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ENVIRONMENTAL PROTECTION

Improved Inspections and Enforcement Would Ensure Safer Underground Storage Tanks

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Mr. Chairman and Members of the Subcommittee:

I am here today to discuss our recent report on the Environmental Protection Agency's (EPA) Underground Storage Tank (UST) program.[1] The program is relevant to today's hearing because studies have shown that tanks that leak hazardous substances, such as methyl tertiary butyl ether (MTBE), contaminate the soil or water and can pose health risks ranging from nausea to kidney or liver damage or even cancer. Indeed, leaks of MTBE—a fuel additive for reducing emissions and raising octane, but also a suspected carcinogen—have been found in drinking water sources and pose a very serious health risk and costly cleanup burden.

In 1984, the Congress created the UST program to protect the public from potential leaks from the then more than 2 million 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. In general, EPA has granted states the authority to implement the program with agency oversight and monitoring, or states operate their own program under state law with limited EPA oversight. EPA has provided states funding (about $187,000 per state) for doing so. EPA retains authority for a small number of tanks primarily located on Indian lands. In addition, the Congress created a trust fund in 1986 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 2000, the fund had a balance of about $1.5 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 to determine whether tanks are complying with program requirements, how EPA and the states are inspecting tanks and enforcing the requirements, and whether upgraded tanks still leak. The findings we are discussing today and that were included in our report are based primarily on the survey results, as well as on visits to the three EPA regions with the largest number of tanks to monitor. In summary, we found that:

[1] *Environmental Protection: Improved Inspections and Enforcement Would Better Ensure the Safety of Underground Storage Tanks* (GAO-01-464, May 4, 2001).

- About 1.5 million tanks had been permanently closed since the program was created, leaving about 693,000 tanks subject to UST requirements. Based on the states' responses to our survey, we estimated that about 89 percent of these tanks had the required protective equipment installed, but that almost 30 percent of them—more than 200,000 tanks—were not being operated and maintained properly, thus, increasing the chance of leaks. For example, 19 states reported frequent problems with corrosion-prevention equipment and 15 states reported that leak detection equipment was frequently turned off or improperly maintained. The states and EPA attributed these operation and maintenance problems primarily to poorly trained staff. Of the remaining 11 percent, or 76,000, tanks that we estimated had not been retrofitted with the required equipment, EPA and the states speculated that the tanks were probably inactive and empty. Nevertheless, it is important to address them because experience has shown that they may have leaked in the past, but the contamination, which poses health risks, is not discovered until the tank is dug up for removal. However, most states and EPA do not know if all inactive tanks are empty—and we could not verify the accuracy and completeness of the compliance data they reported—because they do not physically inspect all tanks.
- In fact, over half of the states do not inspect all of their tanks frequently enough to meet the minimum rate recommended by EPA —at least once every 3 years. In addition, 27 states lack the authority to prohibit fuel deliveries to stations with problem tanks—one of the most effective tools for ensuring compliance with program requirements—relying instead on issuing citations and fines. States said that they did not have the money, staff, or, authority to conduct more inspections or more strongly enforce tank compliance.
- Finally, states reported that even tanks with the required leak prevention and detection equipment installed continue to leak, although the full extent of the problem is not known. In response to our survey, 14 states reported some tank leaks, 17 states said their tanks seldom or never leaked, and 20 states did not know if leaks occurred before the tanks were upgraded. EPA and some localities have studies underway to obtain better data on leaks from upgraded tanks. EPA, as part of a set of four program initiatives it announced in October 2000, is also considering whether it needs to set new tank requirements, such as double-walled tanks, to prevent further leaks.

To address these problems, our report recommends that EPA work with the states to determine training needs and ways to fill them, and to more specifically address the estimated 76,000 tanks that have not yet been upgraded, closed, or removed as required. Our report also contains

recommendations to EPA and suggestions to the Congress on ways to promote better inspections and enforcement and to address related resource shortfalls by expanding the use of the $1.5 billion trust fund designated for tank cleanup to also cover additional inspection and enforcement activities.

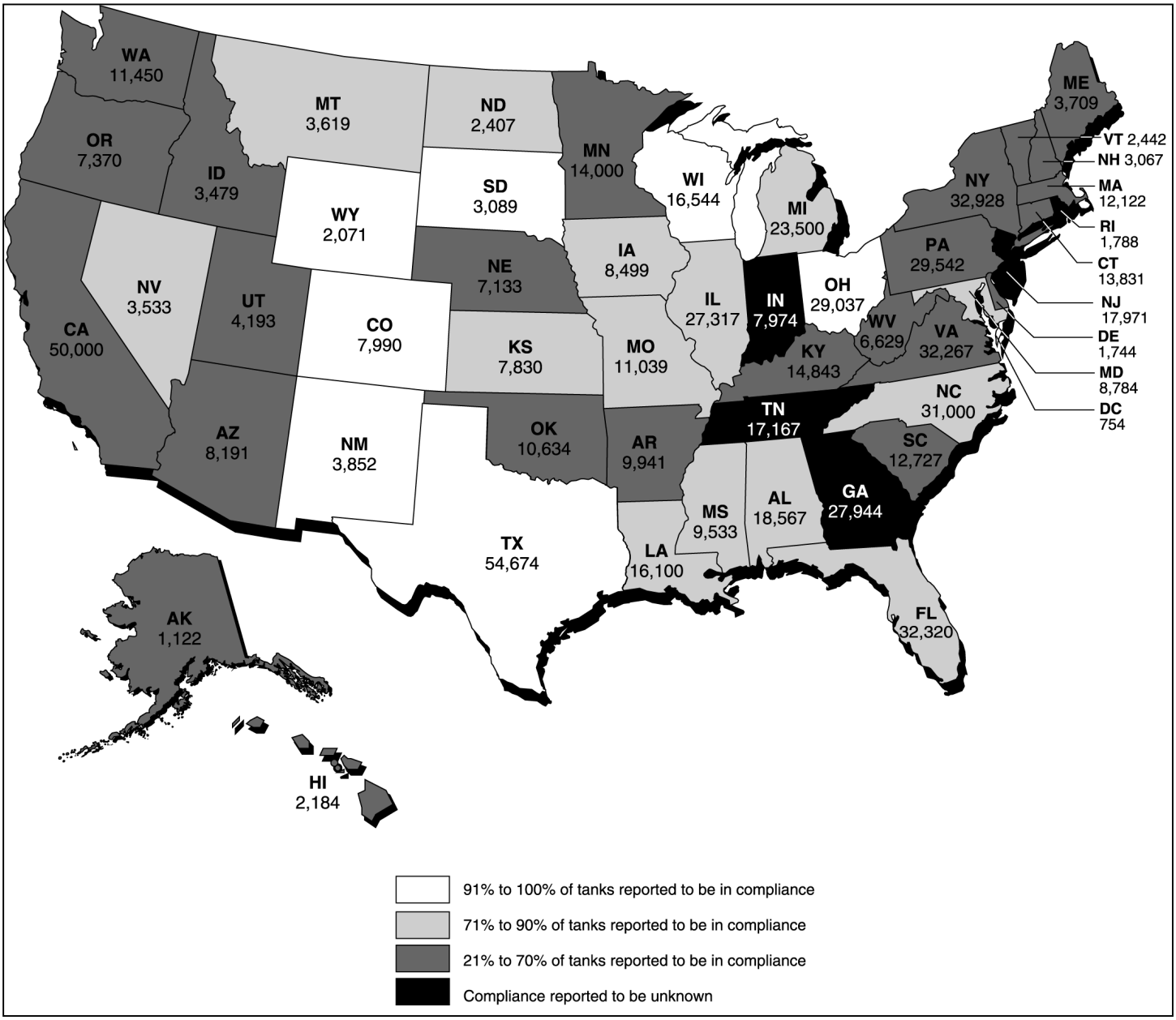
Most Tanks Have Been Upgraded, but Many Are Not Properly Operated and Maintained

Based on state responses to our survey, we estimated that nearly 617,000, or about 89 percent of the approximately 693,000 regulated tanks, had been upgraded with the federally required equipment by the end of fiscal year 2000. EPA data showed that about 70 percent of the total number of tanks that its regions regulate on tribal lands had also been upgraded.

With regard to the approximately 76,000 tanks that we estimated have not been upgraded, closed, or removed as required, 17 states and the 3 EPA regions we visited reported that they believed that most of these tanks were either empty or inactive. However, another five states reported that at least half of their non-upgraded tanks were still in use. EPA and states assume that the tanks are empty or inactive and therefore pose less risk. As a result, they may give them a lower priority for resources. However, states also reported that they generally did not discover tank leaks or contamination around tanks until the empty or inactive tanks were removed from the ground during replacement or closure. Consequently, unless EPA and the states address these non-compliant tanks in a more timely manner, they may be overlooking a potential source of soil and groundwater contamination.

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. The extent of operations and maintenance problems 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's estimates based on responses to a survey of tank program managers in all 50 states and the District of Columbia.

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.

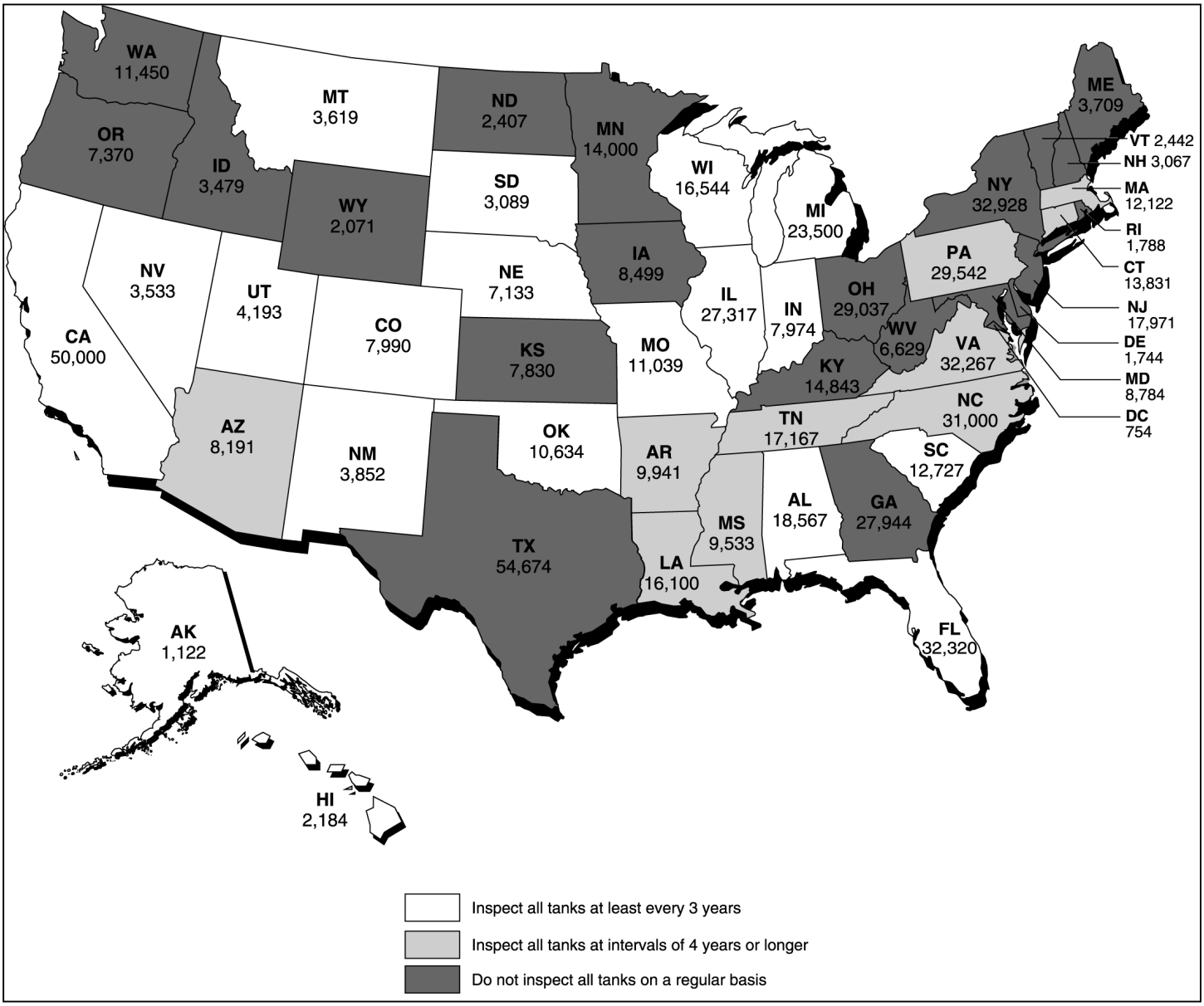
The states reported a variety of operational and maintenance problems, such as operators turning off leak detection equipment. The states also reported that the majority of problems occurred at tanks owned by small, independent businesses; non-retail and commercial companies, such as cab companies; and 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.

To date, EPA has provided states with a number of training sessions and helpful tools, such as operation and maintenance checklists and guidelines. One of EPA's tank program initiatives is also intended to improve training and tank compliance with federal requirements, such as setting annual compliance targets with the states. At the time of our review, the Agency was just beginning to work out the details of how it will implement this initiative and had set up a working group of state and EPA representatives to begin work on compliance targets.

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, only 19 states physically inspect all of their tanks at least once every 3 years—the minimum that EPA considers necessary for effective tank monitoring. Another 10 states inspect all tanks, but less frequently. The remaining 22 states do not inspect all tanks, but instead generally target inspections to potentially problematic tanks, such as those close to drinking water sources. In addition, not all of EPA's own regions comply with the recommended rate. Two of the three regions that we visited inspected tanks located on tribal land every 3 years. Figure 2 illustrates the states' reported inspection practices.

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



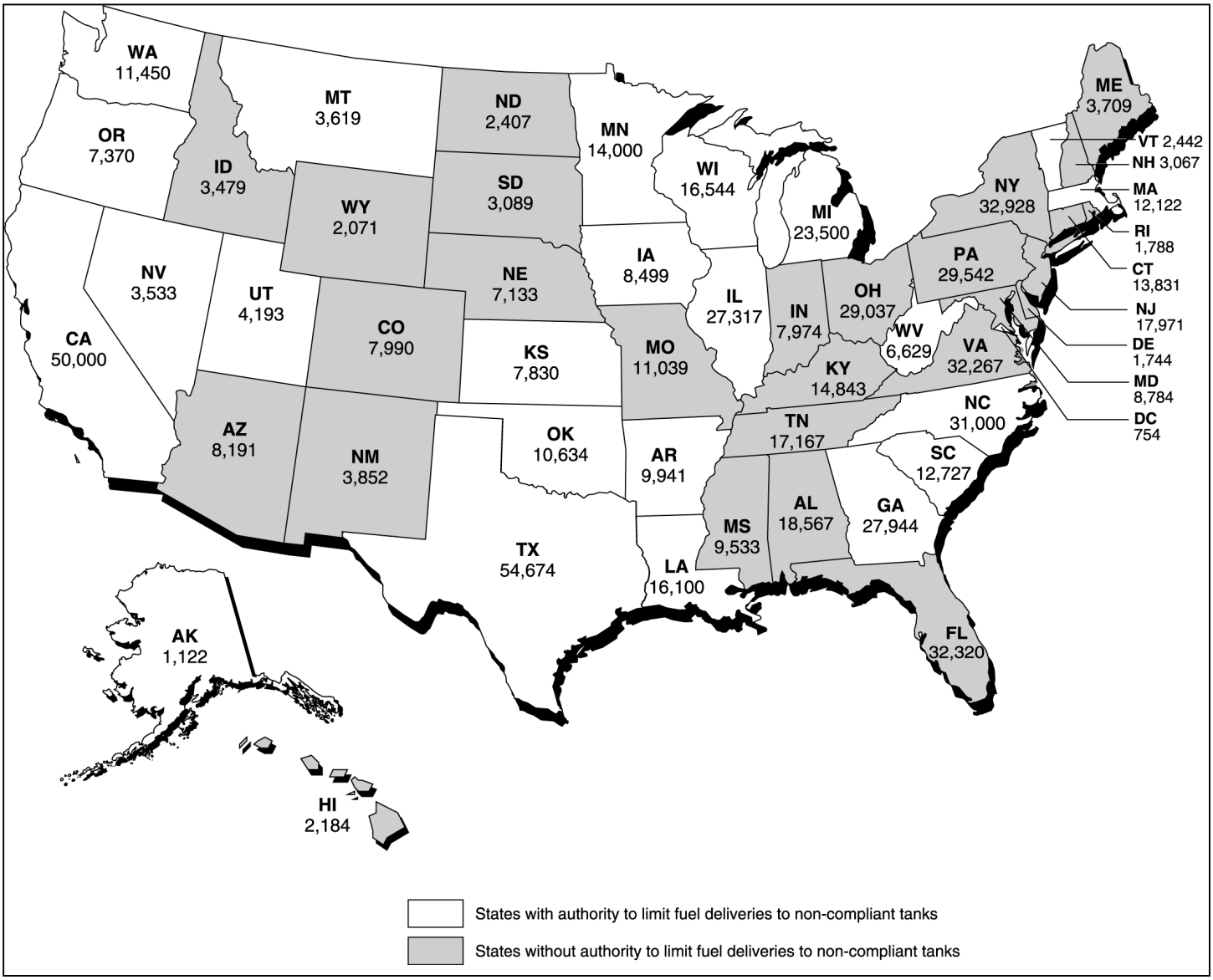
Source: GAO's estimates based on responses to a survey of tank program managers in all 50 states and the District of Columbia.

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.

According to our survey results, some states and EPA regions would need additional staff to conduct more frequent inspections. For example, under staffing levels at the time of our review, the inspectors in 11 states would each have to visit more than 300 facilities a year to cover all tanks at least once every 3 years, but EPA estimates that a qualified inspector can only visit at most 200 facilities a year. Moreover, because most states use their own employees to conduct inspections, state legislatures would need to provide them additional hiring authority and funding to acquire more inspectors. 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 state legislatures.

In addition to more frequent inspections, a number of states stated that they need additional enforcement tools to correct problem tanks. EPA's program managers stated that good enforcement requires a variety of tools, including the ability to issue citations or fines. One of the most effective tools is the ability to prohibit suppliers from delivering fuel to stations with problem tanks. However, as figure 3 illustrates, 27 states reported that they did not have the authority to stop deliveries. In addition, 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.

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



Source: GAO's estimates based on responses to a survey of tank program managers in all 50 states and the District of Columbia.

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.

Almost all of the states said they need additional enforcement resources and 27 need additional authority. Members of both an expert panel and an industry group, which EPA convened to help it assess the tank program, likewise saw the need for states to have more resources and more uniform and consistent enforcement across states, including the authority to prohibit fuel deliveries. They further noted that the fear of being shut down would provide owners and operators a greater incentive to comply with federal requirements.

Under its tank initiatives, EPA has said that it will attempt to obtain state commitments to increase its inspection and enforcement activities, or it may supplement state activities in some cases. EPA's regions have the opportunity, to some extent, to use the grants that they provide to the states for their tank programs as a means to encourage more inspections and better enforcement. However, the Agency does not want to limit state funding to the point where this further jeopardizes program implementation. The Congress may also wish to consider making more funds available to states to improve tank inspections and enforcement. For example, the Congress could increase the amount of funds it provides from the Leaking Underground Storage Tank trust fund, which the Congress established to specifically provide funds for cleaning up contamination from tanks. The Congress could then allow states to spend a portion of these funds on inspections and enforcement. It has considered taking this action in the past, and 40 states said that they would welcome such funding flexibility.

Some Tanks Continue to Leak Even After They Have Been Upgraded, Although the Extent of this Problem is Unknown

In fiscal year 2000, EPA and the states confirmed a total of more than 14,500 leaks or releases from regulated tanks, although the Agency and many of the states could not verify whether the releases had occurred before or after the tanks had been upgraded. According to our survey, 14 states said that they had traced newly discovered leaks or releases that year to upgraded tanks, while another 17 states said they seldom or never detected such leaks. The remaining 20 states could not confirm whether or not their upgraded tanks leaked.

EPA recognizes the need to collect better data to determine the extent and cause of leaks from upgraded tanks, the effectiveness of the current equipment, and if there is a need to strengthen existing equipment standards. The Agency has launched studies in several of its regions to obtain such data, but it may have trouble concluding whether leaks occurred after the upgrades. In a study of local tanks, researchers in Santa Clara County, California, concluded that upgraded tanks do not provide

complete protection against leaks, and even properly operated and maintained tank monitoring systems cannot guarantee that leaks are detected. EPA, as one of its program initiatives, plans to undertake a nationwide effort to assess the adequacy of existing equipment requirements to prevent leaks and releases and if there is a need to strengthen these requirements, such as requiring double-walled tanks. The states and the industry and expert groups support EPA's actions.

In closing, the states and EPA 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 are not inspecting all of their tanks to make sure that they do not leak, nor can they prohibit fuel from being delivered to problem tanks. EPA has the opportunity to help its regions and states correct these limitations through its tank initiatives, but it is difficult to determine whether the Agency's proposed actions will be sufficient because it is just defining its implementation plans. The Congress also has the opportunity to help provide EPA and the states the additional inspection and enforcement authority and resources they need to improve tank compliance and safety.

Therefore, to better ensure that underground storage tanks meet federal requirements to prevent contamination that poses health risks, we have recommended to the Administrator, EPA, that the Agency

1. work with the states to address the remaining non-upgraded tanks, such as reviewing available information to determine those that pose the greatest risks and setting up timetables to remove or close these tanks,

2. supplement the training support it has provided to date by having each region work with each of the states in its jurisdiction to determine specific training needs and tailored ways to meet them,

3. negotiate with each state to reach a minimum frequency for physical inspections of all its tanks, and

4. present to the Congress an estimate of the total additional resources the Agency and states need to conduct the training, inspection, and enforcement actions necessary to ensure tank compliance with federal requirements.

In addition, the Congress may want to consider EPA's estimate of resource needs and determine whether to increase the resources it provides for the program. For example, one way would be to increase the amount of funds it appropriates from the trust fund and allow states to spend a limited portion on training, inspection, and enforcement activities, as long as cleanups are not delayed. The Congress may also want to (1) authorize EPA to require physical inspections of all tanks on a periodic basis, (2) authorize EPA to prohibit fuel deliveries to tanks that do not comply with federal requirements, and (3) require that states have similar authority to prohibit fuel deliveries.

Contact and Acknowledgments

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

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