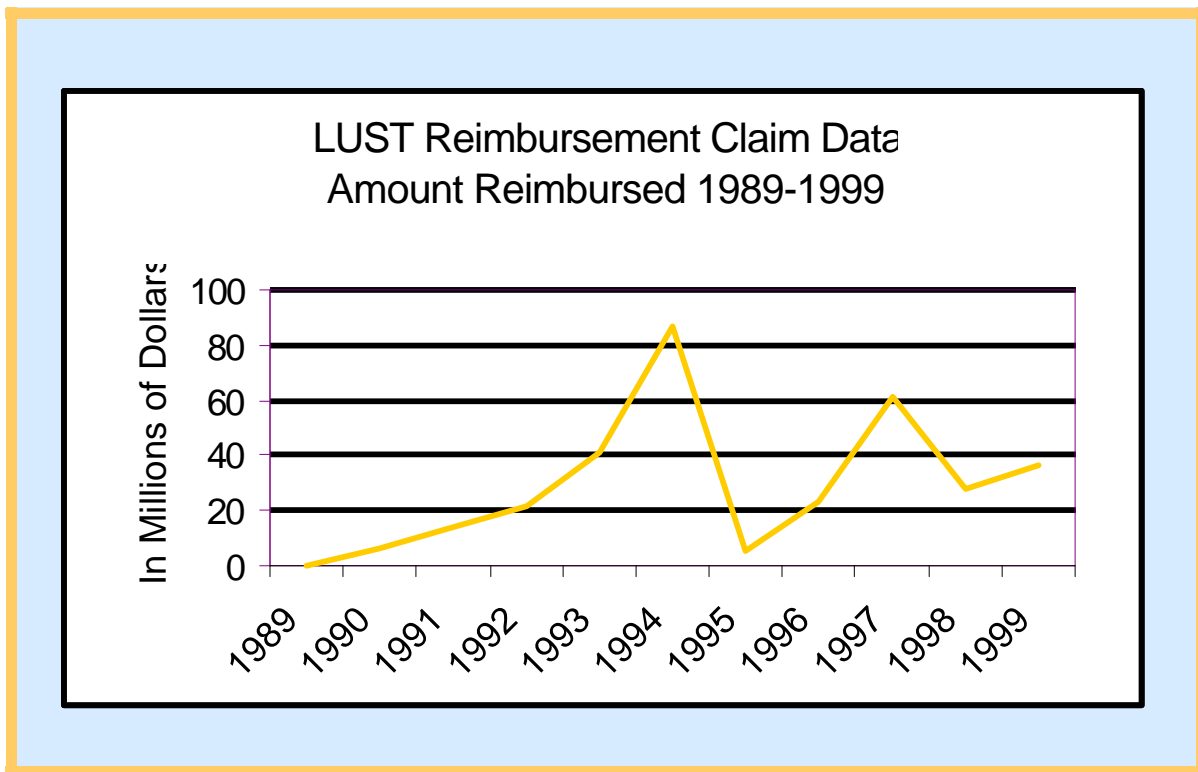
Federal regulations require petroleum underground storage tank owners and operators to demonstrate the financial ability to remediate tank releases and to pay for damages to third parties. Federal UST regulations allow, but do not require, states to establish publicly financed UST funds. Illinois chose to set up such a fund to help tank owners and operators pay for cleaning up leaks from petroleum underground storage tanks.

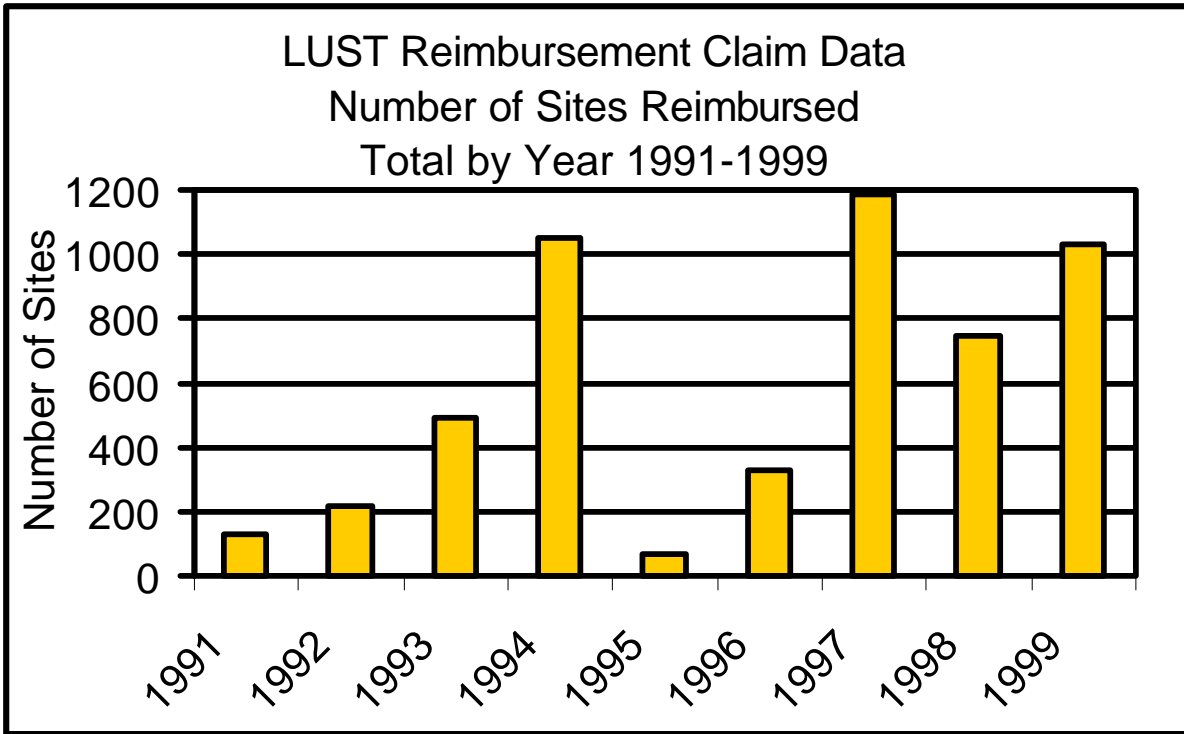
Since its inception in 1989 and through the end of 1999, the fund has reimbursed 8,955 claims for a total of \$328 million. Illinois generates money for the fund through a \$.003 per gallon motor fuel tax and an \$.008 per gallon environmental impact fee. However, the motor fuel tax and environmental impact fee are due to expire in 2013 and 2003, respectively.

The LUST Claims Unit reviews costs submitted by eligible tank owners and operators seeking reimbursement from the UST Fund to determine if the costs are:

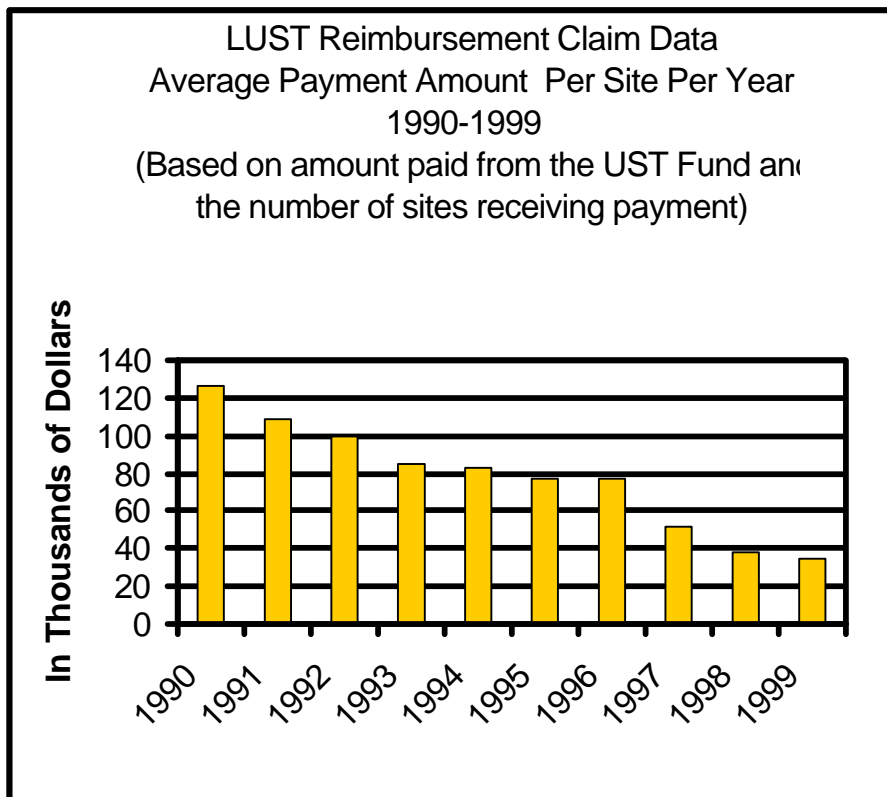
1. Consistent with the associated technical plan;
2. Associated with corrective action activities and materials or services provided or performed in conjunction with corrective action activities; and
3. Reasonable and do not exceed the minimum requirements of the Environmental Protection Act and the regulations.

During 1999, the Illinois EPA received 1,961 LUST reimbursement claims worth \$62.3 million. Of these, the Illinois EPA paid 1,555 claims worth \$36.3 million. As LUST claim data suggest, underground storage tank owners and operators are being reimbursed promptly, allowing sites to be cleaned up more quickly and with fewer disruptions to owners and operators and their businesses.





The increase in number of sites reimbursed in 1994 and 1997 corresponds to increases in UST Fund revenues. A bond issuance passed in September 1993, and the Environmental Impact Fee took effect on January 1, 1996. The rise in 1999 compared to 1998 is in large part due to staff expansion of the LUST Claims Unit.



The dollar amounts represent the average payment made from the UST Fund per site for a given year. Owners and operators may receive payments for a given site in multiple years. Therefore, the average payment amounts shown do not represent the total average remediation cost per site. The annual average cost of cleanup per site has been reduced nearly \$100,000 over the past 10 years. The decline in cost since 1997 is attributed to TACO.

Tiered Approach to Corrective Action Objectives

The primary goal of remediation is to manage contamination to prevent harm to human health and the environment. Part 742, the Tiered Approach to Corrective Action Objectives (TACO), provides more flexibility in the development of cleanup objectives by allowing the use of a risk-based, site-specific approach. These cleanup objectives protect human health while taking into account site conditions and land use scenarios.

TACO has three tiers that are generally progressive in the amount of site information required. However, these tiers need not be used in succession. There are also options available in TACO for exposure pathway exclusion and background level determinations.

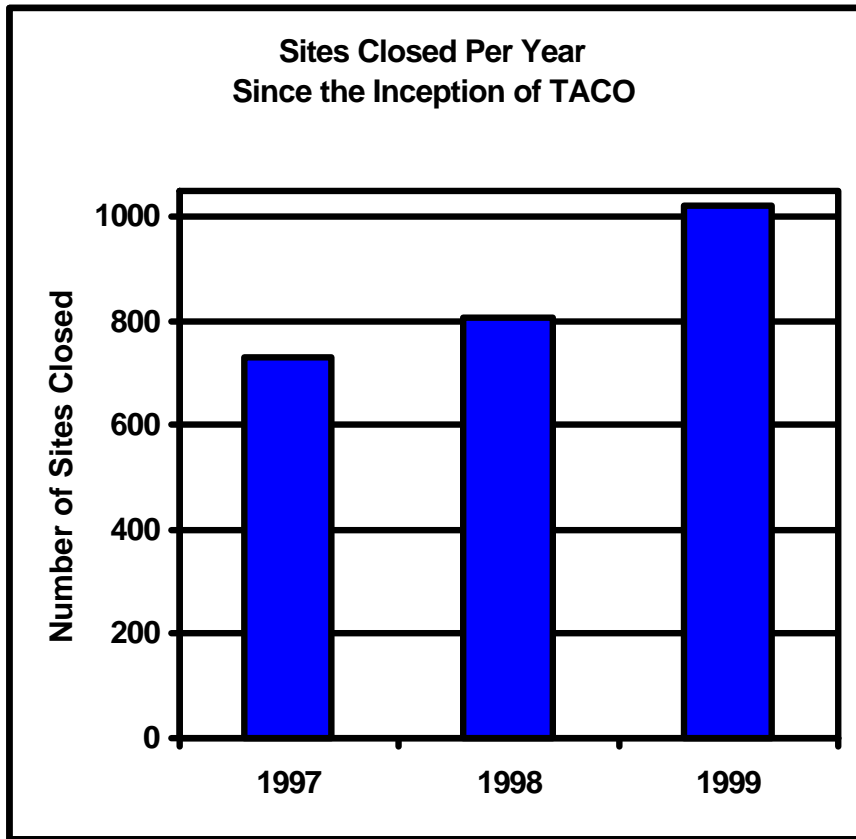
The first tier of TACO contains a series of look-up tables based on land use, pathways of concern, groundwater class, and in some cases, soil pH. Tier 2 provides the user with the equations that were used to develop the Tier 1 objectives, and allows for the modification of certain input values based on site specific information. Because Tier 1 uses conservative

default values, Tier 2 may generate objectives better suited to actual site conditions. Tier 3 encompasses a wide variety of situations which cannot be addressed under either of the first two tiers. Such situations may include physical or mechanical restrictions on remediation, formal risk assessments, common sense applications, or alternative models for developing objectives.

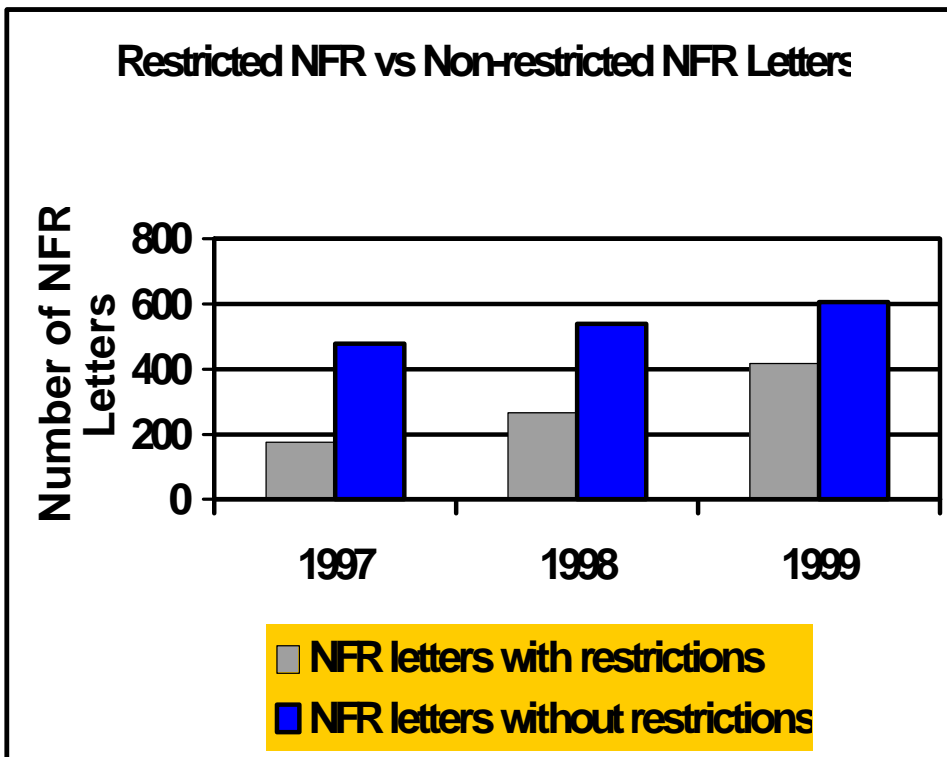
TACO applies to LUST sites proceeding under either Part 731 or 732. Under Part 731, TACO may be used to develop objectives for sites conducting remediation. In Part 732, TACO is used by LUST sites classified as High Priority or sites electing to pursue remediation outside of the classification system [Sections 732.300(b)(1), 732.400(b), or 732.400(c)]. The exposure pathway exclusion option in TACO has been incorporated as Method 3 for site classification within Part 732.



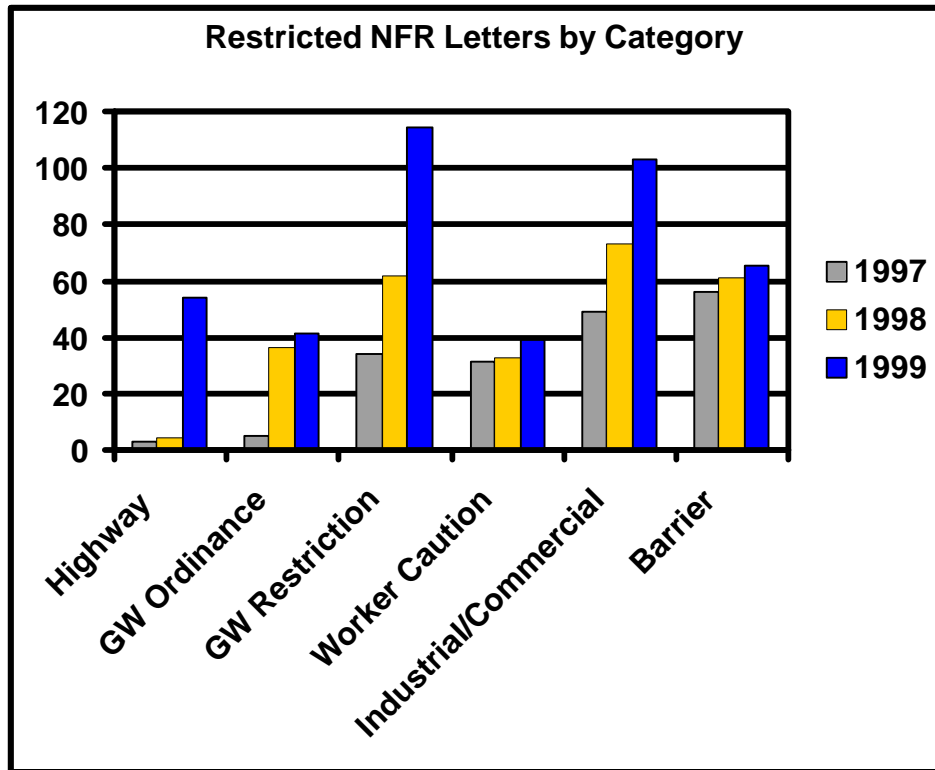
A cleanup contractor installs a groundwater treatment system.



Since the inception of TACO, there has been a steady rise in the number of sites receiving NFR Letters. The total number of sites being issued NFR Letters by the LUST Section has increased by approximately 26 percent from 1998 to 1999 and by 40 percent since 1997.



A **Restricted NFR Letter** contains institutional controls to prevent potential exposure to remaining contaminants. An institutional control is a legal mechanism for imposing land use limitations, such as through a deed restriction or local ordinance. A **Non-Restricted NFR Letter** contains no site-specific restrictions. The decision to impose restrictions or remove the remaining contamination is up to tank owners and operators. The total number of NFR letters issued with restrictions has increased by nearly 120 percent since 1997. In 1997, 25 percent of NFR Letters were issued with restrictions, while in 1999 40 percent contained restrictions. Only 20 percent of the increase in NFR Letters was attributed to those issued without restrictions in 1999.



These restrictions are used to prevent potential exposure to remaining contaminants and may be used in combination.

Highway Agreement: A highway authority agreement prohibits the use of groundwater and limits access to soil contamination under a highway right-of-way.

GW Ordinance: A groundwater ordinance, adopted by local government, prohibits the installation and use of potable water supply wells, usually within the entire community.

GW Restriction: A groundwater restriction prohibits the installation and use of potable water supply wells, usually at the site. Restrictions may also include restrictive covenants for other properties that may have been impacted by the site release, and would, therefore, prohibit groundwater use offsite in place of a local ordinance.

Worker Caution: A worker caution requires a safety plan for the site to be implemented in the event of any future excavation and construction activities that may occur within the contaminated soil.

Industrial/Commercial: An industrial/commercial restriction prohibits residential use of the site.

Barrier: Engineered barriers block the exposure pathway and may include asphalt paving, concrete, permanent structures, or clean soil. An engineered barrier must be properly maintained to prevent the inhalation or ingestion of the contamination.

LUST Brownfields

Brownfields are abandoned or under-used industrial and commercial properties with actual or perceived contamination and an active potential for redevelopment. The most common brownfield properties are closed gas stations.

To boost cleanup and redevelopment opportunities for abandoned sites with underground storage tanks, the Illinois EPA integrates its LUST and brownfields assistance programs. Besides offering risk-based cleanup objectives, NFR Letters, and reimbursement of cleanup costs under the state UST Fund, Illinois EPA provides considerable technical support to tank owners and operators and local governments interested in revitalizing old gas station properties.

Municipalities are also eligible for up to \$120,000 each in state brownfields redevelopment grants to pay for site assessments and the development of remedial action plans. In 1999, Illinois EPA awarded brownfields grants to 16 communities.

Three communities are using brownfields grant dollars to assess abandoned underground storage tank sites:

- **Effingham**
- **Farmington**
- **Macomb**

Six communities are using brownfields grant dollars to conduct area wide investigations that include *both* underground storage tank and hazardous waste sites:

- **Alton**
- **Freeport**
- **LaGrange**
- **North Chicago**
- **Peoria**
- **Waukegan**

The remaining seven communities are using brownfields grant dollars to investigate hazardous waste sites.

Also in 1999, the Illinois EPA published a guide called *Brownfields Properties with Underground Storage Tanks* to help brownfields redevelopers and reluctant tank owners and operators evaluate cleanup potential, maximize use of the UST Fund, and resolve liability concerns.



It may look quaint, but closed gas stations like this one can cause environmental and economic problems for local communities. Besides potential soil and groundwater contamination, LUST brownfields may cause injury because of dilapidated buildings; attract open dumping, vandalism, and criminal activity; reduce local employment opportunities and tax revenues; and lower surrounding property values.

Outreach

In 1999, the LUST program expanded its outreach efforts by publishing the following documents on the Internet:

- **[Incident database](#)**, containing more than 19,000 records of reported releases from underground storage tanks in Illinois. The database may be searched by the six-digit (eight-digit beginning in 2000) IEMA incident number (IEMA #), the 10-digit Illinois Environmental Protection Agency identification number (LPC #), the site name, address, city, ZIP code, or any combination of these. The information entered does not have to be exact or complete, though users may want to enter as much information as possible to narrow their search.

The information available on the incident database for every LUST release includes: correspondence received and generated by the Illinois EPA; whether an NFR letter was issued by the Illinois EPA; and the type of institutional controls, if any, applied to the site. The database is updated once weekly.

- **[Program forms](#)** to assist tank owners and operators in complying with the reporting requirements. For a description of the forms, refer to *Tank Owner and Operator Requirements* in this report.
- **[Frequently Asked Questions about LUSTs](#)**. This document answers questions about where the program requirements come from, the legal definition of an underground storage tank, whether a tank is regulated by the Illinois EPA, liability issues, what activities are reimbursable, and more.

Other publications available in either printed or electronic form include the following documents:

- **[Brownfields Properties with Underground Storage Tanks](#)**
September 1999

This booklet answers frequently asked questions about abandoned commercial properties with underground storage tanks, such as:

What should I do if I am interested in redeveloping a property with underground storage tanks?
Can the UST Fund be used for brownfield cleanup and redevelopment?
Can I buy a piece of property with leaking underground storage tanks?

- **[The LUST Program: 1998 Annual Report](#)**
March 1999

The 1998 report summarizes the most significant activities for that year.

- **[An Introduction to Leaking Underground Storage Tanks](#)**
April 1998

The LUST Section expanded this booklet, first published in 1993, to include a new section on TACO and more detailed information about tank owner and operator reporting requirements.

- **[Guide to the Illinois Underground Storage Tank Fund](#)**
March 1998

The LUST Section wrote the UST Fund Guide to help navigate tank owners and operators through the reimbursement process.

Additional outreach efforts provided by program staff throughout the year include:

- Participation in the Annual Illinois All Cities Brownfield Conference, held twice a year in Brookfield and Alton. Program staff assisted public officials with questions and concerns related to abandoned gas stations in their communities.
- Participation in the Nuts and Bolts of Brownfields, held in Chicago, where a LUST Section representative provided an overview of Illinois' risk-based, site-specific approach to remediation of contaminated sites.
- Attendance at the monthly meetings of the Consulting Engineers Council of Illinois where a LUST Section representative provides a status of the program and an update on changes to the regulations.

Where to Go for More Information

For questions about reported LUST releases; the review of plans, budgets and reports; and, LUST remediation and regulatory requirements:

Illinois Environmental Protection Agency

Leaking Underground Storage Tank Section
1021 North Grand Avenue East
Springfield, Illinois 62794-9276
Phone: 217-782-6762 Toll Free: 1-888-299-9533
Fax: 217-524-4193
Internet Address: www.epa.state.il.us/land/underground-storage-tanks/index.html

For questions about reimbursement claims or billing questions: **LUST Claims Unit** at 217/782-6762.

To obtain copies of records on specific LUST sites: Illinois EPA **Freedom of Information Act** Unit at 217-782-9878 or OSFM at 217-785-5878.

To report environmental complaints (other than LUSTs) questions: **IEPA Field Office** at 217-786-6892.

For questions about tank installations, upgrades or removals; leak prevention or detection; above ground storage tanks; complaints about suspected tank releases; financial responsibility requirements; and, eligibility and deductibility for the UST Fund:

Office of the State Fire Marshal

Division of Petroleum and Chemical Safety
1035 Stevenson Drive
Springfield, Illinois 62703
Phone: 217-785-5878
Internet Address: www.state.il.us/osfm

To report releases from a LUST: **Illinois Emergency Management Agency** at 217-782- 7860.

To obtain copies of environmental regulations for LUST and TACO: **Illinois Pollution Control Board**
Phone 217-524-8500 Internet Address:
www.ipcb.state.il.us.

The Future

Illinois EPA is working on ways to make the LUST regulations more efficient and easier to understand for tank owners and operators and their consultants. Among the proposed changes are amendments to allow Licensed Professional Geologists to have a more active part in certifying work that has been done; clarifying when a groundwater investigation is required; and allowing for an electronic format for submittal of plans and reports to the LUST Program.

Methyl tertiary-butyl ether (MTBE) will be proposed to be added as an indicator contaminant for gasoline in Part 732, the petroleum underground storage tank regulations, and simultaneously proposed to be added to the Tier 1 objectives in Part 742, the Tiered Approach to Corrective Action Objectives. MTBE is a gasoline additive used as a fuel oxygenate.

Illinois EPA will continue to expand the LUST Program web site. Scheduled for Internet posting are:

- A feature to download the LUST Incident Database as one file
- Budget and Billing Forms
- Reimbursement information
- More TACO information, such as model documents for highway authority agreements and groundwater ordinances.

Illinois EPA expects to introduce a Geographic Information System (GIS) to its web site as well. The LUST Program is prepared to take advantage of GIS capabilities and intends to apply the system to its large LUST Incident Database. This would enable, for example, every UST release to be plotted on a map. There is no timetable set for adding GIS to the website.

At the 2000 U.S. EPA National UST/LUST Conference, Illinois EPA will confirm its role as a national leader in the cleanup and redevelopment of LUST brownfields by joining Utah and New Hampshire in presenting a workshop on abandoned underground storage tanks.

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