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Leaking Underground Storage Tanks: Program Status and Issues

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Summary

To address a nationwide 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 pay the costs of cleaning up leaking petroleum USTs where owners fail to do so, and to oversee LUST cleanup activities. Much progress has been made in the program, but challenges remain. A major issue concerns the discovery of methyl tertiary butyl ether (MTBE) at thousands of LUST sites. This gasoline additive, used to reduce air pollution from auto emissions, is very water soluble, and leaks involving MTBE are more costly to remediate. Another issue is that state resources have not met the demands of overseeing the UST regulatory program. States have long sought larger appropriations from the trust fund to support the LUST program, and some have sought more flexibility in using LUST funds. The presence of MTBE in water supplies heightened congressional interest in authorizing fund appropriations to address MTBE leaks and enforce the leak prevention program.

After years of congressional efforts, the 109th Congress agreed on legislation to address these issues. The Energy Policy Act of 2005, H.R. 6 (P.L. 109-58) adds new leak prevention provisions to the federal UST regulatory program and authorizes EPA and states to use appropriations from the LUST Trust Fund to clean up MTBE leaks and to enforce the UST program. The House version of H.R. 6 would have provided a products liability safe harbor for MTBE and renewable fuels manufacturers. The Senate bill would have granted a safe harbor for renewable fuels only. The final legislation does not include a fuels safe harbor provision. This report reviews LUST and MTBE issues and bills, and will be updated.

Background

In the 1980s, EPA determined that many of the roughly 2.2 million underground storage tanks in the United States 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 tanks were the leading source of groundwater contamination.

In 1984, Congress responded to this growing 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). 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 (from 1988 through 1998). Strict standards for new tanks took effect in December 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. These 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. Congress appropriates funds from the trust fund each year, and EPA and the states use these funds primarily to oversee and enforce corrective actions performed by responsible parties. EPA and the states also use the appropriated funds to conduct corrective actions where no responsible party has been identified, where a responsible party fails to comply with a cleanup order, or in the event of an emergency; and to take cost recovery actions against parties. EPA or 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.

The 1986 law further 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 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.

State Funds. 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. In recent years, states have collected and spent roughly $1 billion annually through their funds. In FY2004, total annual revenues for state funds reached $1.47 billion, while outstanding claims against state funds reached $1.76 billion, and in 12 states, outstanding claims exceeded fund balances. 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.

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 tax generated roughly $150 million per year before the taxing authority expired in December 1995. Congress reinstated the LUST tax through the Taxpayer Relief Act of 1997 (P.L. 105-34) from October 1, 1997, through March 31, 2005. On March 31, 2005, the President signed P.L. 109-6 (H.R. 1270), extending the tax through September 2005. The Energy Policy Act of 2005 (P.L. 109-58, H.R. 6) extends the tax through March 31, 2011. During FY2004, the tax generated $193 million in revenues, and the fund earned $66.7 million in interest (on an accrual basis). As of August 31, 2005, the fund's net assets were approximately $2.5 billion.

For FY2003, Congress authorized appropriations of $72.3 million from the trust fund to support the LUST program. For FY2004, the President requested $72.5 million and received nearly $76 million. For FY2005, the President again asked for $72.5 million, and Congress provided $70 million. For FY2006, the President requested and, in P.L. 109-54, Congress provided $73 million. In recent years, EPA has allocated approximately 81% (roughly $58 million) of the 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.

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, nearly 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 greatly. Through FY2004, 672,297 tanks remained in service and subject to UST regulations, 447,233 releases had been confirmed, 412,657 cleanups had been initiated, and 317,405 cleanups had been completed. The backlog of sites requiring remedial action dropped to 129,827 sites (a 5% decline from the FY2003 level of 136,265). During FY2004, there were 7,850 newly confirmed releases, compared to 12,000 in FY2003.[1]

Implementation and Compliance Issues. EPA estimated that, through FY2000, 89% of USTs had upgraded tank equipment to meet federal requirements. However, the Government Accountability Office (GAO) reported that, because of poor

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

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.[2]

In 2000, EPA began several initiatives to improve the effectiveness of the tank program. Under an initiative to improve compliance, EPA issued a new definition of compliance ("significant operational compliance") to place greater emphasis on the proper operation and maintenance of tank equipment and systems. Using this definition, EPA estimated that, by the end of FY2004, 23% of UST facilities were not in compliance with the 1998 release *prevention* requirements, 28% were not in compliance with the leak *detection* requirements, and 36% had not complied with the combined requirements.

EPA also has been evaluating the performance of tank regulations to determine where improvements are needed. A key concern is that, although new and upgraded tanks are much more protective than earlier tanks, some leaks are being 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 good 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.[3] 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 42 states now require testing for MTBE in ground water at LUST sites. In a 2000 survey, 31 states 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. A 2003 update of this survey found that many sites have not been tested for MTBE, and most

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[2] U.S. GAO, *Environmental Protection: Improved Inspections and Enforcement Would Better Ensure the Safety of Underground Storage Tanks*, GAO-01-464, May 2001, p. 2-6.

[3] U.S. Environmental Protection Agency, *Assessment of Potential Health Risks of Gasoline Oxygenated with Methyl Tertiary Butyl Ether (MTBE)*, EPA/600/R-93/206, 1009.

states did not plan to reopen previously closed LUST sites to look for MTBE.[4] 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 is expected to be in the billions. Two recent studies by water utilities place their best estimates of the costs, given the limited data, at $25 billion[5] and $33.2 billion.[6]

Regulators expect that, as tank owners and operators comply more fully with UST requirements, the number of leaks from tanks should decline significantly. According to EPA, the number of reported new releases declined 35% from FY2003 to FY2004, as a result of improved leak detection and prevention measures.

Legislation

The 109th Congress has acted on LUST and MTBE related legislation. On March 31, 2005, H.R. 1270 (P.L. 109-6) was enacted, extending the 0.1 cent-per-gallon motor fuels tax that finances the LUST Trust Fund through September 2005. H.R. 6, the Energy Policy Act of 2005 (P.L. 109-58) extends the tax through March 31, 2011.

As proposed by both the House and the Senate, P.L. 109-58 (Title XV, Subtitle B) amends Subtitle I of the Solid Waste Disposal Act to expressly allow EPA and states to use LUST funds to address MTBE leaks and enforce the UST leak prevention program, and to authorize appropriations for these purposes. Subtitle B, which was incorporated from the House version of H.R. 6, authorizes LUST Trust Fund appropriations of $200 million annually for FY2005 through FY2009 for the LUST cleanup program, and another $200 million annually for FY2005 through FY2009, specifically for addressing MTBE and other oxygenated fuels leaks (e.g., other ethers and ethanol). The Senate bill would have authorized a one-time appropriation of $200 million from the LUST Trust Fund to address releases of fuels containing MTBE and other ether additives but not other oxygenates (i.e., not ethanol), and would not have required that the contamination be from USTs to be eligible for cleanup assistance.

The Energy Policy Act of 2005 further follows the House version of H.R. 6 by adding various new leak prevention provisions to the UST regulatory program and imposing new requirements on states, EPA, and tank owners. It requires EPA or the state to conduct UST compliance inspections every three years; prohibits fuel delivery to ineligible tanks; directs states to develop training requirements for UST operators and individuals responsible for tank maintenance and spill response; requires states to prepare and submit to EPA compliance reports on government-owned tanks in the state; and requires EPA to develop and implement a strategy to address releases on tribal lands. The legislation also requires that, when determining the portion of cleanup costs to recover

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[4] 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].

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

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

from a tank owner or operator, EPA or a state must consider the owner or operator's ability to pay for cleanup and still maintain business operations.

The House version would have phased out MTBE by 2014 (except in trace quantities and except in states that authorized its use, and unless the President decided not to ban it). The Senate version would have banned MTBE as a fuel additive in four years (except in trace quantities and in states that authorize its use). As enacted, H.R. 6 does not limit MTBE use; however, at least 25 states have enacted limits or phase-outs of the additive. The legislation does eliminate the Clean Air Act oxygenate requirement, which prompted the increased use of MTBE. (For more details, see CRS Report RL32865, *Renewable Fuels and MTBE: A Comparison of Selected Provisions in H.R. 6*.)

The House version of H.R. 6 also included a retroactive safe harbor provision to protect manufacturers and distributors of fuels containing MTBE and renewable fuels (e.g., biodiesel fuels and ethanol) from products liability claims. The provision stated that it would not affect other liability (such as liability for cleanup costs, water contamination, 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 reach under these other bases of liability.[7] The safe harbor provision was opposed by public water suppliers, many state attorneys general, the Western Coalition of Arid States, the National Association of Counties, the National Association of Towns and Townships, the National League of Cities, the National Water Resources Association, and the U.S. Conference of Mayors. Opponents argued that providing a products liability shield would effectively leave gas station owners liable for cleanup, and because these businesses often have few resources, the effect of the safe harbor provision would have been that the burden for cleanup would fall to local communities, drinking water utilities, and the states. Proponents of the provision argued that such a safe harbor was reasonable, given that 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 safe harbor provision contributed to the failure of the conference report for H.R. 6 in the Senate in the 108th Congress, and threatened to have the same effect this Congress. Conferees dropped the safe harbor provision and added a provision allowing MTBE claims and legal actions filed after the date of enactment to be removed to federal courts (Section 1503).[8] (The Senate version had included a safe harbor provision that applied to renewable fuels only.)

Also in the 109th Congress, H.R. 879 and S. 439 have been introduced to strengthen technical requirements for tanks to better prevent leaks. These bills would require secondary containment for new tank systems and replacement tanks and pipes located near public water systems and private wells.

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

[8] For more information on MTBE air and water issues, see CRS Report RL32787, *MTBE in Gasoline: Clean Air and Drinking Water Issues*, by James E. McCarthy and Mary Tiemann.