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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 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 involves the detection of methyl tertiary butyl ether (MTBE) in groundwater at many leaking tank sites. This gasoline additive has been used to cut 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 has considered various bills to broaden the use of the trust fund and strengthen the leak prevention program.

Title XV, Subtitle B, of the Energy Policy Act of 2005 (P.L. 109-58, H.R. 6) 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. However, the act's tax provisions prohibited the use of LUST funds for new purposes, thus complicating states' resource problems. Congress passed H.R. 6131 (P.L. 109-433) to resolve this issue. This report reviews the LUST program, related issues, and legislative changes made by the 109th Congress.

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 have 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 31, 2011. During FY2006, the tax generated more than $211 million in net revenue, and the fund earned $98.9 million in interest on the balance in the fund. As of November 2006, the fund's balance exceeded $2.6 billion.

For FY2005, Congress appropriated $69.4 million from the trust fund to support the LUST program. For FY2006, Congress provided roughly $72 million (after rescissions) in P.L. 109-54.[1] For FY2007, the House approved and the Senate Appropriations Committee recommended $72.8 million, as requested. In recent years, EPA has allocated approximately 81% (roughly $57 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, H.R. 6, §1522) requires EPA to allot least 80% of the 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 Status

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 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.[2] Nearly 14,500 corrective actions were completed in FY2006.

Implementation and Compliance Issues. EPA estimated that by FY2001, 89% of USTs had upgraded tank equipment to meet federal requirements. However, the

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[1] Congress also provided $8 million in P.L. 109-148 and $7 million in P.L. 109-234 in emergency appropriations for cleaning up releases from tanks damaged by hurricanes Katrina and Rita.

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

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 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.[3]

In 2000, EPA began 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.

EPA also has been evaluating the performance of tank regulations to determine where improvements may be needed. A concern is that although new and upgraded tanks are much more protective than earlier tanks, some leaks have been discovered from new and upgraded tank systems. A substantial portion of these leaks may be due to operational problems. However, studies are underway to evaluate performance of different types of tanks to determine the causes of leaks, the effectiveness of leak detection systems, and actions that might be needed to better prevent and detect leaks.

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. MTBE has been widely used to produce gasoline that contains oxygenates, as required by the 1990 Clean Air Act Amendments as a way to improve combustion and reduce emissions. Once released, 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 established a drinking water standard for MTBE, and many states have established cleanup standards or guidelines. At least 25 states have enacted limits or phase-outs of the additive.

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[3] 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.

[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. This and other MTBE documents are available online at [http://www.epa.gov/oust/mtbe/mtbe_bib.htm].

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 LUST sites to look for MTBE.[5] A concern for water suppliers is that fewer than half the states are taking steps to ensure that MTBE is not migrating beyond the normal monitoring boundaries for LUST cleanup. The total cost of treating MTBE-contaminated drinking water is unknown, but it is expected to be in the billions. Two studies by water utilities place their estimates of the costs, given limited data, at $25 billion[6] and $33.2 billion.[7]

Legislation

The 109th Congress has passed legislation related to 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, §1362) extended the tax through March 31, 2011, and eliminated the Clean Air Act oxygenated fuel requirement that promoted greater use of MTBE.

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 amends 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 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 requires EPA to implement a strategy to address UST releases on tribal lands.

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.[8] However, the energy act's tax extension language (§1362) prohibited the use of trust fund appropriations for any new purposes. Thus, while the Energy Policy Act significantly expanded states' leak prevention responsibilities, it prohibited the use of the trust fund money to support state implementation of the new requirements, some of which have tight deadlines. States that

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[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 are available at [http://www.neiwpcc.org/Index.htm?MTBE.htm~mainFrame].

[6] American Water Works Association, *A Review of Cost Estimates of MTBE Contamination of Public Wells*, June 21, 2005.

[7] Association of Metropolitan Water Agencies, *Cost Estimate to Remove MTBE Contamination from Public Drinking Water Systems in the United States*, June 20, 2005.

[8] Technical corrections to the Energy Policy Act were enacted in P.L. 109-168 on January 10, 2006. The only substantial correction to the USTCA was the revision of the dates authorizing appropriations for Subtitle I from FY2005-FY2009 to FY2006-FY2011.

receive funds under Subtitle I are required to implement these provisions. Late in the second session, the House and Senate passed H.R. 6131 to amend the Internal Revenue Code to allow the trust fund to be used for the purposes specified in the USTCA. H.R. 6131 became P.L. 109-433 on December 20, 2006.

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). Despite the USTCA's funding authorizations and new requirements, no increase in LUST Trust Fund appropriations was sought or approved for FY2007.

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 and renewable fuels (e.g., biodiesel and ethanol fuels) from products liability claims. The provision stated that it would not affect other liability (such as liability for cleanup costs or negligence for spills). With liability ruled out for design defects, manufacturing defects, and failure to warn of hazardous products, MTBE manufacturers would likely be more difficult to be found liable under these other bases of liability.[9]

The safe harbor provision was opposed by public water suppliers, county and city 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 provision was merited because the additive has been used heavily to meet federal clean air mandates. They further argued that the focus should be placed on preventing leaks from underground storage tanks, which are the primary source of MTBE contamination. (The Senate's safe harbor provision had applied to renewable fuels only.) Conferees dropped the provision and added language allowing new MTBE claims and legal actions to be removed to federal courts (§1503). Conferees also dropped the MTBE ban. As agreed to by both chambers, P.L. 109-58 eliminated the Clean Air Act oxygenate requirement that prompted the increased use of MTBE.[10]

Related bills introduced in the 109th Congress included H.R. 879 and S. 439, which would have required secondary containment for all new tank systems and replacement tanks and pipes located near public water systems and private wells. No action was taken on these bills; however, the USTCA (§ 1530) 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.

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[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)*.