



UST Program Facts

Leaking Underground Storage Tank Cleanup

Why tanks leak

Until the 1980s the design, installation, and operation of most underground storage tank (UST) systems made them prone to leaks, spills and overfills. Steel tanks and piping corroded. Poor installation and overfilling caused many other releases.

How leaks were detected in the past

Many leaks went undetected until drinking water wells were contaminated or fumes filled a basement, posing serious risks to human health, safety, and the environment.

The challenge to respond to leaking USTs quickly

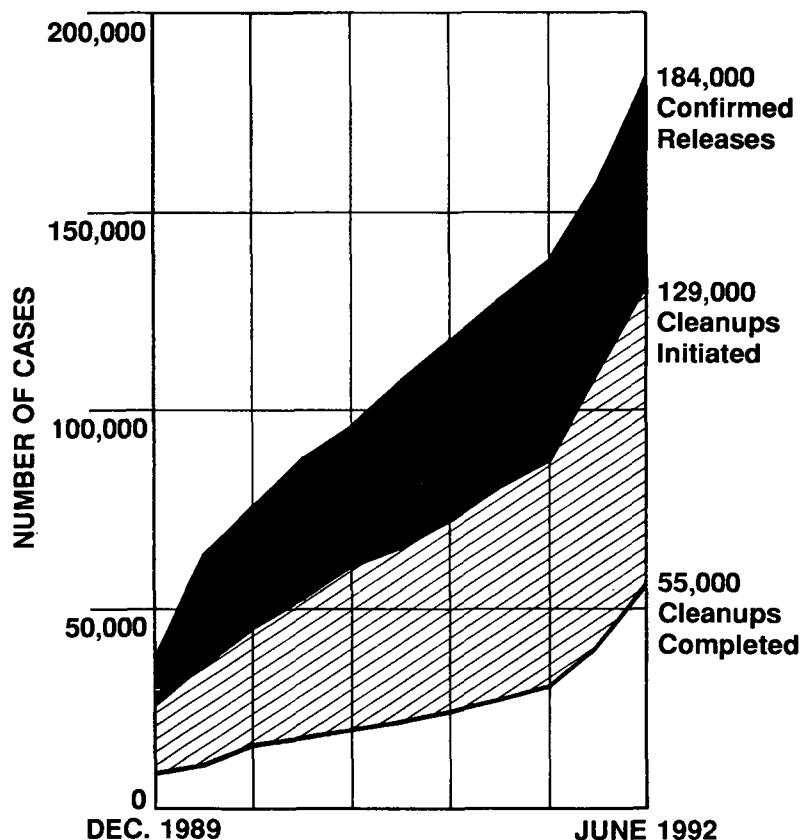
Local, state, and federal governments want owners and operators to prevent new releases by replacing old, unsafe tanks with more protective equipment. As of October 1, 1992 nearly 184,000 releases have been confirmed, and the number of confirmed releases is expected to grow at a rate of about 50,000 sites per year until it levels off at a total of about 320,000 sites.

Risks from UST releases

About 90 percent of regulated USTs hold petroleum. When petroleum and similar products leak from an UST or its piping they contaminate the soil around and below the tanks:

- Liquids may travel downward through soil to pollute groundwater, a source of drinking water for about half of all Americans.
- Vapors from leaking volatile liquids can also accumulate in basements, sewers and utility

National Corrective Action Activity



conduits, sometimes causing fires and explosions.

- Breathing these vapors can pose a long-term health threat because they may contain harmful substances such as benzene, a carcinogen.

Cleanups are needed to protect human health and safety and to preserve drinking water supplies.

Development of the cleanup program

In 1984 and again in 1986 Congress passed UST legislation that now comprises Subtitle I of the Resource Conservation and Recovery Act. The law directed EPA to establish programs that would prevent new releases and help to clean up old ones. Part of this job was writing regulations that spelled out how tank owners and operators should respond to a release, including:

- reporting a release,
- removing its source,
- mitigating fire and safety hazards,
- investigating the extent of the leak,
- cleaning up soil and groundwater as needed to protect human health and the environment.

EPA developed these regulations, and the program as a whole, to be flexible, to foster innovation, and to be implemented from the start by state and local agencies. Every state and many local governments now have active UST cleanup programs.

Challenges of a growing cleanup caseload

Tank owners and operators, and sometimes government agencies, have completed about 55,000 corrective actions (see illustration). However, releases have been reported at a rate of almost 1,000 per week over the last two years – over three times faster than they have been cleaned up.

Cleanup program staff have to oversee increasing caseloads of active cleanups, usually conducted by cooperative tank owners, their contractors, and consultants. At the same time, they face increasing backlogs of sites awaiting a response and additional demands for guidance and oversight.

The increase has adverse impacts on the environment, and the economy, as well as the programs themselves:

- Sites with releases in the planning stages of corrective action and those awaiting a response gradually become more difficult and costly to clean up.
- Delays in the cleanup process disrupt businesses and make cleanups less affordable for many owners, particularly small businesses and small communities.
- Regulators have difficulty performing the inspections, approving the plans, and reviewing the reports they usually use to follow progress at sites.

Streamlining and new technologies

One of EPA's top priorities in the tank program is to help state and local governments make cleanups faster, cheaper, and more effective. As a part of this effort, EPA staff and consultants encourage states to streamline cleanup oversight processes:

- They show state managers and staff how to use flowcharts and performance indicators to document and analyze their program.
- They teach Total Quality Management techniques to help identify delays and other opportunities for improvement.
- They support state managers' and staff's efforts to: develop guidance materials; design process changes to reduce delays and paperwork; provide needed training; host "consultants days" where better communication with those who plan and perform cleanups improves the quality of their work; and make other improvements.

The main objective of streamlining projects is broader, however: to motivate, enable, and assist states to continue making many other improvements on their own.

EPA is also working to promote the use of creative site assessment and cleanup technologies in cooperative efforts with contractors, consultants, tank owners, and states. Even though some promising techniques – such as field measurement methods, air sparging, and soil vapor extraction – have proven advantageous in field applications, they are not yet widely used across the country. EPA is using a variety of research, training, demonstration, and outreach projects to

increase the acceptance and use of technologies that can help make cleanups faster, less costly, or more effective.

Signs of progress

By streamlining cleanup oversight processes and promoting wider use of more effective technologies for site assessment and cleanup, leading states have begun making improvements, some of them dramatic:

- With EPA's support, leading states have already cut delays in permitting, site assessment, corrective action, and reimbursement processes.
- States are providing better guidance to consultants and contractors, and are improving the quality of needed plans and reports, speeding up the work, and cutting paperwork costs.
- A few programs are making promising revisions to their corrective action processes that allow simple cleanups at low-risk sites to proceed more quickly with better guidance and reduced oversight.
- As training and demonstration projects progress, technologies such as field measurement techniques, soil vapor extraction, and bioremediation are gaining wider acceptance in some states.

These early successes have confirmed that EPA's approach to addressing the cleanup backlog can work, but they do not guarantee success. That will take time and the sustained commitment of more UST programs and other stakeholders in the cleanup process, from tank owners and consultants to managers of other programs, such as state assurance funds and those permitting cleanups. Success will also require that all stakeholders remain open to change, take some risks, and work cooperatively. EPA is committed to support these efforts and to help meet the challenges of UST cleanups.

Leaking Underground Storage Tank Cleanup is one in a series of fact sheets about underground storage tanks (USTs) and leaking USTs. The series is designed to help EPA, other federal officials, and state authorities answer the most frequently asked questions about USTs with consistent, accurate information in language the layperson can understand. Keep the fact sheets handy as a resource. This fact sheet addresses federal regulations. You may need to refer to applicable state or local regulations, as well. For more information on UST publications, call the RCRA/Superfund Hotline at 800 424-9346.