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Solid Waste and Emergency Response (5403W)

EPA

Risk-Based Decision-Making

A New Approach to UST Corrective Action

The UST Corrective Action Program

Under Subtitle I of the Resource Conservation and Recovery Act, Congress directed the U.S. Environmental Protection Agency (EPA) to establish regulatory programs that would prevent, detect, and clean up releases from underground storage tank systems (USTs) containing petroleum or hazardous substances. The UST regulations that EPA issued in 1988 established a number of corrective action requirements for UST owners and operators, including the requirement to clean up soil and groundwater as needed to protect human health and the environment.

EPA developed the UST regulations to be flexible and to be implemented by state and local agencies. To give states the latitude to tailor their corrective action programs to meet their needs and circumstances, EPA's regulations do not specify cleanup levels or administrative procedures that states must follow. Instead, the regulations provide only that state or local cleanup programs must be protective of human health and the environment, allowing states to make choices about how they will design and conduct their corrective action programs.

UST Corrective Action Challenges

In order to start corrective action programs quickly, many UST implementing agencies decided to adopt cleanup requirements already in place for other purposes and apply them uniformly to UST release sites. Many of these cleanup requirements are based on generic numerical standards. Over the years, however, it has become clear that applying such

numerical standards without considering the actual and potential risk that the UST release poses to human health and the environment is neither an effective way to protect human health and the environment nor an efficient way to manage and oversee UST cleanups.

These problems have become more apparent as the number of UST sites requiring corrective action has increased. As of Spring 1995, states reported over 280,000 confirmed releases. The work of overseeing so many cleanups can be overwhelming to state and local staff--who might be managing 40-500 cleanup cases at any given time--and to administrative systems. Adding to the challenge, EPA expects the number of confirmed UST releases to increase as the 1998 deadline for upgrading, replacing, or closing UST systems approaches and, in the course of their compliance activities, UST owners and operators discover additional contamination.

To meet these challenges, EPA is committed to helping state and local agencies make cleanups faster, less expensive, and more effective. EPA is working with states to help them streamline their administrative processes and to encourage the use of expedited site assessment and alternative cleanup technologies. The Agency is also encouraging state and local agencies to incorporate risk-based decision-making into their corrective action programs.

What Is Risk-Based Decision-Making?

Risk-based decision-making is a process that UST implementing agencies can use to:

- Focus site assessment data gathering,
- Categorize or classify sites,
- Determine what, if any, further action is necessary to remediate a site,
- Help establish cleanup goals, and
- Decide on the level of oversight provided to cleanups conducted by UST owners and operators.

Risk-based decision-making takes into account the relative risk UST releases may pose to human health and the environment. Employing tools such as exposure assessment and risk assessment, risk-based decision-making considers the current and potential risks posed by an UST release and uses this knowledge to make decisions about corrective action processes and site management. Knowing actual or potential risk provides UST implementing agencies a sound basis for determining necessary and appropriate corrective action. For example, based on known or anticipated risk, appropriate action might include site closure, monitoring and data collection, active or passive remediation, containment, or institutional controls. Knowing actual and potential risk can also help implementing agencies determine how closely they should oversee the activities of UST owners and operators performing the cleanups.

Several states are already using risk-based approaches in their corrective action programs, and the American Society for Testing and Materials (ASTM) Subcommittee on Storage Tanks has issued an emergency standard entitled Guide For Risk-Based Corrective Action Applied At Petroleum Release Sites [ES-38-94]. The ASTM standard is one example of how risk-based decision-making can be incorporated into

UST corrective action programs in a manner consistent with EPA policies and regulations. EPA is telling implementing agencies that the ASTM standard may be a good starting point for the development of a risk-based process tailored to applicable state and local laws and regulatory practices.

What Is EPA Doing To Encourage Risk-Based Decision-Making?

EPA's Office of Underground Storage Tanks, within the Office of Solid Waste and Emergency Response (OSWER), has been working with EPA regional offices and state and local UST programs for some time to promote the use of risk-based decision-making. To provide tangible evidence of EPA's support for the use of risk-based decision-making and to provide guidance on implementing risk-based corrective action processes, OSWER has issued Directive 9610.17: Use Of Risk-Based Decision-Making In UST Corrective Action Programs.

The Directive provides additional information about the use of risk-based decision-making, including descriptions of what it is and is not, guidance on implementing risk-based decision-making processes, and descriptions of risk-based processes already being used by a number of states.

In addition, EPA is working with the American Society for Testing and Materials Subcommittee on Storage Tanks and the American Petroleum Institute to develop and deliver training on risk-based decision-making. The training is currently focused at state and local regulators implementing the underground storage

tank program; however, this training will eventually be offered to the consulting community and others to ensure widespread understanding of the risk-based decision-making approach to UST cleanups.

The training is presented in three modules: Module 1 provides an introduction to risk-based decision-making for streamlining cleanup of soil and water contaminated by releases from USTs; Module 2 reviews aspects of risk assessment and contaminant fate-and-transport used in the risk-based decision-making framework; and Module 3 provides a detailed review of the tools (such as worksheets and spreadsheets) developed to assist states in implementing risk-based decision-making. In what has been referred to as "Module 4" or the implementation phase, the training culminates in the design of a state-specific process for risk-based decision-making that a state can actually put into practice. EPA is committed to assisting states in this process.

For More Information

For additional information on risk-based decision-making training activities or a copy of OSWER Directive 9610.17, contact EPA's RCRA/ Superfund Hotline, Monday through Friday, 8:30 a.m. to 7:30 p.m. EST. The national toll-free number is 800 424-9346; for the hearing impaired, the number is TDD 800 553-7672.