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ENVIRONMENTAL PROTECTION

Recommendations for Improving the Underground Storage Tank Program

Statement of John Stephenson, Director, Natural Resources and Environment

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GAO-03-529T

March 5, 2003

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Highlights

Highlights of GAO-03-529T, a report to the Subcommittee on Environment and Hazardous Materials, House Committee on Energy and Commerce

Why GAO Did This Study

Nationwide, underground storage tanks (UST) containing petroleum and other hazardous substances are leaking, thereby contaminating the soil and water, and posing health risks. The Environmental Protection Agency (EPA), which implements the UST program with the states, required tank owners to install leak detection and prevention equipment by the end of 1993 and 1998 respectively. The Congress asked GAO to determine to what extent (1) tanks comply with the requirements, (2) EPA and the states are inspecting tanks and enforcing requirements, (3) upgraded tanks still leak, and (4) EPA and states are cleaning up these leaks. In response, GAO conducted a survey of all states in 2000 and issued a report on its findings in May 2001. This testimony is based on that report, as well as updated information on program performance since that time.

What GAO Recommends

To address the problem of leaking tanks, GAO suggests that the Congress consider:

- Providing states more funds from the UST trust fund so that they can improve their training, inspections, and enforcement efforts;
- Requiring EPA and the states to inspect tanks at least every 3 years; and
- Providing EPA and the states additional enforcement authorities.

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For more information, contact John Stephenson at (202) 512-3841.

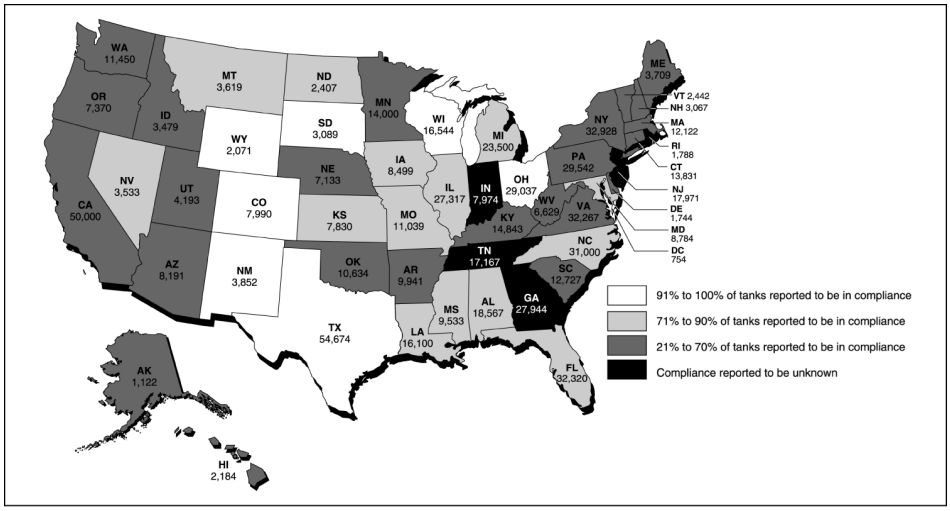
What GAO Found

GAO estimated in its May 2001 report that 89 percent of the 693,107 tanks subject to UST rules had the leak prevention and detection equipment installed, but that more than 200,000 tanks were not being operated and maintained properly, increasing the chance of leaks. States responding to our survey also reported that because of such problems, even tanks with the new equipment continued to leak. EPA and the states attributed these problems primarily to poorly trained staff. While EPA is working with states to identify additional training options, in December 2002, EPA reported that at least 19 to 26 percent of tanks still have problems.

EPA and states do not know how many upgraded tanks still leak because they do not physically inspect all tanks. EPA recommends that tanks be inspected once every 3 years, but more than half of the states do not do this. In addition, more than half of the states lack the authority to prohibit fuel deliveries to problem tanks—one of the most effective ways to enforce compliance. States said they did not have the funds, staff, or authority to inspect more tanks or more strongly enforce compliance.

As of September 2002, EPA and states still had to ensure completion of cleanups for about 99,427 leaks, and initiation of cleanups at about another 43,278. States also face potentially large, but unknown, future workloads in addressing leaks from abandoned and unidentified tanks. Some states said that their current program costs exceed available funds, so states may seek additional federal support to help address this future workload.

Compliance With Federal Operations and Maintenance Requirements Varies Among States



Source: GAO.

Mr. Chairman and Members of the Subcommittee:

I am here today to discuss our work on the nationwide problem of leaking underground storage tanks (UST) and the recommendations that we made to address this problem in our May 2001 report on the Environmental Protection Agency's (EPA) tank program.[1] As you know, studies show that tanks leaking petroleum products and other hazardous substances contaminate the soil or water supplies and can pose health risks, such as nausea and kidney damage, as well as a costly cleanup burden. Since our original report, we have continued to examine and update EPA program data and responses to our recommendations, along with other information. This examination shows that while the agency has taken a number of corrective actions, the problems that we identified in May 2001 persist and have yet to be comprehensively resolved.

In 1984, the Congress created the UST program to protect the public from potential leaks from the more than 2 million operating tanks located across the nation, mostly at gas stations. Under the program, EPA required tank owners to install new leak detection equipment by the end of 1993 and new spill-, overfill-, and corrosion-prevention equipment by the end of 1998. If these conditions were not met, owners had to close or remove their tanks.

EPA has authorized 32 states to implement the program with agency oversight and monitoring, while 16 states operate their own program under their own laws with limited EPA oversight. To help states implement their programs, EPA provides all states funding (about $187,000 per state). In addition, EPA retains direct authority over a small number of tanks primarily located on Indian tribal lands. In 1986, Congress created a trust fund to help EPA and the states cover tank cleanup costs that owners and operators could not afford or were reluctant to pay. The fund is replenished partly through a $.001/gallon tax on gasoline and other fuels. At the end of fiscal year 2002, the fund had a balance of about $1.9 billion.

Because the states are primarily implementing the provisions of the program, we conducted a survey of all 50 states and the District of Columbia in the fall of 2000 to determine the extent to which tanks comply

[1] U.S. General Accounting Office, *Environmental Protection: Improved Inspections and Enforcement Would Better Ensure the Safety of Underground Storage Tanks*, GAO-01-464 (Washington, D.C.: May 4, 2001).

with program requirements, how EPA and the states inspect tanks and enforce requirements, and whether upgraded tanks still leak. We based the findings of our report, which we are discussing today, primarily on the survey and our visits to three EPA regions with the largest number of tanks to monitor. In addition, since the release of our report, we have updated our findings and reviewed states' progress in cleaning up tank releases. In summary, we found that:

- About 89 percent of tanks that states monitor had the required leak prevention and detection equipment installed, according to our estimates at the time of our 2002 survey. EPA data at the time indicated that about 70 percent of the tanks its regions managed on tribal lands had the required equipment, although not all regions could even attest to the location of all tanks on these lands to ensure they had been updated. Furthermore, we estimated that almost 30 percent of the tanks—more than 200,000—were not being operated and maintained properly, thus increasing the chance of leaks and posing health risks. For example, 15 states reported that leak detection equipment was frequently turned off or improperly maintained. For these and other reasons, states reported that leaks persisted even in the tanks with the required equipment installed. In December 2002, EPA reported that 19 to 26 percent of the nation's underground storage tanks still have operational problems, although agency program managers think these numbers are understated because of inconsistent reporting from the states. EPA is working with the states to develop an accurate baseline of all tanks that are not in compliance. Both EPA and the states attribute operational and maintenance problems primarily to poorly trained staff. We recommended that EPA regions work with each of the states in their jurisdiction to determine specific training needs and ways to meet them. In response, EPA has been working with states and contractors to develop less costly training opportunities, such as Internet-based training. We also suggested that the Congress consider increasing the amount of funds it appropriates for states from the trust fund and allow them to spend a limited portion on training.

- While EPA and the states have evidence that tanks continue to leak, they cannot determine the full extent of the problem because some of them do not physically inspect all tanks. In fact, at the time of our survey, over half of the states were not inspecting all of their tanks frequently enough to meet the minimum rate recommended by EPA —at least once every 3 years, and only one of the three regions that we visited met this rate. In addition, 27 states lacked the authority to prohibit fuel deliveries to stations with problem tanks—one of the most effective tools for ensuring compliance with program requirements—and relied instead on issuing citations and fines to violators. States said they did not have the available

funding, staff, or authority to conduct more inspections or more strongly enforce tank compliance. We recommended that EPA negotiate inspection goals with each state. While EPA has not yet set such inspection goals, it has been working with states to use third-party inspectors and other options to increase their inspection coverage. We also suggested that the Congress may want to (1) consider increasing the amount of funds it appropriates from the trust fund and allow states to spend a limited portion on inspections and enforcement, (2) authorize EPA to require physical inspections of all tanks on a periodic basis, (3) authorize EPA to prohibit fuel deliveries to non-compliant tanks, and (4) require states to adopt this enforcement authority.

- States still face a considerable workload in ensuring that contamination from leaking tanks, including those that leak MTBE, is cleaned up, and that funding is available to address these cleanups. As of September 30, 2002, states and EPA regions had to ensure the completion of ongoing cleanups for about 99,427 leaks and initiation of cleanups for another 43,278. States also face a potentially large, but unknown, future workload in addressing releases from both abandoned tanks that have not been identified and inactive tanks that have been identified but not removed. In addition, in a June 2002 Vermont Department of Environmental Conservation survey of state funding programs,[2] nine states reported that they did not have adequate funding to cover their current cleanup program costs. Therefore, in the future, some states may need to seek additional federal support when they turn their attention to addressing the many unidentified abandoned tanks nationwide that have no financially viable owners or operators to pay for cleanup, as well as increasing and costly cleanup of methyl tertiary butyl ether (MTBE).

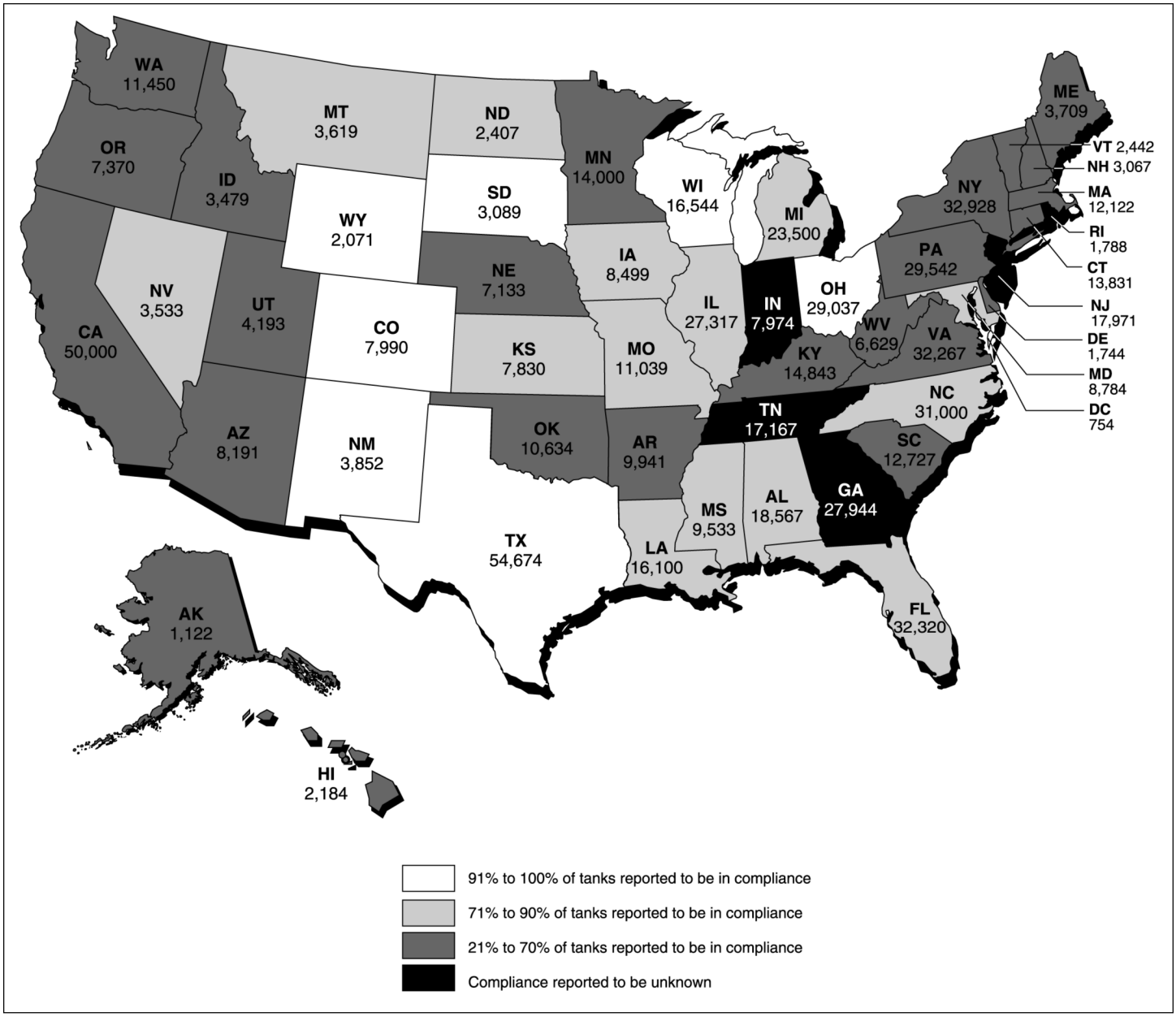
Most Tanks Have Been Upgraded, but Many Are Not Properly Operated and Maintained

Based on state responses to our survey, we estimated that nearly 617,000, or about 89 percent of the approximately 693,000 regulated tanks states manage, had been upgraded with the federally required equipment by the end of fiscal year 2000. In comparison, EPA data at that time showed that about 70 percent of the total number of tanks its regions regulate on tribal lands had been upgraded, but the accuracy of this data varied among the regions. For example, one region reported that it had no information on the actual location of some of the 300 tanks it was supposed to regulate and therefore could not verify whether these tanks had been upgraded.

[2] Vermont Department of Environmental Conservation, *A Summary of State Fund Survey Results* (June 2002). The Department conducts this survey annually.

Even though most tanks have been upgraded, we estimated from our survey data that more than 200,000 of them, or about 29 percent, were not being properly operated and maintained, increasing the risk of leaks. EPA's most current program data from the end of fiscal year 2002 show that these conditions have not changed significantly; tank compliance rates range from an estimated 19 to 26 percent. However, program managers estimate these rates are too high because some states have not inspected all tanks or reported their data in a consistent manner. The extent of operational and maintenance problems we identified at the time of our survey varied across the states, as figure 1 illustrates.

Figure 1: Compliance With Federal Equipment Requirements Varies Among States (total active tanks per state)



Source: GAO.

Note: EPA implements the federal tank program in Idaho and enforces certain requirements in New York because these states lack some or all of the necessary laws.

Some upgraded tanks also continue to leak, in part because of operational and maintenance problems. For example, in fiscal year 2000, EPA and the states confirmed a total of more than 14,500 leaks or releases from regulated tanks, with some portion coming from upgraded tanks. EPA's most recent data show that the agency and states have been able to reduce the rate of new leaks by more than 50 percent over the past 3 years.

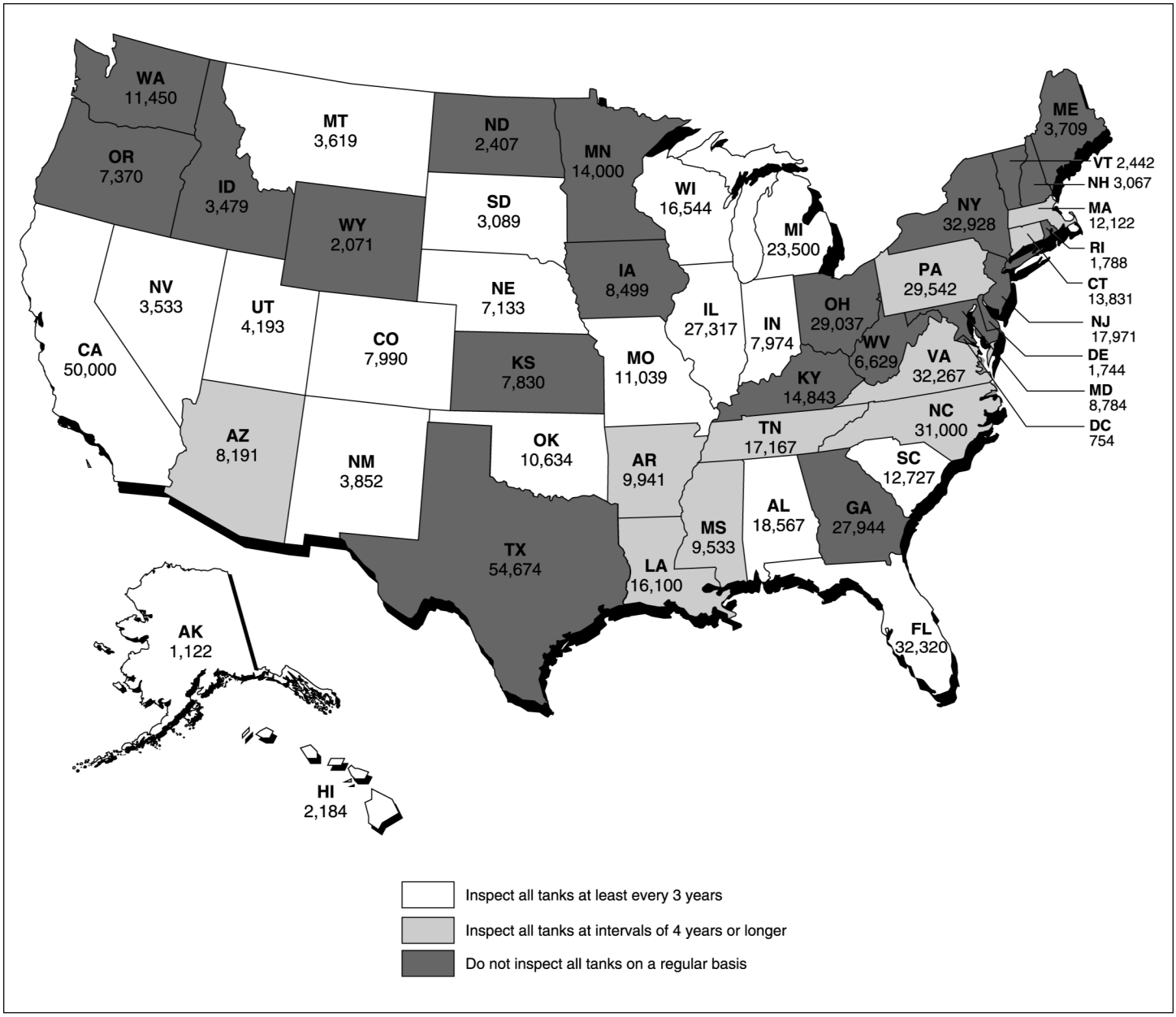
The states reported a variety of operational and maintenance problems, such as operators turning off leak detection equipment. The states also reported that the majority of problems occurred at tanks owned by small, independent businesses; non-retail and commercial companies, such as cab companies; and local governments. The states attributed these problems to a lack of training for tank owners, installers, operators, removers, and inspectors. These smaller businesses and local government operations may find it more difficult to afford adequate training, especially given the high turnover rates among tank staff, or may give training a lower priority. Almost all of the states reported a need for additional resources to keep their own inspectors and program staff trained, and 41 states requested additional technical assistance from the federal government to provide such training.

EPA has provided states with a number of training sessions and helpful tools, such as operation and maintenance checklists and guidelines. According to program managers, the agency recognizes that many states, because of their tight budgets, are looking for cost-effective ways of providing training, such as Internet-based training. To expand on these efforts, we recommended that EPA regions work with their states to identify training gaps and develop strategies to fill these gaps. In addition, we suggested that the Congress consider increasing the amount of funds it provides from the trust fund and authorizing states to spend a limited portion on training.

Most States Do Not Meet EPA's Recommendation to Inspect All Tanks Every 3 Years or Have the Enforcement Tools Needed to Identify and Correct Problems

According to EPA's program managers, only physical inspections can confirm whether tanks have been upgraded and are being properly operated and maintained. However, at the time of our survey, only 19 states physically inspected all of their tanks at least once every 3 years—the minimum that EPA considers necessary for effective tank monitoring. Another 10 states inspected all tanks, but less frequently. The remaining 22 states did not inspect all tanks, but instead generally targeted inspections to potentially problematic tanks, such as those close to drinking water sources. In addition, one of the three EPA regions that we visited did not inspect tanks located on tribal land at this rate. According to EPA program managers, limited resources have prevented states from increasing their inspection activities. Officials in 40 states said that they would support a federal mandate requiring states to periodically inspect all tanks, in part because they expect that such a mandate would provide them needed leverage to obtain the requisite inspection staff and funding from their legislatures. Figure 2 illustrates the inspection practices states reported to us in our survey.

Figure 2: Frequency of Inspections Varies Among States (total active tanks per state)



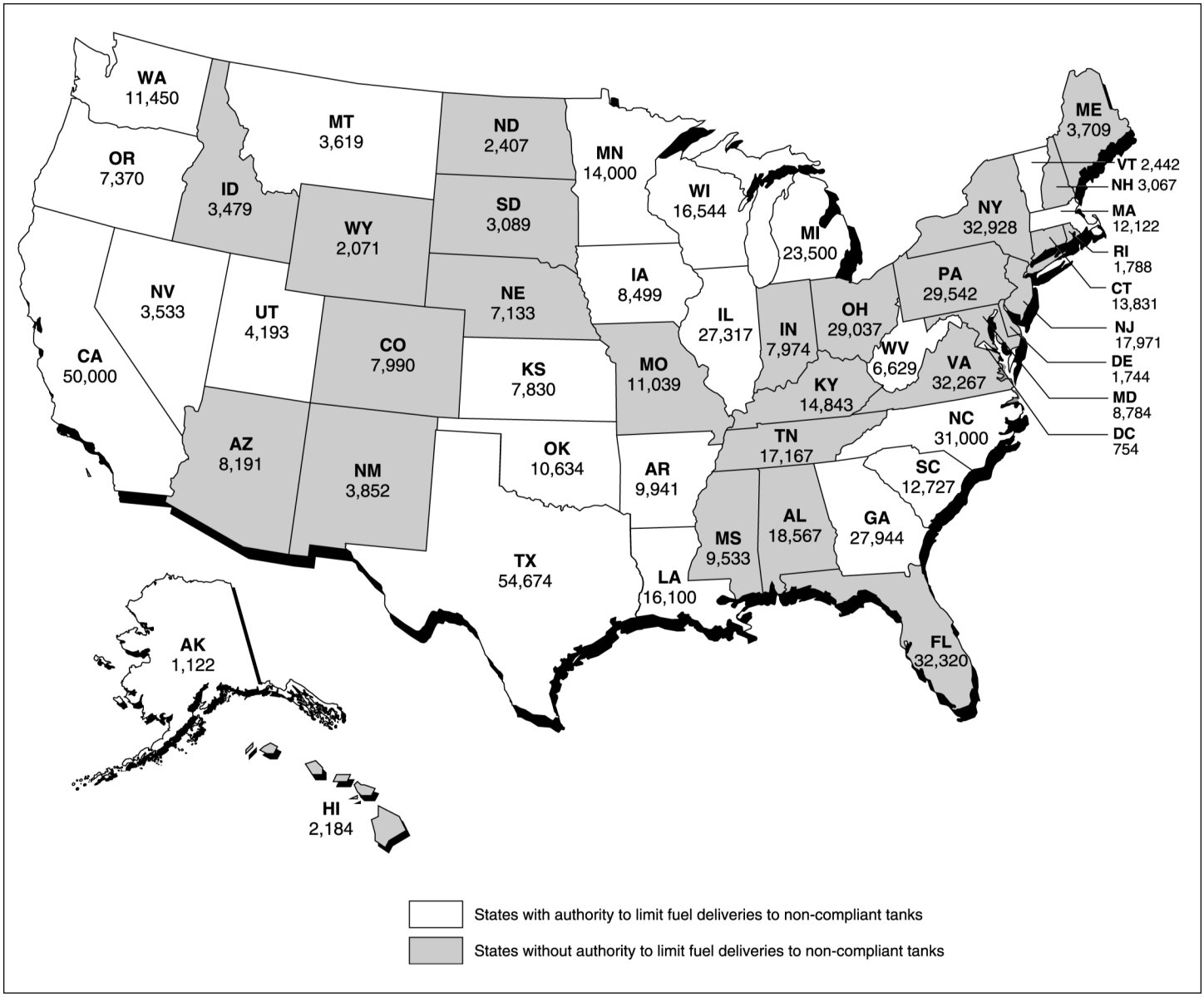
Source: GAO.

Note: EPA implements the federal tank program in Idaho and enforces certain requirements in New York because these states lack some or all of the necessary laws.

While EPA has not established any required rate of inspections, it has been encouraging states to consider other ways to increase their rate of inspections, for example by using third-party inspectors, and a few have been able to do so. However, to obtain more consistent coverage nationwide, we suggested that the Congress establish a federal requirement for the physical inspections of all tanks on a periodic basis, and provide states authority to spend trust fund appropriations on inspection activities as a means to help states address any staff or resource limitations.

In addition to more frequent inspections, a number of states said that they needed additional enforcement tools to correct problem tanks. As figure 3 illustrates, at the time of our survey, 27 states reported that they did not have the authority to prohibit suppliers from delivering fuel to stations with problem tanks, one of the most effective tools to ensure compliance. According to EPA program managers, this number has not changed.

Figure 3: Many States Lack Authority to Prohibit Fuel Deliveries to Problem Tanks (total active tanks per state)



Source: GAO.

Note: EPA implements the federal tank program in Idaho and enforces certain requirements in New York because these states lack some or all of the necessary laws.

EPA believes, and we agree, that the law governing the tank program does not give the agency clear authority to regulate fuel suppliers and therefore

prohibit their deliveries. As a result, we suggested that the Congress consider (1) authorizing EPA to prohibit delivery of fuel to tanks that do not comply with federal requirements, (2) establishing a federal requirement that states have similar authority, and (3) authorizing states to spend limited portions of their trust fund appropriations on enforcement activities.

States Have Made Progress in Cleaning Up Leaks but Still Face a Potentially Large Workload; Some May Need Federal Funds to Help Address It

At the end of fiscal year 2002, EPA and states had completed cleanups of about 67 percent (284,602) of the 427,307 known releases at tank sites. Because states typically set priorities for their cleanups by first addressing those releases that pose the most risks, states may have already begun to clean up some of the worst releases to date. However, states still have to ensure that ongoing cleanups are completed for another 23 percent (99,427) and that cleanups are initiated at a backlog of 43,278 sites. EPA has also established a national goal of completing 18,000 to 23,000 cleanups each year through 2007. However, in addition to their known workload, states may likely face a potentially large but unknown future cleanup workload for several reasons: (1) as many as 200,000 tanks may be unregistered or abandoned and not assessed for leaks, according to an EPA estimate;[3] (2) tens of thousands of empty and inactive tanks have not been permanently closed or had leaks identified; and (3) some states are reopening completed cleanups in locations where MTBE was subsequently detected.

This increasing workload poses financial challenges for some states. In the June 2002 Vermont survey of state funding programs, nine states said they did not have adequate funding to cover their current program costs, let alone unanticipated future costs. For example, while tank owners and operators have the financial responsibility for cleaning up contamination from their tanks, there are no financially viable parties responsible for the abandoned tanks that states have not yet addressed. In addition, MTBE is being detected nationwide and its cleanup is costly. States reported that it could cost more to test for MTBE because additional steps are needed to ensure the contamination is not migrating farther than other contaminants, and MTBE can cause longer plumes of contamination, adding time and costs to cleanups. If there are no financially viable parties responsible for these cleanups, states may have to assume more of these costs.

[3] *Report to Congress on Compliance Plan for the Underground Storage Tank Program*, U.S. Environmental Protection Agency (EPA 510-R-00-001, June 2000).

In closing, the states and EPA are taking steps to address the tank problems that we have identified, but they still cannot ensure that all regulated tanks have the required equipment to prevent health risks from fuel leaks, spills, and overfills or that tanks are safely operated and maintained. Many states do not inspect all of their tanks to make sure that they do not leak, nor can they prohibit fuel from being delivered to problem tanks. Finally, a number of states do not have adequate funds for their programs now, and more of them may face financial challenges in the future as they address leaks from abandoned tanks and leaks that contain MTBE. We have suggested a number of ways that both EPA and the Congress could help correct these problems and better ensure the safety of public health.

Mr. Chairman, this concludes my statement. I would be pleased to respond to any question you or Members of the Subcommittee may have.

Contact and Acknowledgments

For further information, please contact John Stephenson at (202) 512-3841. Individuals making key contributions to this testimony were Rich Johnson, Eileen Larence, Gerald Laudermilk, and Jonathan McMurray.