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CRS Report for Congress

Leaking Underground Storage Tanks: Prevention and Cleanup

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Summary

To address a nationwide water pollution problem caused by leaking underground storage tanks (USTs), Congress created a leak prevention, detection, and cleanup program in 1984. In 1986, Congress established the Leaking Underground Storage Tank (LUST) Trust Fund to help the Environmental Protection Agency (EPA) and states oversee LUST cleanup activities and pay the costs of remediating leaking petroleum USTs where owners fail to do so. Despite progress in the program, challenges remain. A key issue has been that state resources have not met the demands of administering the UST leak prevention program. States have long sought larger appropriations from the trust fund to support the LUST cleanup program, and some have sought flexibility to use the fund to administer and enforce the UST leak prevention program. Another issue has involved the detection of methyl tertiary butyl ether (MTBE) in groundwater at many LUST sites. This gasoline additive was used widely to reduce air pollution from auto emissions. However, MTBE is very water soluble and, once released, tends to travel farther than conventional gas leaks, making it more likely to reach water supplies and more costly to remediate. For more than a decade, Congress considered various bills to broaden the use of the trust fund and strengthen the leak prevention program.

In the Energy Policy Act of 2005 (P.L. 109-58, H.R. 6), the 109th Congress added new leak prevention and enforcement provisions to the UST program and authorized EPA and states to use the trust fund to clean up MTBE leaks and to implement and enforce the new requirements. Despite the new mandates and funding authority, no increase in funding was requested or provided for FY2007. A similar amount, $72.5 million, has been requested from the LUST Trust Fund for FY2008. This report reviews the LUST program, legislative changes made by P.L. 109-58, and related developments.

Background

In the 1980s, EPA determined that many of the roughly 2.2 million underground storage tanks (USTs) in the United States, most of them storing petroleum, were leaking. Many other tanks were nearing the end of their useful life expectancy and were expected to leak in the near future. Approximately 50% of the U.S. population relies on ground

water for their drinking water, and states were reporting that leaking underground tanks were the leading source of groundwater contamination.

In 1984, Congress responded to this environmental and safety threat and established a leak prevention, detection, and cleanup program for USTs containing chemicals or petroleum through amendments to the Solid Waste Disposal Act (42 U.S.C. 6901 et seq., also known as the Resource Conservation and Recovery Act (RCRA)). Subtitle I directed EPA to establish operating requirements and technical standards for tank design and installation, leak detection, spill and overfill control, corrective action, and tank closure. The universe of regulated tanks was extremely large and diverse, and included many small businesses. Consequently, EPA phased in the tank regulations over a 10-year period (1988 through 1998). Strict standards for new tanks took effect in 1988, and all tanks were required to comply with leak detection regulations by late 1993. All tanks installed before 1988 had to be upgraded (with spill, overfill, and corrosion protection), replaced, or closed by December 22, 1998.

In 1986, Congress established a response program for leaking petroleum USTs through the Superfund Amendments and Reauthorization Act (P.L. 99-499), which amended Subtitle I of RCRA. The amendments authorized EPA and states to respond to petroleum spills and leaks, and created the Leaking Underground Storage Tank (LUST) Trust Fund to help EPA and states cover the costs of responding to leaking USTs in cases where the UST owner or operator does not clean up a site. EPA and the states primarily use the annual LUST Trust Fund appropriation to oversee and enforce corrective actions performed by responsible parties. They also use the funds to conduct corrective actions where no responsible party has been identified, where a responsible party fails to comply with a cleanup order, in the event of an emergency, and to take cost recovery actions against parties. EPA and states have been successful in getting responsible parties to perform most cleanups. In these cases, the cleanup costs typically have been paid for by a state fund (discussed below), the responsible party, and/or private insurance.

State Funds. The 1986 law also directed EPA to establish financial responsibility requirements to ensure that UST owners and operators are able to cover the costs of taking corrective action and compensating third parties for injuries and property damage caused by leaking tanks. As mandated, EPA issued regulations requiring most tank owners and operators selling petroleum products to demonstrate a minimum financial responsibility of $1 million. Alternatively, owners and operators may rely on state assurance funds to demonstrate financial responsibility, saving them the cost of purchasing private insurance.

Most states established financial assurance funds. Unlike the federal LUST Trust Fund, state funds often are used to reimburse financially solvent tank owners and operators for some or all of the costs of remediating leaking tank sites. Revenues for state funds typically have been generated through gas taxes and tank fees and, collectively, these funds have provided more cleanup funds than the LUST Trust Fund. A June 2005 survey of states showed that, cumulatively, states had collected and spent roughly $13.14 billion through their funds. In 2005, state funds collected $1.53 billion in annual revenues and spent a total of $1.06 billion, while outstanding claims against state funds reached $1.80 billion. Twenty states extended their fund's original sunset date to address the backlog of leaking tanks. Ten states have made a transition to private insurance. (See *2005 State Financial Assurance Funds Survey* at [http://www.astswmo.org].)

LUST Trust Fund: Funding and Uses

The LUST Trust Fund is funded primarily through a 0.1 cent-per-gallon motor fuels tax that began in 1987. The Energy Policy Act of 2005 (P.L. 109-58, H.R. 6) extended the tax through March 2011. During FY2006, the tax generated $197 million, and the trust fund earned roughly $99 million in interest on the balance in the fund. By the end of FY2006, the fund's balance had reached $2.57 billion.

Congress has annually appropriated funds from the trust fund to support the LUST program. EPA estimates that the average cost of cleaning up a release from a tank is $125,000, and that by the end of FY2006, 113,919 releases still needed remediation. Although EPA expects that private parties will pay for most cleanups, states estimate that it will cost $12 billion to remediate at least 54,000 tank sites that lack viable owners.[1]

To support the LUST program, Congress provided $75.6 million from the trust fund for FY2004, $69.4 million for FY2005, and $72 million for FY2006.[2] For FY2007, the House approved and the Senate Appropriations Committee recommended $72.8 million, as requested. The continuing resolution providing FY2007 appropriations (P.L. 110-5, H.J.Res. 20) generally funded EPA programs at the FY2006 level, which included $72 million from the LUST Trust Fund. The request for FY2008 is $72.5 million.

In recent years, EPA has allocated approximately 81% (roughly $58 million) of the annual trust fund appropriation to the states in the form of cooperative agreements and 4% to support LUST-eligible activities on Indian lands. EPA has used the remaining 15% for its program responsibilities. The Energy Policy Act of 2005 (P.L. 109-58, §1522) requires EPA to allot least 80% of the LUST Trust Fund appropriation to the states.

Under cooperative agreements with EPA, the states receive grants to help cover the cost of administering the LUST program. States use most of their LUST program grants to hire staff for technical oversight of corrective actions performed by responsible parties. They typically use about one-third of the LUST money they receive for cleaning up abandoned tank sites and undertaking emergency responses.

EPA uses its portion of the appropriation to oversee cooperative agreements with states, implement the LUST corrective action program on Indian lands, and support state and regional offices. EPA priorities in the LUST program include reducing the backlog of confirmed releases; promoting better and less expensive cleanups; providing assistance to Indian tribes; assisting with the cleanup of more complicated sites, especially sites contaminated with MTBE; and supporting state programs with technical assistance.

Program Accomplishments and Issues

EPA reports that since the federal underground storage tank program began, more than 1.6 million of the roughly 2.2 million petroleum tanks subject to regulation have been closed and, overall, the frequency and severity of leaks from UST systems have been

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[1] Government Accountability Office, *Leaking Underground Storage Tanks: EPA Should Take Steps to Better Ensure the Effective Use of Public Funding for Cleanups*, GAO-07-152, 2007.

[2] For FY2006, Congress provided another $15 million in supplemental appropriations for cleaning up releases from tanks damaged by hurricanes Katrina and Rita.

reduced significantly. Through FY2006, 641,881 tanks remained in service and subject to UST regulations, 464,728 releases had been confirmed, 435,631 cleanups had been initiated, and 350,813 cleanups had been completed. The backlog of sites requiring remedial action dropped to 113,915 sites. During FY2006, 8,361 releases were newly confirmed, compared with 7,421 in FY2005, 7,850 in FY2004 and 12,000 in FY2003.[3] Nearly 14,500 corrective actions were completed in FY2006.

Methyl Tertiary Butyl Ether (MTBE). In the 1990s, as states and EPA were making solid progress in addressing tank leaks, another problem emerged. The gasoline additive MTBE was being detected at thousands of LUST sites and in numerous drinking water supplies, usually at low levels. Gasoline refiners had relied heavily on MTBE to produce gasoline that contained oxygenates, as required by the 1990 Clean Air Act Amendments as a way to improve combustion and reduce emissions. Once released into the environment, however, MTBE moves through soil and into water more rapidly than other gasoline components, and it is more difficult and costly to remediate than conventional gasoline. Because of its mobility, MTBE is more likely to reach water supplies than conventional gas leaks. Although MTBE is thought to be less toxic than some gasoline components (such as benzene), even small amounts can render water undrinkable because of its strong taste and odor. Also, in 1993, EPA's Office of Research and Development concluded that the data support classifying MTBE as a possible human carcinogen.[4] Although EPA has not done so, at least seven states have set drinking water standards for MTBE, and many states have established cleanup standards or guidelines. At least 25 states have enacted limits or bans on the use of MTBE in gasoline.

At least 42 states require testing for MTBE in ground water at LUST sites. In a 2000 survey, 31states reported that MTBE was found in ground water at 40% or more of LUST sites in their states; 24 states reported MTBE at 60% to 100% of sites. An update of this survey found that many sites had not been tested for MTBE and that most states did not plan to reopen closed sites to look for MTBE.[5] The total cost of treating MTBE-contaminated drinking water is unknown. Two studies by water utilities place their estimates of the costs, given limited data, at $25 billion and $33.2 billion.[6]

Implementation and Compliance Issues. EPA estimated that by FY2001, 89% of USTs had upgraded tank equipment to meet federal requirements. However, the Government Accountability Office (GAO) reported that because of poor training of tank owners, operators, and other personnel, about 200,000 (29%) USTs were not being operated or maintained properly, thus increasing the risk of leaks and ground water contamination. GAO also reported that only 19 states physically inspected all their tanks

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[3] For state-by-state information, see [http://www.epa.gov/oust/cat/camarchv.htm].

[4] U.S. Environmental Protection Agency, *Assessment of Potential Health Risks of Gasoline Oxygenated with Methyl Tertiary Butyl Ether (MTBE)*, EPA/600/R-93/206, 1993.

[5] The New England Interstate Water Pollution Control Commission's 2000 Survey of State Experiences with MTBE Contamination at LUST Sites, and the 2003 Survey of Oxygenates at LUST Sites.

[6] Respectively, the American Water Works Association, *A Review of Cost Estimates of MTBE Contamination of Public Wells*, June 21, 2005, and the Association of Metropolitan Water Agencies, *Cost Estimate to Remove MTBE Contamination from Public Drinking Water Systems in the United States*, June 20, 2005.

every three years (the minimum EPA considers necessary for effective tank monitoring) and that, consequently, EPA and states lacked the information needed to evaluate the effectiveness of the tank program and take appropriate enforcement actions.[7]

EPA has pursued several initiatives to improve the effectiveness of the tank program. Under an initiative to improve compliance, EPA revised the definition of compliance ("significant operational compliance") to place greater emphasis on the proper operation and maintenance of tank equipment and systems. At the end of FY2006, EPA reported that 76% of recently inspected UST facilities were in compliance with the release *prevention* requirements, 72% were in compliance with the leak *detection* requirements, and 62% of facilities had complied with the combined requirements.

After years of deliberation, Congress addressed various concerns regarding the UST leak prevention and LUST cleanup programs through the Energy Policy Act of 2005. As discussed below, this act imposes new mandates regarding tank inspections, operator training, delivery prohibition, secondary containment, and financial responsibility.

Legislation

The 109th Congress passed legislation addressing LUST and MTBE. P.L. 109-6 (H.R. 1270) enacted in March 2005, extended the 0.1 cent-per-gallon motor fuels tax that finances the LUST Trust Fund through September 2005. The Energy Policy Act of 2005 (P.L. 109-58) extended the tax through March 2011 (§ 1362), and eliminated the Clean Air Act oxygenated fuel requirement that promoted greater use of MTBE (§ 1504(a)).

The Underground Storage Tank Compliance Act. Title XV, Subtitle B, of the Energy Policy Act comprises "The Underground Storage Tank Compliance Act" (USTCA). This act amended SWDA Subtitle I to add new leak prevention and enforcement provisions to the UST regulatory program and impose new requirements on states, EPA, and tank owners. The USTCA requires EPA, and states that receive funding under Subtitle I, to conduct UST compliance inspections at least every three years. It also requires states to comply with EPA guidance prohibiting fuel delivery to ineligible tanks, develop training requirements for UST operators and individuals responsible for tank maintenance and spill response, prepare compliance reports on government-owned tanks in the state, and implement groundwater protection measures for UST manufacturers and installers. The act also directs states to require either that new tanks located near community water systems or wells be equipped with secondary containment, or that UST manufacturers and installers maintain evidence of financial responsibility to provide for the costs of corrective actions. (EPA USTCA implementation information and documents are available online at [http://www.epa.gov/oust/fedlaws/epact_05.htm].)

The USTCA authorizes the appropriation of $155 million annually for FY2006 through FY2011 from the LUST Trust Fund for states to use to implement the new UST leak prevention requirements and to administer state programs. However, the energy act's tax extension language (§1362) prohibited the use of trust fund appropriations for any

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[7] U.S. GAO, *Environmental Protection: Improved Inspections and Enforcement Would Better Ensure the Safety of Underground Storage Tanks*, GAO-01-464, May 2001, pp. 2-6. Also see *Environmental Protection: More Complete Data and Continued Emphasis on Leak Prevention Could Improve EPA's Underground Storage Tank Program*, GAO-06-45, Nov. 2005.

new purposes. Thus, while the Energy Policy Act greatly expanded state responsibilities, it prohibited the use of LUST Trust Fund money to support implementation of these mandates. To address this issue, Congress amended the Internal Revenue Code to allow the trust fund to be used for the new purposes (P.L. 109-433, H.R. 6131).

The USTCA also includes new authorizations of appropriations to hasten the cleanup of leaking tanks and related MTBE contamination. It authorizes trust fund appropriations of $200 million annually for FY2006 through FY2011 for EPA and states to administer the LUST corrective action program, and another $200 million annually for FY2006 through FY2011, specifically for addressing MTBE and other oxygenated fuels leaks (e.g., ethanol).[8] Despite program resource needs and the USTCA's funding authority and new mandates, no increase in Trust Fund appropriations was sought or approved for FY2007. Similarly, the request for FY2008 is $72.5 million.

MTBE in the Energy Law. The House version of H.R. 6 included a retroactive safe harbor provision to protect manufacturers and distributors of fuels containing MTBE or renewable fuels from product liability claims.[9] This provision was opposed by water utilities, local government associations, and many states. Opponents argued that providing a products liability shield would effectively leave gas station owners liable for cleanup, and as these businesses often have few resources, the effect of the provision would have been that the burden for cleanup would fall to local communities, water utilities, and the states. Proponents argued that a safe harbor was merited because the additive was used heavily to meet federal clean air mandates. They further argued that the focus should be placed on preventing leaks from USTs, which have been the primary source of MTBE contamination.[10] Conferees dropped the provision and added language allowing new MTBE legal actions to be removed to federal courts. Conferees also dropped the MTBE ban. As agreed to by both chambers, P.L. 109-58 repealed the Clean Air Act requirement that prompted the increased use of MTBE. The law also requires the national gas supply to contain a specified amount of renewable fuel, which is primarily ethanol to date.

The 110th Congress. Underground storage tank issues continue to receive congressional attention. A key concern involves the level of resources available to states to meet the new USTCA mandates, and some stakeholders and Members of Congress are calling for LUST Trust Fund appropriations above the $72.5 million requested for FY2008. In addition, the energy law's renewable fuel mandate, and broad interest in increasing the use of such fuels, may present new technical issues for USTs and for fuel storage and delivery infrastructure generally. Ethanol, for example, is more corrosive than gasoline and may increase the risk of leaks in tank systems. In February, the House passed H.R. 547 (H.Rept. 110-7) to require EPA to establish a program to research and develop materials that could be added to biofuels to make them more compatible with existing infrastructure used to store and deliver petroleum-based fuels.

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[8] Technical corrections to the Energy Policy Act, enacted in P.L. 109-168, revised the dates authorizing appropriations for Subtitle I from FY2005-FY2009 to FY2006-FY2011.

[9] For a discussion of legal issues, see CRS Report RS21676, *The Safe Harbor Provision for Methyl Tertiary Butyl Ether (MTBE)*, by Aaron Flynn.

[10] For more information on LUST and MTBE provisions in P.L. 109-58, see CRS Report RL32865, *Renewable Fuels and MTBE: A Comparison of Selected Provisions in the Energy Policy Act of 2005 (P.L. 109-58 and H.R. 6)*, by Brent D. Yacobucci et al.